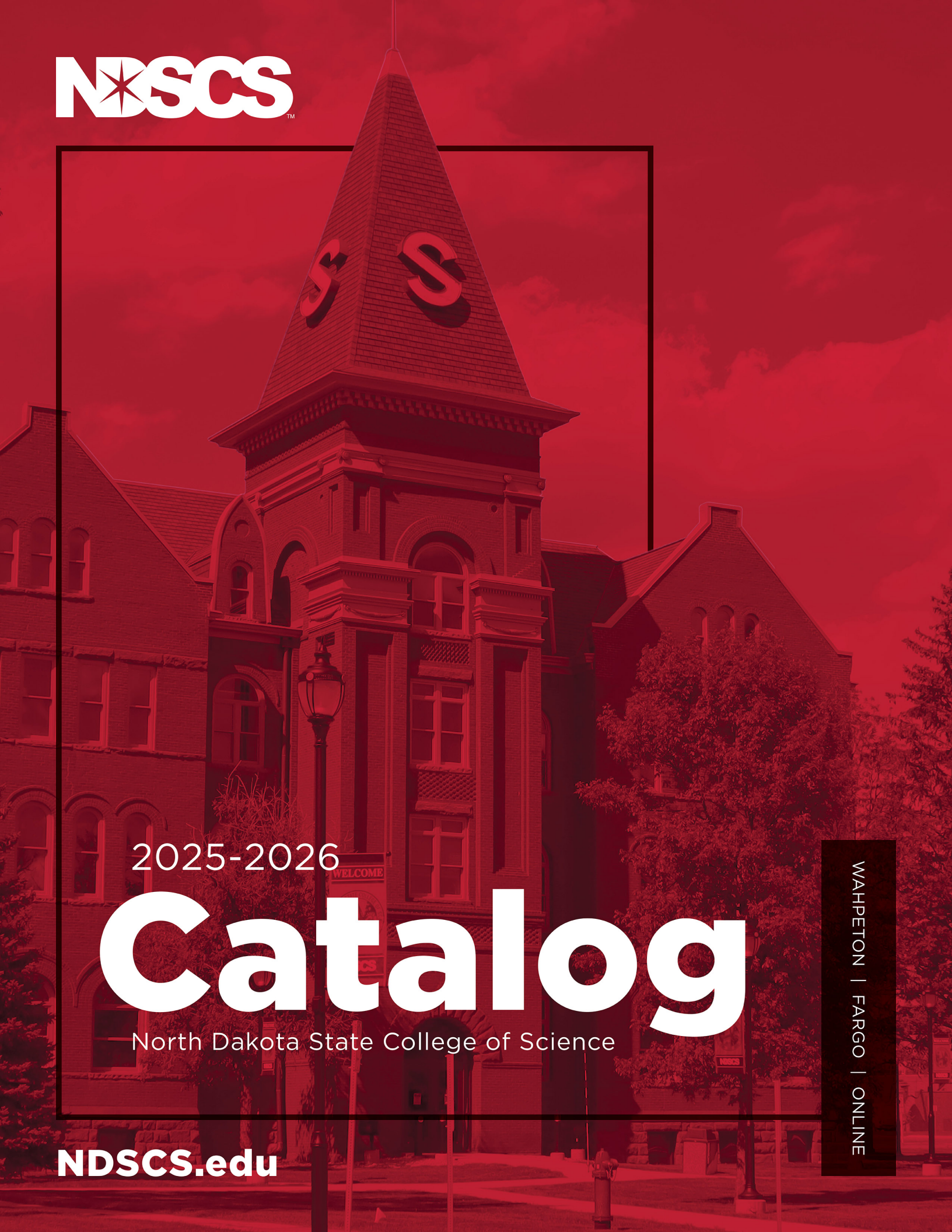
NDSCS
2025-2026
Catalog
North Dakota State College of Science
WAHPETON | FARGO | ONLINE
NDSCS.edu

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Academic Calendar

2025-2026 Academic Calendar

Fall Semester 2025	
Aug. 20	Fall Opening Meeting for Faculty & Staff
Aug. 24	NDSCS-Wahpeton New Student Orientation
Aug. 25	NDSCS-Wahpeton New Student Departmental Orientation
Aug. 25	Classes Begin at 4 p.m.
Aug. 26	First Full Day of Classes
Aug. 29	1st 8-weeks Final Day to Add a Class
Aug. 29	1st 8-weeks Final Day to Drop a Class without Transcript Record*
Sept. 1	Holiday (No Classes/Offices Closed)
Sept. 3	Full Semester Final Day to Add a Class
Sept. 3	Full Semester Final Day to Drop a Class without Transcript Record*
Oct. 3	1st 8-weeks Final Day to Drop a Class*
Oct. 3	Homecoming Pep Rally (No Classes 11 a.m.-1 p.m.)
Oct. 17	1st 8-Week Session Ends
Oct. 20	Grading/Prep Day (No classes)
Oct. 21	Assessment/PD Day (No classes)
Oct. 21	1st 8-Week Final Grades Must Be Entered by Noon Classes begin at 4:00 p.m.
Oct. 22	2nd 8-Week Session Begins
Oct. 28	2nd 8-weeks Final Day to Add a Class
Oct. 28	2nd 8-weeks Final Day to Drop a Class without Transcript Record*
Oct. 29	Registration Opens for Spring/Summer Semesters for Currently Enrolled Students Advising Begins
Nov. 11	Holiday (No Classes/Offices Closed)
Nov. 14	Full Semester Final Day to Drop a Class*
Nov. 14	Full Semester Final Day to Withdraw from all Classes
Nov. 26	Fall Break (No Classes/Offices Open)
Nov. 27	Holiday (No Classes/Offices Closed)
Nov. 28	Fall Break (No Classes/Offices Open)
Dec. 2	2nd 8-weeks Final Day to Drop a Class*
Dec. 17-19	Final Exams
Dec. 23	Final Grades Must Be Entered by Noon
Dec. 24	Holiday (Offices closed at Noon)
Dec. 25	Holiday (Offices Closed)
Intersession Term 2025-2026**	
Dec. 22	First Full Day of Classes
Dec. 23	Final Day to Add or Drop a Class without Transcript Record
Jan. 4	Final Day to Drop a Class
Jan. 9	Intersession Ends
Jan. 13	Intersession Grades Must Be Entered by Noon

Spring Semester 2026	
Jan. 1	Holiday (Offices Closed)
Jan. 12	Classes Begin at 4 p.m.
Jan. 13	First Full Day of Classes

Spring Semester 2026	
Jan. 16	1st 8-weeks Final Day to Add a Class
Jan. 16	1st 8-weeks Final Day to Drop a Class without Transcript Record*
Jan. 19	Holiday (No Classes/Offices Closed)
Jan. 22	Full Semester Final Day to Add a Class
Jan. 22	Full Semester Final Day to Drop Class without Transcript Record*
Feb. 16	Holiday (No Classes/Offices Closed)
Feb. 20	1st 8-weeks Final Day to Drop a Class*
Mar. 6	1st 8-Week Session Ends
Mar. 9-13	Spring Break (No Classes/Offices Open)
Mar. 10	1st 8-Week Final Grades Must Be Entered by Noon
Mar. 16	2nd 8-Week Session Begins
Mar. 20	2nd 8-weeks Final Day to Add a Class
Mar. 20	2nd 8-weeks Final Day to Drop a Class without Transcript Record*
April 1	Registration Begins for Fall Semester for Currently Enrolled Students Advising Begins
April 3	Holiday (No classes/offices closed)
April 6	Holiday (No classes/offices open)
April 10	Full Semester Final Day to Drop a Class*
April 10	Full Semester Final Day to Withdraw from all Classes
April 24	2nd 8-weeks Final Day to Drop a Class*
May 7	Agawasie Day (No Classes 12-7 p.m.)
May 11-15	Final Exams
May 15	Graduation (3 p.m.)
May 18-19	Instructional Departments Assessment Days
May 19	Final Grades Must Be Entered by Noon

Summer Semester 2026	
May 25	**Holiday (No Classes/Offices Closed)**
July 4	**Holiday (No Classes/Offices Closed)**
First Four Weeks	
May 20	1st 4-weeks Classes Begin
May 22	1st 4-weeks Final Day to Add or Drop a Class without Transcript Record*
June 9	1st 4-weeks Final Day to Drop a Class*
June 17	1st 4-week Session Ends
June 19	Final Grades Must Be Entered by Noon
Second Four Weeks	
June 22	2nd 4-weeks Classes Begin
June 24	2nd 4-weeks Final Day to Add or Drop a Class without Transcript Record*
July 12	2nd 4-weeks Final Day to Drop a Class*
July 17	2nd 4-week Session Ends
July 21	Final Grades Must Be Entered by Noon
Eight Week Session	
June 1	Eight Week Classes Begin
June 5	Eight Week Classes Final Day to Add or Drop a Class without Transcript Record*
July 12	Eight Week Classes Final Day to Drop a Class*
July 24	Eight Week Classes Session Ends
July 28	Final Grades Must Be Entered by Noon
Ten Week Session	
May 20	Ten Week Classes Begin

Summer Semester 2026	
May 25	**Holiday (No Classes/Offices Closed)**
July 4	**Holiday (No Classes/Offices Closed)**
May 27	Ten Week Classes Final Day to Add or Drop a Class without Transcript Record*
July 17	Ten Week Classes Final Day to Drop a Class*
July 29	Ten Week Session Ends
July 31	Final Grades Must Be Entered by Noon

**This date does not reflect the last day to drop a class for a 100% refund.*
For information regarding refund dates, please go to the Refund Schedules tab at www.NDSCS.edu/Refund.

***For more information on intersession, please check in the catalog or website.*

About NDSCS

History

For over 120 years, NDSCS has provided responsive educational programs and experiences for thousands of students who, upon graduation, fulfill workforce demands. Today, we continue our mission as a comprehensive college encompassing liberal arts transfer programs, career and technical education, and workforce training.

2022 – The North Dakota State Board of Higher Education hires the 10th President, Rod Flanigan, Ph.D.

2021 – NDSCS Alumni Foundation, along with numerous partners and donors, broke ground for the Career Innovation Center (CIC) in South Fargo. This facility will provide Career and Technical Education and Exposure to Cass County K-12 students and encompass NDSCS-Fargo operations. The CIC will help meet workforce demands for the state and provide robust educational opportunities and pathways for students. NDSCS President Dr. John Richman also retired after nearly 50 years associated with the College.

2020 – NDSCS successfully navigated the challenges presented by the COVID-19 pandemic. To minimize the risk and spread of COVID-19, NDSCS shifted all courses to remote delivery following Spring Break through the end of the Spring 2020 semester. The 2020 Commencement Ceremony was postponed to August and shifted outdoors. NDSCS resumed modified in-person courses June 2020 through Spring 2021. Physical modifications were made to 95 classrooms to allow for effective hybrid instruction; procedural modifications, including pass/fail grading and remote work, were implemented to foster students' success and employee flexibility. Men's baseball returned to Athletics for the first time since 1963.

2019 – NDSCS added Clay Target and Esports as club competition team options for students.

2018 – The William F. Rothwell Center for Science was dedicated and a $250,000 endowment was established to support NDSCS Science Curriculum.

2017 – In May, NDSCS acquired nearly 95 acres of farmland north of Wahpeton from the Kosel and Patterson families. Owners Linda Patterson and her mother, Mary Kosel, worked with NDSCS Alumni/Foundation and other College staff to arrange the land usage which will be used for an agricultural land lab. In October, the College completed a $13 million water and sewer infrastructure project. As part of the project, a new arch erected at the south entrance of campus, will be an icon for NDSCS for years to come.

2016 – The Hektner Student Center was dedicated in May. Named after long-time instructor and dean, Vernon Hektner, the Hektner Student Center houses the NDSCS bookstore, mail center, student life offices, information technology services, NDSCS police, and the Wildcat Dining Room.

2015 – In August, the extensive $6.7 million renovation of Old Main was completed and old architectural elements were combined with new technology.

2013 – In July, the $9 million renovation of both Forkner and Riley Halls was completed, and in September, the $10.5 million Bisek Hall diesel expansion project was finalized. We also said goodbye to two historical buildings on campus – Hektner and Birch Halls. In November, the $6.7 million renovation of Old Main began. The NDSCS Ambassadors were developed, a new student group that serves as a resource for NDSCS and the Wahpeton community.

2012 – In April, a $10.5 million Bisek Hall diesel building expansion project broke ground, and in May, a $9 million renovation began on Forkner and Riley Halls.

2010 – In July, a $5.7 million renovation of Horton Hall was completed. The building, originally constructed in 1927 for $65,000, is LEED certified.

2009 – Wilbur A. Lunday, an NDSCS alumnus, and his wife Betty, both deceased, donated more than $10 million to the college. NDSCS launched the first Give Kids a Smile Day and, along with several area dentists, provided $11,000 in free dental services to 50 qualifying area children. In January, NDSCS announced the journey worker track program that offers college credit for completed federally-approved apprenticeship training.

2008 – NDSCS and West Fargo Public Schools join together to offer the Early College program, which allows 11th and 12th grade students to take college classes and earn credit toward an associate's degree while in high school.

2007 – A $1.5 million renovation began on the Earl "Skip" Bute Alumni Stadium and Frank Vertin Field.

2005 – NDSCS expanded the Welding Technology program to NDSCS-Fargo.

2002 – The North Dakota State Board of Higher Education officially recognized NDSCS as a Centennial College.

1997 – NDSCS established the Skills and Technology Training Center (STTC) as a regional workforce training center located in Fargo. 1987 – North Dakota State School of Science changed its name to North Dakota State College of Science, and converted from the quarter system to the semester system in 1992 as part of a North Dakota University System initiative.

1922 – The first trade and technical programs were offered, and since that time, NDSCS has become widely accepted by employers from across the United States.

Since 1922, NDSCS has followed the basic principles of the Babcock Plan and the North Dakota Plan. The original plan of four interacting curriculum divisions was the result of a survey conducted in 1921 by Dean Earl J. Babcock of the School of Mines of the University of North Dakota. In 1922, the North Dakota State College of Science was named the central trade and technical institution for the state of North Dakota. Under the North Dakota Plan, all trade-technical training in the state for many years was centralized in this institution — a method which proved very satisfactory in a state with sparse population and where agriculture continues to be the primary industry.

1905 – The Arts and Science Division was the first division to be organized, and the Business Division began operation shortly after.

1903 – NDSCS was provided for in the Constitution of the State of North Dakota and began actual operation, making it one of the oldest public two-year colleges in the United States.

Mission Statement

NDSCS: The Science of Learning by Doing

Vision Statement

NDSCS will be the leader in delivering comprehensive technical education in partnership with industry and community while fostering a dynamic learning environment to empower students' success in today's ever-changing world.

Values

Belonging

- We believe in creating an inclusive and supportive college community. We strive to ensure that all community members feel safe, supported, welcome, and comfortable sharing their thoughts, ideas, and concerns.
- We recognize the importance of building relationships and understand that they are the foundation of a thriving community.

- We foster a continuous learning, respect, and trust culture where everyone's unique perspectives and contributions are valued and embraced.

Integrity

- We are committed to upholding a powerful sense of ethical principles and moral values in all that we do.
- We believe in conducting ourselves with honesty, accountability, transparency, professionalism, and fairness.
- We strive to create a culture where compassion and kindness are not only valued but actively practiced.

Grit

- We commit to embodying resilience, passion, and positivity when faced with challenges, knowing they are opportunities for growth and development.
- We are dedicated to working hard and persevering in pursuing bold goals, pushing the boundaries of what is possible.
- We believe our innovation and resourcefulness drive us to continuously seek new ways to serve our students and adapt to the evolving needs of education.

Our L.I.F.E Values

Learning: We engage the campus community in a lifelong learning environment inside and outside the classroom.
Integrity: We work with others and conduct ourselves in a respectful, ethical, honest and trusting manner.
Flexibility: We consider ideas from all sources and adapt to the needs of our patrons.
Excellence: We deliver superior programs and services that distinguish the college from its peers.

Quality Pledge

It is the commitment of the North Dakota State College of Science to provide quality instruction and service, consistent with the highest standards of education.

We will provide precise, prompt and courteous service to our students, to the employers who hire them, to one another and to all we serve.

Strategic Plan & Goals

Strategic Plan FY25-35

NDSCS employed a developmental and inclusive process to review and update the mission and vision statements and to establish a strategic plan for FY25-35. The NDSCS Strategic Planning Team led the process; during the six-phase development process, there were a variety of avenues for students, employees, and other stakeholders to share feedback and insight on the formation of the mission, vision, values, and strategic plan.

Institutional Goals

- **80x30** (80,000 student credit hours by 2030 = 3% growth/year)
- **95x35** (95,000 student credit hours by 2035 = 3.5% growth/year)

Priority 1. Student Success

Provide a student experience that fosters connection and belonging, empowering academic success, personal growth, and overall well-being.

Priority 2. Community Engagement and Partnerships

Foster collaborative relationships and inclusive partnerships, develop resources, drive innovation to address community needs, and achieve sustainable, impactful outcomes.

Priority 3. Commitment to Continuous Improvement

Prioritize continuous improvement by leveraging data-driven strategies to enhance operational efficiencies, integrate and sustain advanced technologies, modernize infrastructure, and foster a positive campus culture.

Assessment of Student Learning

The College is committed to evaluating student academic achievement and general institutional effectiveness. Assessment is a way of thinking about teaching and learning. It is a philosophy of education which stresses a better understanding of student learning and continuous improvement of instruction. It provides for an organized plan that systematically reviews the effectiveness of the institution as it relates to its mission and purposes. Evaluative data is collected and utilized in the process of continuous improvement of student learning.
NDSCS recognizes that assessment should provide:

- a means of improving student academic success.
- multiple indicators of success.
- a feedback system that puts assessment results into the hands of those most responsible for making improvements.
- a means of connecting improvement plans to institutional resources.
- ways to stimulate individual initiative that encourages creativity and academic freedom.
- support for a climate that meets or exceeds student expectations.
- support for the open enrollment philosophy of the college, while providing for placement of students in appropriate level courses.

Entry Level Assessment
North Dakota State College of Science requires all students to submit valid placement scores, unless exemptions apply. Students may be required to complete the ACCUPLACER Exam for course placement purposes. ACCUPLACER is a computerized adaptive placement testing system that measures skills in mathematics and writing. The test is not timed.

For more information on ACCUPLACER Testing please click here.

Land Acknowledgement

NDSCS acknowledges that we occupy the sacred ancestral lands of the First Nations cultures of North Dakota. Without them, we would not have access to our gathering, dialogue, and learning spaces.

Notice of Disclaimer

The North Dakota State College of Science reserves the right to make changes in curriculums, policies, rules and fees whenever such changes are deemed necessary. A special notice from the State Board of Higher Education requires the following announcement be published in all catalogs and bulletins issued by state educational institutions of North Dakota: Catalogs and bulletins of educational institutions are usually prepared by faculty committees or administrative officers for the purpose of furnishing prospective students and other interested persons with information about the institutions that issue the same. Announcements contained in such printed material are subject to change without notice and may not be regarded in the same nature of binding obligations on the institutes and the State.

Institutional Liability — North Dakota State College of Science disclaims liability of any kind for injury or illness of any student as a result of participation in athletics, physical education, field trips, shop or laboratory work, or classroom activities. Every reasonable effort is made to provide safe conditions for the conduct of these activities.

Accreditations

NDSCS is accredited through the Higher Learning Commission (HLC) through the Open Pathway which is focused on quality assurance and institutional improvement. The Open Pathway is unique in that its improvement component, the Quality Initiative, affords institutions the opportunity to pursue improvement projects that meet their current needs and aspirations. The Open Pathway follows a ten-year cycle. Higher Learning Commission, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1411. Phone: 312-263-0456 or 1-800-621-7440. www.hlcommission.org

NDSCS also holds the following accreditations by program or academic emphasis:

- Auto Body Repair and Refinishing Technology - PPG Partners in Education™, One PPG Place, Pittsburgh, PA 15272 and I-CAR Professional Development Program – Education Edition (PDP-EE), 5125 Trillium Blvd., Hoffman Estates, IL 60192
- Automotive Technology - Automotive Service Excellence (ASE) at the National Automotive Technicians Education Foundation, Inc. (NATEF), 1503 Edwards Ferry Rd., NE, Suite 401, Leesburg, VA 20176, Phone: 703-669-6650

- Dental Hygiene and Dental Assisting – Accredited by the Commission on Dental Accreditation of the American Dental Association, 401 North Michigan Ave., Suite 3300, Chicago, IL 60611-4250, Phone: 800-232-6108, www.ada.org/en/coda
- Diesel Technology – Automotive Service Excellence (ASE) NATEF Heavy Truck Certification at the National Automotive Technicians Education Foundation, Inc. (NATEF), 1503 Edwards Ferry Rd., NE, Suite 401, Leesburg, VA 20176, Phone: 703-669-6650 and Associated Equipment Distributors, Inc., 650 E. Algonquin Rd., Suite 305, Schaumburg, IL 60173, Phone: 630-574-0650
- Emergency Medical Services (EMS) - Commission on Accreditation of Allied Health Education Programs (CAAHEP), 9355 - 113th St N, #7709 Seminole, FL 33775, Phone: 727-210-2350, www.caahep.org. To contact CoAEMSP: 8301 Lakeview Parkway Suite 111-312, Rowlett, TX 75088, Phone: 214-703-8445, www.coaemsp.org
- Heath Information - The Health Information Management accreditor of NDSCS is the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). The College's accreditation for Associate's degree in Health Information Technology has been reaffirmed through 2028. All inquiries about the program's accreditation status should be directed by mail to: CAHIIM, 200 East Randolph Street, Suite 5100, Chicago, IL, 60601; by phone at 312-235-3255; or by email at info@cahiim.org
- Occupational Therapy Assistant – The Occupational Therapy/Occupational Therapy Assistant program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE), of the American Occupational Therapy Association (AOTA), located at 7501 Wisconsin Avenue, Suite 510E, Bethesda, MD 20814, ACOTE's telephone number, C/O AOTA, is 301-652-6611 and its Web address is www.acoteonline.org
- Practical Nursing - The Practical Nursing program at North Dakota State College of Science located in Wahpeton, ND and the Fargo campus in Fargo, ND is accredited by: The Accreditation Commission for Education in Nursing (ACEN), 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326, Phone: 404-975-5000. The most recent accreditation decision made by the ACEN Board of Commissioners for the Practical Nursing program is Continuing Accreditation. Practical Nursing has full approval by the North Dakota Board of Nursing (NDBON), 919 South 7th Street, Suite 504, Bismarck, ND 58504-5881. 701-328-9777, www.ndbon.org
- Pharmacy Technician - Jointly accredited by American Society of Health System Pharmacists, 4500 East-West Highway, Bethesda, MD 20814, Phone: 866-279-0681, www.ashp.org and Accreditation Council for Pharmacy Education, 190 S. LaSalle Street, Suite 3000, Chicago, IL 60603-3446, Phone: 312-664-3575, Fax: 866-228-2631. techinfo@acpe-accredit.org
- Registered Nursing (ASN and AAS) - The Registered Nursing program at North Dakota State College of Science located in Wahpeton, ND and the Fargo campus in Fargo, ND is accredited by: The Accreditation Commission for Education in Nursing (ACEN), 3390 Peachtree Road NE, Suite 1400, Atlanta, GA 30326, 404-975-5000. The most recent accreditation decision made by the ACEN Board of Commissioners for the Registered Nursing program is Continuing Accreditation.

  Registered Nursing has full approval by the North Dakota Board of Nursing (NDBON), 919 South 7th Street, Suite 504, Bismarck, ND 58504-5881. 701-328-9777, www.ndbon.org

Admission Information

Admissions Requirements/Types & Procedures

First Year of Freshmen Student

You are a first year student if you have not attended a post-secondary institution since completing high school. Refer to admission procedures for completing your admission/registration requirements.

Early Entry Student

A student who is still in high school and is pursuing college courses during the summer, or simultaneously with high school, is considered an early entry student. Complete the application form found at www.NDSCS.edu/Apply. Visit with your high school official before beginning this process.

Home Educated Student

A student who has been home educated must submit: a) a transcript listing classes completed, performance or grade with a key in each class in grades nine through twelve, which must be verified by the parent or other instructor; or b) a state's equivalent of a high school diploma.

Transfer Student

You are a transfer student if you have attended one or more postsecondary institutions after high school graduation other than NDSCS. **If you have earned college credit(s) while in high school, you are considered a first year student and are required to send in coursework from ALL colleges.

Refer to admission procedures for completing your admission/registration requirements.

Returning Student

You are a returning student if you have previously applied for admission or taken classes at NDSCS. Any returning student who was placed on academic warning, probation or suspension should refer to the Academic Warning, Probation, Suspension and Re-Admission Policy in the *NDSCS Catalog* or online at www.NDSCS.edu/Catalog. Applicants will be contacted by the Enrollment Services office for further instruction. Refer to admission procedures for completing your admission/registration requirements.

Non-Degree Seeking Student

A non-degree student is any student who is not pursuing a degree or vocational program or is wishing to enroll in a limited number of credits (12) at NDSCS. Non-degree students are not eligible to receive financial aid. Refer to Step 1 and 2 of admission procedures.

Permanent Resident

Admission requirements for permanent residents.

1. Refer to admission procedures for completing your admission/registration requirements.
2. Submit a photocopy of permanent resident card (Form I-94) or Form I-797 Notice of Action.

International Students

Applicants are encouraged to begin the application process well in advance of posted deadlines to ensure all required admission materials arrive in a timely manner. The I-20 immigration form will not be issued until the admission file is complete.

Application deadlines:

- Summer Semester (begins in June) – March 15
- Fall Semester (begins in August) – June 15
- Spring Semester (begins in January) – November 1

1. Complete the application for admission found at www.NDSCS.edu/Apply. Submit $35 non-refundable application fee.
2. Submit Official High School (Secondary School) Transcript. International high school credentials must be evaluated through an approved evaluation service. The evaluation service is the sole responsibility of the applicant, and it must be performed by Foreign Credential Services of America (FCSA), a member of the National Association of Credential Evaluation Services (NACES) or the Association of International Credential Evaluators (AICE). NDSCS recommends using World Education Services (WES) or SpanTran. Exemptions to this policy may be granted if you have completed an associate, bachelor, or doctoral degree that has been evaluated through an approved evaluation service or from an institution in the United States.
3. Submit Official College or Post-Secondary Transcript(s). College transcripts from outside the United States must be evaluated through an approved evaluation service. The evaluation service is the sole responsibility of the applicant, and it must be performed by Foreign Credential Services of America (FCSA), a member of the National Association of Credential Evaluation Services (NACES) or the Association of International Credential Evaluators (AICE). NDSCS recommends using World Education Services (WES) or SpanTran. There is no guarantee that the credits will transfer.
4. Submit test scores. Approved exams include the ACT, SAT and ACCUPLACER.
5. English proficiency. Students whose native language is not English must submit proof of English proficiency in accordance with NDUS procedure 411.5 Admissions Procedure - International Applicant.
6. Submit the Financial Responsibility Statement providing evidence of financial support for one year of all anticipated educational and living expenses for study in the United States. Go to www.NDSCS.edu/International-Students to download the Financial Responsibility Statement form.
7. Submit proof of immunization. Send medical records with proof of two MMR immunizations (measles, mumps and rubella) and proof of meningitis immunization. Go to www.NDSCS.edu/Immunizations for more information.

Questions? Email NDSCS.Admissions@ndscs.edu or call 701-671-2521.

Admissions Procedures

Step 1. Complete the application for admission found at www.NDSCS.edu/Apply.
Step 2. Submit $35 non-refundable application fee.
Step 3. Submit high school and/or college transcripts or GED test scores.

Current high school student:

- Submit an official high school transcript. An in-progress high school transcript is required prior to attending any registration sessions. An official high school transcript with final grades and graduation date is required upon completion of high school.
- High school students currently taking college coursework, including dual credit, PSEO, etc., need to request an in-progress college transcript(s). Final, official college transcript(s) will be required once all course work has been completed.

Transfer student:

- Submit an official final high school transcript, GED or authorized high school equivalent. Transfer students who have earned 24 or more semester hours of college level coursework may be exempt from providing their high school transcript.
- Submit official, in-progress college transcript(s).
- Submit official, final college transcript(s) after grades/graduation details have been posted from ALL colleges previously attended (include college credits earned while in high school).

Returning student:

- Submit official, final college transcript(s) for ALL colleges if you have attended other institutions after leaving NDSCS and other official documents, if not previously submitted.

NDSCS does not accept faxed transcripts.

Step 4. Optional: Submit test scores. Approved exams include the ACT, SAT, ACCUPLACER and Pearson My FoundationsLab.

Step 5. Submit Proof of Immunization. Submit medical records with proof of two MMR immunizations (measles, mumps and rubella) and proof of meningitis immunization. Go to www.NDSCS.edu/Immunizations for more information.

All official, final transcripts must be submitted before the first day of class. Failure to comply may result in cancelled registration.

Selective & Limited Admission Programs

Admission to several academic programs is selective and/or limited. Admission to the College does not guarantee entrance to a specific program. Please visit www.ndscs.edu/academics for a full listing of all academic options and to review specific program selection or admission criteria.

Criminal Background Check Requirements

1. NDSCS applicants are required to respond to the following safety and security questions (NDUS Procedures 511). An affirmative response to any of these questions will not automatically prevent admission, but you will be asked to provide additional information.
    a. Within the past seven (7) years, have you pled guilty (or no contest) to or otherwise been convicted of a crime involving violence or the threat of violence, stalking or of a sex offense.
    b. Are you currently required to register as a sex offender in any state?
    c. Have you been dismissed or suspended from a college or university for disciplinary reasons within the last seven (7) years (“Dismissed for disciplinary reasons” means a permanent separation from an institution due to conduct or behavior. “Suspended for disciplinary reasons” means a sanction imposed for disciplinary reasons that results in a student leaving school for a fixed period but not permanently.)

2. Those students who indicate “yes” to any of the above, will receive a letter stating that they must complete a background check and provide a personal narrative explaining the details of their criminal history.
3. All documentation (criminal history checks and letters or documentations) must be received 15 days prior to the start of the term for the applicant to be considered for admission. If a student does not choose to attend after being admitted, and then wishes to be reconsidered for admission for a following term, the applicant may be required to complete a current background check. If a student is admitted, the documentation will be attached to the admission file, and kept until the file is purged as per the document retention schedule.
4. The Behavioral Intervention Team will determine if a student will be admitted to NDSCS and/or determine if any conditions will be imposed. This team meets regularly, pending need. Participation of over 50 percent of the membership is required to meet quorum, the co-chairs are voting members, and the administrative liaison does not participate in meeting discussions or voting.
5. If the student is admitted, an addendum to the letter of admission will be sent to the student and placed in the student’s admission file. The addendum will note conditions under which the student will be admitted, and the student may be required to meet with the designated College official by a scheduled date prior to starting classes.
6. If the student is not admitted, the student will be informed via letter.
7. A student who is denied admission, or chooses to appeal the conditions under which admission is allowed, may appeal by providing a written statement to the Associate Vice President for Student Affairs within five working days of receiving the team’s decision; the vice president’s decision is final.
8. Copies of the student’s criminal history check and letters or documentation cannot be shared with other non-NDSCS agencies, offices or departments.
9. Many academic programs require various types of criminal background checks. Prospective students are strongly encouraged to discuss these with the NDSCS Admissions office for further information and guidance.

English & Mathematics Course Placement

NDSCS English and Math Course Placement

Placement of students in courses that most closely match their abilities results in a greater likelihood that these students will be successful in pursuing and completing their programs. Following the North Dakota University System Procedure 413.1 and the North Dakota State Board of Higher Education Policy 413, students are placed into appropriate English and Math courses based on qualifying exam scores. While ACT and SAT scores are not required for admission purposes, they can still be used for placement purposes. If a student does not have ACT, SAT, or NDUS qualifying exam scores, they will be encouraged to take the ACCUPLACER exam. If a student has multiple scores, the highest score will be used for placement.

Financial Obligation Agreement

Prior to registering each semester, students will need to complete a Financial Obligation Agreement (FOA) through CampusConnection. By completing the FOA, the student acknowledges that they are aware of the financial responsibilities associated with enrolling for classes at the institution(s) they will be registering at. For more information, go to www.NDSCS.edu/CC-Help or contact the Business Affairs office.

Full-time or Part-time Status

A full-time student is one who enrolls for 12 or more semester credits during fall or spring term. The normal load for full-time students is 12 to 18 semester credits, depending on the program, not including activity credit. Students must have special permission to enroll in excess of 20 credit hours except where more than 20 hours are required in a specific curriculum. A student desiring to have 12 or more semester credits recorded in a given semester will be considered a full-time student. A full-time student cannot, by taking examinations for credit, cause a reduction of status to a part-time student.

- A part-time student is one who enrolls for less than 12 semester credits during fall or spring term.
- A full-time student for summer term is one who enrolls in six or more semester credits. Since the summer is the equivalent of half a regular semester, a reasonable student load is no more than nine semester credits.

Academic Advisement

Upon enrollment, each student at NDSCS is assigned an academic advisor in the student’s instructional area.

The primary purposes of the academic advising program are to:

- Assist students in the development of meaningful education and career plans, which are compatible with their life goals;
- Help students accept responsibility for their own education;
- Aid students' professional development by providing guidance in curricular and professional choices; and
- Provide accurate information about NDSCS policies, procedures, resources and programs.

An academic requirements report is available in your CampusConnection – Degree Progress/Graduation to assist you in meeting your program requirements.

The ultimate responsibility for making informed decisions about life goals and educational plans rests with the individual student. An academic advisor assists by helping to identify and assess alternatives and consequences of decisions.

Student Responsibilities

- Clarify personal values, interests, abilities and career goals. For assistance in the process of career exploration and planning, students should schedule an appointment with an academic counselor.
- Become knowledgeable and adhere to NDSCS policies, procedures and curriculum requirements.
- Make an appointment and meet with their academic advisor during each registration period for schedule planning purposes and at other times as needed or required by college policy.
- Prepare for advising sessions and bring appropriate resources and materials.
- Follow through on actions identified during each advising session.
- Notify academic advisor and course instructors of difficulties in completing course work and seek their assistance in resolving issues.
- Be diligent in attending class and meeting class objectives and assignments.
- If special academic accommodations are needed due to a documented disability, students must inform their advisors and course instructors in order to receive assistance. To receive assistance, students must document their disability with the Accessibility Support office located in Old Main and request assistance. Students who have a disability are strongly encouraged to contact the Accessibility Support office to inquire about available services.
- Accept final responsibility for all decisions.

Advisor Responsibilities

Although students have the primary responsibility for planning their programs, an academic advisor's responsibilities include:

- Helping students define education and career goals;
- Providing accurate information about NDSCS policies, resources and programs;
- Helping students select courses for degree requirements;
- Assisting students who are academically at risk;
- Encouraging student involvement;
- Making referrals to campus support services; and
- Maintaining confidentiality standards.

Together, the student and advisor can make well-informed decisions to ensure a student's success at NDSCS.

Learning Locations

NDSCS Wahpeton (Main Campus)
800 6th St N
Wahpeton, ND 58076

NDSCS Fargo
1305 19th Ave N
Fargo, ND 58102

NDSCS Career Innovation Center (CIC)
4230 64th Ave S
Fargo, ND 58104

Tuition & Fees

It is important for students to know what their costs will be so they can make plans to pay for their education. Information regarding cost estimates and payments can be found at www.NDSCS.edu/paying-for-college or by contacting NDSCS Business Affairs.

Tuition and related fees are charged per credit, based on a student's residency and the location of each class.

TUITION and FEES - per CREDIT (excluding Instructional Fees)

~Summer fees may be slightly less; additional information can be found at NDSCS.edu/costs.

Class Location	Residency[1]	Tuition	Per-Credit Fees[2]		Per-Credit Total	
WAHPETON CLASSES	ND Resident:	162.34	+	42.43	=	204.77
	MN Reciprocity:	181.82	+	42.43	=	224.25
	U.S. Resident:	194.81	+	42.43	=	237.24
	International:	284.10	+	42.43	=	326.53
FARGO CLASSES	ND Resident:	162.34	+	27.48	=	189.82
	MN Reciprocity:	181.82	+	27.48	=	209.30
	U.S. Resident:	194.81	+	27.48	=	222.29
	International:	284.10	+	27.48	=	311.58
ONLINE CLASSES	ND Resident:	162.34	+	58.20	=	220.54
	MN Reciprocity:	181.82	+	58.20	=	240.02
	U.S. Resident:	194.81	+	58.20	=	253.01
	International:	284.10	+	58.20	=	342.30
DUAL CREDIT Classes Taught in H.S.	H.S. Subsidized:	87.24	+	5.54	=	92.78
	H.S. Unsubsidized:	154.36	+	5.54	=	159.90

Residency Types[1]

- ND Resident - students that have graduated from a ND high school, or have been a legal resident of ND for the 12 months prior to the first term of enrollment, or other approved groups as outlined in ND Century Code 15-10-19.1.

- MN Reciprocity - students that have graduated from a MN high school within the 12 month period prior to the first semester of enrollment at NDSCS, or have submitted the MN Reciprocity Application and have been approved.
- U.S. Resident - students that are U.S. citizens and have not been approved for a ND Resident or MN Reciprocity rate; students from Manitoba and Saskatchewan.
- International - students that are citizens of another country (excluding the Canadian provinces of Manitoba and Saskatchewan) and have not been approved for a ND Resident, MN Reciprocity or U.S. Resident rate.
- High School (H.S.) Subsidized/Unsubsidized - students enrolled in dual-credit classes between NDSCS & their High School; how & where the classes are taught will determine a subsidized or unsubsidized rate.

Per-Credit Fees - by Class Location[2]

Based on class location; help to support such things as classroom technology, job placement, on-campus student activities, University System software, etc. **Mandatory Fees cap at 12 credits per semester. Online Access Fee does not cap.**

- Wahpeton Classes: ConnectND $5.50, NDSA $.04, Student Fee $24.23, Technology $12.66
- Fargo Classes: ConnectND $5.50, NDSA $.04, Student Fee $9.28, Technology $12.66
- Online Classes: ConnectND $5.50, NDSA $.04, Student Fee $2.00, Technology $12.66, Online Access $38.00 (does not cap)
- Dual Credit Fees: ConnectND $5.50, NDSA $.04

Instructional Fees - By Class Prefix

Instructional Fees help to fund the unique needs tied to the classes/subjects a student is enrolled in. Each credit of enrollment will have 1 of the 10 instructional fees. Based on the prefixes for each class, Instructional Fees are charged per-credit at the following rates:

CLASS PREFIX	FEE CODE	INSTRUCTIONAL FEE
ASC, CJ, COMM, CTE, ECON, ENGL, FIRE, FYE, HIST, HUM, MATH, PHIL, POLS, PSYC, SOC, SWK	#1	$5credit
AGEC, AGRI, ANSC, PAG, PLSC, SOIL	#2	$10/credit
ACCT, BADM, BCT, BUSN, CAD, CMT, MUSC, NUTR, TECH, THEA	#3	$15/credit
ARCT, BIOL, CHEM, CIS, CSCI, HPER, ICT, MICR, PHYS, RELS	#4	$20/credit
ABOD, AUTO, CET, CIH, CT, DCAT, DTEC, ECAL, ELEC, JDAT, KMTS, PST	#5	$30/credit
AST, BOTE, ENGR, HIT, MATL, MFGT, MSYS, PRMT, RAMT, REFG, WELD	#6	$45/credit
BAKE, BANQ, BEVM, BREW, CA, CULA, CULM, FTRC, ITLY, PLMB, WINE	#7	$60/credit
(Not applicable)	#8	$70/credit
UAS	#9	$80/credit
AH, AIR, DAST, DENT, DHYG, EMS, GEN, NURS, OTA, PHRM, POW	#10	$95/credit

Out-of-state Discount for Living on Campus

NDSCS offers out-of-state students a substantial discount on their tuition when they live on campus and subscribe to a 160 Dining Plan or larger from Dining Services. Meeting these requirements allows students from all states and countries to pay the same tuition costs as a North Dakota resident.

For more information about the out-of-state tuition discount, contact the Business Affairs office.

Laptop Computers

NDSCS requires notebook computers in some of the academic programs. Financial Aid collaborates with NDSCS ITS to obtain laptop costs. If a student's program requires a laptop, the associated cost will be included in their budget.

Application & Other Special Fees

In addition to the regular costs described, the following fees are assessed when and as they apply:

Application Fee: $35
When an applicant files an application to enroll at NDSCS, it must be accompanied by $35, a non-refundable fee.

New Student Fee: $50
This one-time fee covers services and costs associated with onboarding new students and academic program completion.

Auditing Fee (per semester hour)
50 percent of the tuition rate, plus applicable fees.

Credit by Challenge Exam Fee:
50 percent of the tuition rate, additional fee will apply for a challenged online class

Parking Fee: $83 per year

Residency for Tuition Purposes

1. NDCC Section 15-10-19.1 governs determination of residency for tuition purposes. Pursuant to section 15-10-19.1, a resident student for tuition purposes means:
    a. I am a dependent child whose parent, custodial parent, or guardian has been a legal resident of North Dakota for 12 months immediately prior to the beginning of the academic term or resides in the state with the intent to establish residency in the state for a period of years within the last 12 months immediately prior to the beginning of the academic term.
    b. I am 18 years of age or older and have been a legal resident of North Dakota after reaching the age of 18 for 12 months immediately prior to the beginning of the academic term.
    c. I graduated from a North Dakota high school.
    d. I am a full-time active duty member of the armed forces, a member of a North Dakota National Guard unit, a member of the armed forces reserve component stationed in North Dakota, or a veteran as defined in NDCC Section 37-01-40.
    e. I am a spouse or a dependent of a full-time active duty member of the armed forces, a member of a North Dakota National Guard unit, or a member of the armed forces reserve component stationed in North Dakota.
    f. I am a spouse or dependent of a veteran as defined in NDCC Section 37-01-40 who is eligible to transfer entitlement under the Post 9-11 Veterans Education Assistance Act of 2008.
    g. I am a benefited employee of the North Dakota University System, or the spouse or dependent thereof.
    h. I am married to a person who is a resident for tuition purposes.
    i. I was a legal resident of this state for at least three consecutive years within six years prior to the beginning of the academic term. (NOTE: Select this option only if you do not qualify under one of the other scenarios.)
    j. I am a child, spouse, widow, or widower of a veteran as defined in NDCC Section 37-01-40, who was killed in action or died from wounds or other service-connected causes, was totally disabled as a result of service connected cause, died from service-connected disabilities, was a prisoner of war, or was declared missing in action.
2. Definitions
    a. “Dependent” means only a person claimed as a dependent on the most recent federal tax return.
    b. “Member of the armed forces” means only full-time active duty members of the armed forces, and not National Guard or reserve members.
    c. “Spouse” means both parties to a marriage recognized by the state of North Dakota including those subject to an order of legal separation, but not divorced persons.
3. NDCC Section 54-01-26 governs determination of legal residency. Legal residence must be based on an actual physical residence in North Dakota plus an intent to consider this state as a home and legal residence for a substantial period of time. Physical residence in the state for only the special or temporary purpose of attending an institution of higher education, without any assumption of the general responsibilities of legal residency, does not qualify one for legal residency. Nevertheless, a student attending a North Dakota institution of higher education is not precluded from proving legal residency simply because that is the student’s primary or exclusive pursuit for a period of time. It is not necessary to show gainful employment or an off-campus residency to prove legal residency, although they may be helpful; what is more important is a showing that some of the significant responsibilities or rights of legal residency enumerated in subsection 4 have been assumed or exercised, or even more importantly, that they have not been countered during a period of legal residency claimed in North Dakota by express acts indicating a legal residency in another state. Generally, because making false statements in a residency application is a crime, an applicant’s signature is sufficient guarantee that information in the application is accurate. However, university system employees may, at their discretion, require additional documentation.

4. Legal residence in the State of North Dakota includes, but is not necessarily limited to the following responsibilities and rights:
    a. To vote in general or special elections in the State after 30 days of residence in the precinct (and assuming U.S. citizenship). See NDCC Section 16-01-03;
    b. To obtain a North Dakota driver's license before operating any motor vehicle in this State after more than 60 days of residency. See NDCC Section 39-06-02;
    c. To obtain a North Dakota license for any motor vehicle owned or operated after beginning residency in this State. See NDCC Section 39-04-18;
    d. To file a North Dakota resident's income tax return with the State Tax Department reporting any income derived from within this State. See NDCC Sections 57-38-01-(10) and 57-38-31;
    e. To obtain a North Dakota resident game or fishing license after 6 months of residency in the State. See NDCC Sections 20.1-01-02(4) and 20.1-03-05.
5. Given the academic tradition of recess or vacation periods for holidays, between terms and during the summer, a student's visits to other states during these periods are not indicative of a lack of legal residency in North Dakota; in fact, NDCC Section 54-01-26 expressly allows absences for "special or temporary purposes." A student's return from North Dakota to a former state of residence for a period of several months (such as an entire summer), however, when combined with the abandonment of a place of residency in this State indicates abandonment of legal residency in North Dakota. Proof of either the retention of a place of residence in North Dakota during the absence (e.g., by rent receipts), or of a special or temporary purpose for the absence, is required in the event of such a prolonged absence. For example, participation in an internship experience or an exchange program in a state of origin that was an acceptable part of the student's academic program at a North Dakota institution of higher education is considered a special or temporary purpose.
6. International Students
    a. To qualify as a North Dakota resident, international students who are not refugees must have an Alien Registration Receipt Card (Green Card) proving permanent residency or immigrant status and must meet all other North Dakota residency requirements for tuition purposes.
    b. Refugees holding I-94 visas bearing endorsement by the Immigration and Naturalization Service and showing they have been paroled indefinitely, or have been granted indefinite voluntary departure or conditional entry, shall be treated as residents of the United States when applying for North Dakota residency for tuition purposes. In all other respects they must meet the requirements of NDCC Section 15-10-19.1. Time spent in North Dakota prior to being granted I-94 status shall not be counted towards the one year requirement for residency status for in state tuition.

Non-Resident Students Seeking Resident Status

Non-resident students seeking to declare residence for tuition fee purposes must complete the Application for ND Resident Student Status and provide the Enrollment Services office with supporting documentation.

The application is found in your Campus Connection account.
Step 1: Click on the NDSCS eForms tile
Step 2: Click on the Enrollment Services drop down menu (either left or right).
Step 3: Complete "Resident Student Status" eform

Reciprocity for Minnesota Residents

The legislatures of Minnesota and North Dakota have enacted a program allowing residents of both states to attend state-supported higher education institutions with most non-resident tuition fees waived. To participate, approval from the appropriate agency in the student's home state is required. Minnesota residents must submit a Tuition Reciprocity Application through the website www.ohe.state.mn.us before NDSCS can accept the student under the ND-MN Reciprocity rate.

Minnesota residents with questions about the Reciprocity Application should email: info.ohe@state.mn.us with a detailed description of their inquiry.

Payment Due Dates

Students incur new costs for each semester they enroll in at NDSCS. The due date for payment is the 12th day of each semester (September, January, June). All charges related to tuition, fees, Bookstore, housing, dining plans, etc. are due in full by each semester's due date. These dates can be found at www.NDSCS.edu/Payment.

The student's current balance is available 24 hours a day by going to www.NDSCS.edu/CampusConnection. All billing notifications are sent electronically to the student's NDSCS email address at the beginning of each month. Since students can make changes that affect their balance up to and after the 12th day of the semester, electronic statement notifications will not be sent again on the semester's due date; instead, students should access their up-to-date balance at www.NDSCS.edu/CampusConnection.

Registration may be cancelled if payment is not received by the 12th semester day unless signed arrangements have previously been made with the Business Affairs office. All financial aid files must be complete and accepted prior to the 12th semester day in order for the funds to be considered towards the student's balance when determining the cancellation of their registration. Unpaid balances will prevent enrollment in future semesters and may restrict the release of academic transcripts.

Outstanding Bills

If the student does not pay in full by the semester due dates, a late fee may be assessed for each month that the charges are past due (per SBHE Policy 830.1).

If acceptable arrangements are not made with the Business Affairs office regarding an outstanding bill, the account may eventually be forwarded to a collection agency. Costs incurred in the collection process will be the responsibility of the student. The unsatisfied obligation may also be reported to a credit bureau.

For additional information go to www.NDSCS.edu/Payment.

Refunding of Tuition & Fees

(per SBHE Policy 830.2-Refund Policy)

Financial Impacts of Dropping or Withdrawing

NDSCS is required to follow the ND State Board of Higher Education Policy and Procedure 830.2 regarding class drops and/or withdrawals from college.

- Refund eligibility is based on the date on which the drop/withdrawal is effective. See the NDSCS Drop/Withdrawal/Refund Schedule found at www.NDSCS.edu/Refund.
- Any cost adjustments to a student's original charges will first be applied to the semester's outstanding NDSCS balance before a refund is issued to the student (if applicable).
- A class that is dropped prior to the completion of 9 percent of the class session will receive a 100 percent refund of tuition and fees for the number of credits related to the dropped class. After 9 percent of the class session, no refund or tuition and fees will be received.

Financial Aid Recipients

Withdrawing from a term may require the return of Federal Financial Aid funds. At the start of the semester, students are provided with financial aid under the assumption that the student will complete the semester. If a student withdraws mid-semester, a calculation of "earned" aid is completed by the Financial Aid Office. This calculation will take multiple factors into consideration, including the student's last date of attendance. "Unearned" aid is returned to the Department of Education and/or the loan servicer and may result in a balance due to NDSCS, which must be paid by the student.

Dropping from a course or withdrawing from a term can also affect future financial aid eligibility. Pursuant to standards of Satisfactory Progress, students must complete 67% of attempted credits. Dropping a course or withdrawing from a term can result in a student failing to meet the requirement.

For more information regarding dropping and withdrawing, please visit: https://www.ndscs.edu/paying-college/drops-withdrawals-refunds-procedures-deadlines

Additional information on withdraws and dropping of courses: Withdraw and Drops Policy

Veterans Benefits & Transition Act of 2018 Compliance Policy

(per United States Code section 3679 of title 38)

In compliance with the Veterans Benefits and Transition Act of 2018, section 3679 of title 38, NDSCS will permit any covered individual to attend or participate in the course of education during the period beginning on the date on which the individual provides to the educational institution a certificate of eligibility for entitlement to educational assistance under chapter 31 or 33 (a "certificate of eligibility" can also include a "Statement of Benefits" obtained from the Department of Veterans Affairs' (VA) website – eBenefits, or a VAF 28-1905 form for chapter 31 authorization purposes) and ending on the earlier of the following dates:

1. The date on which payment from VA is made to the institution.
2. 90 days after the date the institution certified tuition and fees following the receipt of the Certificate of Eligibility (COE).

NOTE: A covered individual is any individual who is entitled to educational assistance under chapter 31, Vocational Rehabilitation and Employment, or chapter 33, Post-9/11 GI Bill™ benefits.

NDSCS will not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries, or other institutional facilities, or the requirement that a covered individual borrow additional funds, on any covered individual because of the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement funding from VA under chapter 31 or 33.

NDSCS requires payment for the amount that is the difference between the amount of the student's financial obligation and the amount of the VA education benefit disbursement. If NDSCS has not received the VA education benefit disbursement prior to the start of the subsequent semester, enrollment may be delayed until payment is received.

Financial Aid

Financial Aid includes a mix of resources that help students and their families pay for college. Figuring out how to pay will look different for every student. All students should have a realistic understanding of the costs and financial aid options.

There are several types and sources of financial aid, including grants, loans, scholarships and employment. Financial aid offers can include a combination of the various types of aid. Students attending NDSCS must apply for admission to be considered for financial aid.

Federal financial aid serves as the primary source of funding for students. To qualify for this assistance, students must submit the Free Application for Federal Student Aid (FAFSA) annually, available online at StudentAid.gov. To be considered for the maximum number of financial aid sources, the FAFSA should be submitted by April 1 to meet the priority deadline date of April 15.

Visit ndscs.edu/paying-college/financial-aid for information on sources of financial aid, policies, the financial aid process and more.

2025-2026 Estimated Average Annual Budget

These amounts are estimates used for financial aid budgets and are based on 2025-2026 anticipated costs. The amounts are estimates and are subject to change. Actual expenses will vary depending on student program, credits, and living arrangements. If you have unusual costs, please contact the Financial Aid Office at 701.671.2191.

The average annual amount for fees is $1,018 for all states (excluding campus-approved fees). The remainder is tuition for an average of 16 credits per semester.

ON-CAMPUS WITH MEAL PLAN					
Residents of all states and countries will be charged in-state tuition if living on-campus with meal plan of 225 meals or greater.					
RESIDENCY	**TUITION/FEES***	**HOUSING/FOOD****	**BOOKS/SUPPLIES**	**PERSONAL*****	**TOTAL**
All States/Countries	$6,214	$8,356	$1,000	$3,530	$19,100

OFF-CAMPUS OR ON-CAMPUS WITHOUT MEAL PLAN				
RESIDENCY	**NORTH DAKOTA**	**MINNESOTA WITH RECIPROCITY**	**U.S. RESIDENT, MANITOBA & SASKATCHEWAN[1]**	**INTERNATIONAL[2]**
Tuition/Fees*	$6,214	$6,838	$7,252	$10,110
Housing/Food**	$8,356	$8,356	$8,356	$8,356
Books/Supplies	$1,000	$1,000	$1,000	$1,000
Personal***	$3,530	$3,530	$3,530	$3,530
TOTAL	**$19,100**	**$19,724**	**$20,138**	**$22,996**

AT HOME (LIVING WITH PARENTS)			
RESIDENCY	**NORTH DAKOTA**	**MINNESOTA WITH RECIPROCITY**	**U.S. RESIDENT, MANITOBA & SASKATCHEWAN[1]**
Tuition/Fees*	$6,214	$6,838	$7,252
Housing/Food	$4,178	$4,178	$4,178
Books/Supplies	$1,000	$1,000	$1,000
Personal***	$3,530	$3,530	$3,530
TOTAL	**$14,992**	**$15,546**	**$15,960**

[1] U.S. Resident: U.S. citizens or citizens of the Canadian provinces of Manitoba and Saskatchewan
[2] International: Citizens of another country excluding Canadian provinces of Manitoba and Saskatchewan
**Room/board amount is the average total of a double room on campus ($3,846) and a 225 meal plan ($4,510). All rates are for two semesters

***PERSONAL EXPENSES	
Medical/Dental	($90/Mo.) $810
Clothing	($60/Mo.) $540
Toiletries	($50/Mo.) $450
Entertainment/Misc.	($55/Mo.) $500
Transportation	($130/Mo.) $1,170
Loan Fees	$60

Additional Costs by Program

Students in a number of academic programs should plan for additional expenses as part of their education. These additional expenses may include professional-grade tools, equipment such as laptops, required supplies like uniforms, instructional fees, and costs associated with board exams and licensure, among others. The figures provided reflect the most current information available regarding additional expenses; however, these costs are subject to change. For more information about specific program costs, visit www.NDSCS.edu/Paying-for-College.

Students enrolled in the following Associate in Applied Science programs should add the corresponding amounts to their estimated expenses. The (1) indicates the first year of a program, and a (2) indicates the second year.

- Agriculture Business (1) $2,160
- Agriculture Business (2) $310
- Agriculture Communication & Marketing (1) $2,095
- Agriculture Communication & Marketing (2) $270
- Agriculture Education (1) $2,090
- Agriculture Education (2) $285
- Agriculture - Farm & Ranch Management (1) $2,175
- Agriculture - Farm & Ranch Management (2) $300
- Animal Science (1) $2,040
- Animal Science (2) $280

- Architectural Modeling & Design Technology (1) $3,500
- Architectural Modeling & Design Technology (2) $550
- Automotive & Diesel Master Technician - $840
- Automotive Technology (1) $11,327
- Automotive Technology (2) $840
- Aviation Maintenance (1) $4,505
- Aviation Maintenance (2) $4,070
- Building Construction (1) $4,267
- Building Construction (2) $470
- Business Management - Administration & Finance (1) $2,040
- Business Management - Administration & Finance (2) $460
- Business Management - Restaurant Management - $450
- Caterpillar Dealer Service Technician (1) $12,742
- Caterpillar Dealer Service Technician (2) $1,610
- Collision Engineering & Technology (1) $9,146
- Computer Science - IT Support/Info Systems (1) $2,110
- Computer Science - IT Support/Info Systems (2) $565
- Computer Science - Software Engineering (1) $2,065
- Computer Science - Software Engineering (2) $445
- Computer Science - Web Design & Developer (1) $2,145
- Computer Science - Web Design & Developer (2) $555
- Construction Management Technology (1) $2,015
- Construction Management Technology (2) $465
- Culinary Arts - Baking & Pastry Arts (1) $3,542
- Culinary Arts - Baking & Pastry Arts (2) $1,606
- Culinary Arts - Chef Training & Management (1) $3,912
- Culinary Arts - Chef Training & Management (2) $1,526
- Dental Assisting - $6,585
- Dental Hygiene (1) $9,815
- Dental Hygiene (2) $5,530
- Diesel Technology (1) $12,852
- Diesel Technology (2) $1,690
- Diesel Technology - Case IH (1) $12,822
- Diesel Technology - Case IH (2) $1,580
- Diesel Technology - Komatsu (1) $12,872
- Diesel Technology - Komatsu (2) $1,520
- Electrical Technology (1) $3,581
- Electrical Technology(2) $1,060
- EMS Paramedic Tech - $3,025
- Fire Science (1) $690
- Fire Science (2) $150
- Health Information Technician (1) $995
- Health Information Technician (2) $1,265
- HVAC/R (1) $7,018
- HVAC/R (2) $1,310
- John Deere Technology (1) $12,812
- John Deere Technology (2) $1,600
- Land Surveying & Civil Engineering Technology (1) $3,640
- Land Surveying & Civil Engineering Technology (2) $1,175
- Liberal Arts (1) $215
- Liberal Arts (2) $225
- Meat Processing $325
- Mechanical Systems (1) $4,847
- Mechanical Systems (2) $5,383
- Occupational Therapy Assistant (1) $3,535
- Occupational Therapy Assistant (2) $2,660
- Pathway - At Home $3,951
- Pathway - On Campus $5,633
- Pharmacy Technician (1) $2,025
- Pharmacy Technician (2) $1,150
- Pharmacy Technician (Certificate) $1,269

- Powersports Technology (1) $11,864
- Powersports Technology (2) $760
- Precision Ag (1) $1,890
- Precision Ag (2) $290
- Precision Ag Tech (1) $6,806
- Precision Ag Tech (2) $385
- Precision Machining Technology (1) $6,516
- Precision Machining Technology (2) $1,509
- Registered Nursing (1) $4,566
- Registered Nursing (2) $4,245
- Registered Nursing (LPN to RN) $4,854
- RAMT - General Technician (1) $3,374
- RAMT - General Technician (2) $1,185
- RAMT - Mechatronics Engineering Tech (1) $3,289
- RAMT - Mechatronics Engineering Tech (2) $1,075
- Unmanned Aircraft Systems (1) $3,930
- Unmanned Aircraft Systems (2) $855
- Welding Technology (1) $5,153
- Welding Technology (2) $1,325

Students enrolled in the following Certificate programs should add the corresponding amounts to their estimated expenses.

- Agriculture Application & Operations - $375
- Agriculture Meat Processing - $2,040
- Automotive Technology Electrical & Drivability - $11,032
- Automotive Technology Engines - $11,082
- Automotive Technology Powertrains - $11,007
- Automotive Technology Steering, Suspension & Alignment - $11,002
- Aviation Maintenance Technician (1) - $4,505
- Aviation Maintenance Technician (2) - $4,070
- Business Management - $1,840
- Business Management Finance - $1,840
- Business Management Sales & Marketing - $1,795
- Carpentry - $240
- Computer Science Cybersecurity Defense - $1,815
- Computer Science Cybersecurity Incident Response - $1,835
- Computer Science Cybersecurity Incident Response - $1,815
- Computer Science IT Forensics & Cybersecurity - $2,190
- Computer Science Cybersecurity Penetration Testing - $1,785
- Computer Science Web Design - $2,145
- Culinary Arts Baking & Pastry Arts - $3,537
- Culinary Arts Catering & Banqueting - $3,582
- Culinary Arts Italian Cuisine - $3,297
- Dental Assisting - $6,585
- Diesel Technology Electrical - $12,057
- Diesel Technology Engines - $12,017
- Diesel Technology Hydraulics - $11,997
- Diesel Technology Powertrains - $12,002
- Emergency Medical Technician - $1,365
- HVAC/R - $7,168
- Medical Coding - $1,130
- Paramedic Technology - $3,915
- Pharmacy Technician - $2,985
- Plumbing - $4,802
- Powersports Marine Technology - $11,219
- Powersports Outdoor Power Equipment & Snowmobile Technology - $11,299
- Powersports Motorcycle/ATV Technology - $11,319
- Practical Nursing - $5,124
- Precision Machining Technology - $6,501
- Introduction to Precision Machining Technology - $5,821
- Intermediate Precision Machining Technology - $5,861
- Unmanned Aircraft Systems - $3,745

- Welding Technology - $5,138

For a complete list of tools and supplies, contact the Bookstore at 701.671.2825. Estimates for laptop computer leases are based on rates from a vendor. Students retain the option of buying any books, tools and supplies — including laptop computers — from vendors other than the Bookstore or those recommended by NDSCS.

Drops, Withdrawals & Repaying Financial Aid

The federal government requires all colleges and universities to monitor the academic progress of all students, whether or not they receive federal aid. In accordance with the North Dakota State College of Science Academic Standards, students are expected to maintain a grade point average that is equal to or greater than the college's minimum requirements as stated in the College Catalog. At the conclusion of each semester, including the summer semester, the current and cumulative grade point average including all transfer credits will be evaluated for all students at North Dakota State College of Science. Special GPA, including transfer credits, must be at least 1.5 after one semester, 1.75 after two semesters, 1.86 after three semesters and 2.0 thereafter. Students on financial aid should be careful about dropping classes. If you drop a class, it counts as an attempted course that you did not complete. Dropping a class, as well as receiving an F in a class, will lower your overall completion rate. If your completion rate drops below the required 67% of attempted credits, you will be placed on financial aid warning. If you do not meet the 67% standard in a future semester, you will be disqualified from financial aid. If you withdraw from all your classes or fail all your classes, you will be disqualified from financial aid, without a warning period.

To drop a class or drop out of college, the first step is to stop at Student Success in Old Main. If it is not possible to stop in at Student Success, it is important to contact the office via phone, 701.671.3000. For more information on the drop/withdrawal process visit https://www.ndscs.edu/paying-college/drops-withdrawals-refunds-procedures-deadlines. Failure to follow the withdrawal/drop procedures can result in serious consequences to the student in the form of receiving all “F” grades on your permanent record for the work not completed. This also may result in unnecessary cost to you in other ways, such as not having certain costs credited on a timely basis.

For all students receiving U.S. Department of Education Title IV funds, the federal government has detailed policies on the return of these funds. Financial aid is awarded to students with the expectation that they will complete the semester. If you withdraw before the semester ends, any unearned aid will be returned to the Department of Education and/or the loan servicer. As a result, you may owe NDSCS for the unearned aid. Federal financial aid is awarded based on enrollment status. If by dropping one or more classes changes your enrollment status, a portion of your federal financial aid may need to be returned to the government. Dropping below half-time enrollment or withdrawing completely will trigger federal student loan repayment. Federal loans have a six-month grace period before regular payments begin.

Satisfactory Progress

Federal regulations require that schools participating in federal financial aid programs determine if students, whether they are receiving financial aid or not, are progressing through their programs of study in a satisfactory qualitative academic manner, and at a satisfactory quantitative rate of progress. If a student does not maintain Satisfactory Progress according to the guidelines defined below, the student will be placed on Financial Aid Warning. Students on Financial Aid Warning have access to any aid which they are eligible for during that semester. If the Satisfactory Progress guidelines defined below are not met during the warning period, a student will then be placed on Financial Aid Disqualification, which terminates eligibility. The student will be notified by email if they are placed on Financial Aid Warning or Disqualification.

QUALITATIVE ACADEMIC STANDARD

In accordance with the North Dakota State College of Science Academic Standards, students are expected to maintain a grade point average that is equal to or greater than the college’s minimum requirements as stated in the College Catalog. At the conclusion of each semester, including the summer semester, the current and cumulative grade point average including all transfer credits will be evaluated for all students at North Dakota State College of Science. Special GPA, including transfer credits, must be at least 1.5 after one semester, 1.75 after two semesters, 1.86 after three semesters and 2.0 thereafter.

QUANTITATIVE RATE OF PROGRESS

Maximum Time Frame: Students must complete their program within 150 percent of the published length of the program. Minimum percentage of completed hours: Students are required to successfully complete 67 percent of their attempted credit hours. At the conclusion of each semester, including the summer semester, this percentage will be calculated for both cumulative (including all transfer credits) and current credits. Credit hours attempted per term will be determined by

the registered number of credits on the census date (8th class day) including course repeats. Credit hours completed per term will mean those credits for classes in which a student received a passing grade of A, B, C, D or S. Credit hours not completed include classes with Grades of F, I, U, W, AU or NR. Once a student has registered, it is especially important to evaluate any decision to drop credits. NOTE: Academic Warning, Probation or Suspension are not the same as Financial Aid Warning, Probation or Disqualification.

RE-ESTABLISHING ELIGIBILITY
Students who have been determined ineligible for Federal Financial Aid due to satisfactory progress may re-establish satisfactory progress and regain eligibility by satisfying one of the following conditions:

- Complete one semester of at least 6 credits with a minimum of 2.0 GPA and 100% completion without financial aid. Student would then need to file an appeal to request reinstatement of financial aid. If an appeal is approved, the students eligibility for financial aid will be reinstated.
- Complete course work to remove “Incomplete” from the transcript if all other Satisfactory Progress requirements are met. Student would then need to file an appeal to request reinstatement of financial aid. If an appeal is approved, the students eligibility for financial aid will be reinstated.
- Students may appeal to re-establish financial aid eligibility on the basis of extenuating medical or emotional circumstances. Examples of situations that would be acceptable include hospitalization, illness, depression, and death in family. Situations that are not acceptable include working too many hours, changing majors, or dislike of course material or instructor. Such appeals will be dealt with on a case-by-case basis. If an appeal is approved, the student's eligibility for financial aid will be reinstated.
- Students may appeal to establish eligibility for exceeding 150% length of the program due to change of program or transfer credits that do not apply to current program. If an appeal is approved, the students eligibility for financial aid will be reinstated.

Students who re-establish eligibility for financial aid may receive that aid on a plan of study status. The Satisfactory Progress requirements must be met each semester after appeal in order to remain eligible.

EXCEPTIONS TO THE SUSPENSION POLICY
Any student who received a term GPA 0.00 (F or I in all courses attempted) will automatically be placed on Financial Aid Disqualification and will not receive a Financial Aid Warning period. Any student whose enrollment is canceled administratively due to non-attendance, or withdraws from all classes in a semester will automatically be placed on Financial Aid Disqualification. Any student who does not meet a cumulative 2.0 Grade Point Average at the conclusion of their fourth semester and thereafter will be placed on Financial Aid Disqualification, without a Financial Aid Warning period.

APPEAL PROCESS
If placed on Financial Aid Disqualification, an appeal form is available at the Financial Aid Office. The appeal must be submitted along with supporting documentation to be considered. Appeals without supporting documentation will be returned to student. An appeal for reinstatement of eligibility should be submitted as soon as possible to insure financial aid availability at the time of fee payment.

Academic Information

Classification of Students

A full-time student carries 12 or more semester credits. A part-time student carries fewer than 12 semester credits. Students who have earned fewer than 30 semester credits either in transfer or on campus are classified as freshmen.

A full-time student for summer term is one who enrolls in six or more semester credits. Since the summer is the equivalent of half a regular semester, a reasonable student load is no more than nine semester credits. Please consult with the Financial Aid office, as the credit load requirements may vary depending on aid being received.

Semester System

- NDSCS operates under the semester system with two 16-week semesters, an intersession (between Fall and Spring), and a summer session.

- Fall and spring term schedules provide specific information regarding the term calendar; course offerings, fees and meeting times; final exam schedule; guidelines for changes in registration; and instructions for using CampusConnection, the online registration system.
- An intersession is a three week term between the Fall and Spring semesters. For record and financial aid purposes, intersession is tired into the spring semester. All classes offered during the intersession are online. Courses offered differently then online, need Dean level approval.
- A summer session schedule provides specific information regarding the summer term calendar; course offerings, fees and meeting times; enrollment procedures; and instructions for using CampusConnection.

Unit of Credit

In accordance with federal guidelines, academic credit hours for a course are determined by the amount of work represented in intended learning outcomes.

The NDSCS established equivalency for courses bearing academic credit reasonably approximates, and is not less than:

1. One semester hour of credit is awarded for 750 minutes of classroom or direct faculty instruction and a minimum of 1800 minutes of out-of-class student work.
    a. Over a sixteen week semester this is equivalent to one 50 minute period of direct instruction and two hours of out-of-class work each week for 15 weeks plus a final exam period.
    b. Classes scheduled as shorter sessions will meet the equivalent amount of class time per credit as full semester length classes.
2. At least one equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution, including laboratory work, internships, practicum, studio work, and other academic work leading to the award of credit hours.
    a. For laboratories, a minimum of 100 minutes per week plus one out of class hour for 15 weeks is equivalent to one credit.
    b. For shop practices, a minimum of 150 minutes per week for 15 weeks is equivalent to one credit.
    c. One semester credit of field experience/internship/cooperative education/clinicals/supervised occupational experience/etc. requires a minimum of 40 hours of direct experience. The unique nature of some disciplines may require additional and/or alternative means of meeting credit and content requirements.
    d. Cooperative Education credits and limits are determined by the respective academic department in consultation with NDSCS Career Services.
3. For online, independent study or hybrid courses, which do not meet the faculty contact requirements, credit is awarded based on the equivalent face-to-face course or by assessing the required amount of student learning time commitment.

Early Entry (Dual Credit)

In 1997, the North Dakota Legislature passed a law allowing high school juniors and seniors to take college classes for both college and high school credit simultaneously. In 2009, this was expanded to include tenth grade high school students. Early Entry (Dual Credit) provides high school students with a more challenging curriculum option and the ability to earn both high school and college credit for a course completed while a high school student. Early Entry (Dual Credit) students can complete courses on their high school campus, on the NDSCS-Wahpeton campus, NDSCS-Fargo, online or through ITV/IVN classes. For more information, please contact the Director of Dual Credit at 701-671-2406 or 800-342-4325 ext. 2406.

Pathway Program

NDSCS-Fargo also offers the Pathway Program, which is a collaborative transition program between North Dakota State College of Science-Fargo and North Dakota State University that prepares students to be successful in the university environment. Students not fully admitted to NDSU may be invited to participate in the Pathway Program. This program is structured so students can enroll in academic readiness courses and a limited number of general education classes at NDSCS-Fargo and NDSU. To the extent possible, Pathway students will be allowed to participate in NDSU services and organizations (exemption example: NCAA sanctioned activities). Please contact the Pathway Advisor for additional information.

Transfer Credit

NDSCS recognizes off-campus learning experiences and translates these experiences into college credit where appropriate. Application for advanced standing should be made to the Registrar's office. Advanced standing may be obtained through the following methods:

Credits Received at Other Recognized Educational Institutions

NDSCS will transcript all coursework from all regionally and nationally accrediting organizations recognized by the Council for Higher Education Accreditation (CHEA), including the American Council on Education. The student's grade point average at NDSCS is an institutional grade point average for all residential credits only. Transfer credits will not be included in student's grade point average.

Exception to this policy applies to Joint Services Transcripts, Sanford Ambulance records, or at the discretion of the Registrar.

Any academic program specific courses accepted by the College in transfer, will be applied to the student's program curriculum at the discretion of the academic department.

A decision concerning the acceptance of transfer credits will not be made until an official transcript has been received from the institution the student previously attended.

Please refer to www.NDSCS.edu for further explanation regarding the transfer of credits to NDSCS. Search for transfer to NDSCS and click on the NDSCS TES button.

Graduate level coursework is not transcripted and will only be used to meet undergraduate requirements in unique situations. Such instances require the approval of the Vice President for Academic Affairs. The student's grade point average at NDSCS is an institutional grade point average for all residential credits only.

Transfer students must meet assessment criteria unless previous college records indicate satisfactory completion of first year college English and math courses.

Guidance on ENGL 110 College Composition I

Below is guidance on procedures if a student transfers in the equivalent to ENGL 120 College Composition II, but does not have ENGL 110 College Composition I.

For associate in arts and science (AS/AA):

If a student transfers in ENGL 120, ENGL 110 can be waived if the student wishes to. However, per NDUS SBHE policy 460 and procedure 460.1, students must complete nine credits of English/Communication electives. Advisors and students should reference the NDSCS General Education matrix to determine which English/Communication elective they should take to fulfill the nine credits.

For all other degree tracks (AAS/Certificate):

If a student transfers in ENGL 120, with approval from the academic program, the course can be substituted for ENGL 110 or ENGL 105 or fulfill the English/Communication elective requirement based on the academic program's curriculum.

Credit by Articulation Agreement

Students enrolled in secondary schools that have an articulation agreement with NDSCS may utilize the processes to receive college credit. The grade earned may be recorded on the transcript as an articulated course with either a satisfactory or a letter grade. Articulation agreements provide an opportunity for post-secondary credit based on competencies acquired while in high school. For further information, contact Enrollment Services.

Students scoring satisfactorily on the subject examinations of the College-Level Examinations Program (CLEP) may receive college credit as adopted according to SBHE Policy 403.7(3)(d).

Military Services Experiences

Admitted enrolled students who have earned additional or college level work for credit in a United States Armed Forces Institute program may request their scores be presented to the Enrollment Services office. The credit will be evaluated by

the registrar using the Guide to the Evaluation of Educational Experiences in the Armed Services. Credit will be allowed only for those courses equivalent to those offered at NDSCS. Credits may also be earned from military experience and/or through challenge exams with departmental approval. The Enrollment Services office will be responsible for credit entry

No cost is assessed for this service.

Credit By Examination

Students may demonstrate evidence of college-level achievement through the use of nationally standardized tests. Competency to take these examinations may have been gained through intensive preparation in high school, extensive reading in a particular field, or other types of formal or informal preparation. Score reports must be sent directly to NDSCS from the awarding agency/board. High school transcripts and student-issued grade reports are not considered official for purposes of awarding credit by examination. Credit by examination is not counted towards the NDSCS residence credit requirement for graduation.

NDSCS follows the credit by examination equivalencies and score requirements set by the North Dakota University System and State Board of Higher Education. To view the current credit by exam equivalences and score requirements, please visit NDUS Pre-College Credits.

Credit for Life & Work Experience

Credit for Prior Learning Program

This program is designed to offer the adult learner an opportunity to apply learning earned through life and work experiences toward graduation. Individuals may receive college credit for prior learning experiences from a variety of work, military, volunteer, and other activities. These non-college activities must be evaluated to determine if college credit may be granted. The process may require students to enroll in the ASC 180 Prior Learning Assessment portfolio course. For specific questions, contact an academic counselor.

Credit for Apprenticeship Training

Individuals who have completed a United States Department of Labor (USDOL) approved apprenticeship training program of at least 6,000 hours, including a minimum of 400 related study hours, qualify for advanced standing in the Technical Studies-Journeyworker Track program. This flexible program provides students the opportunity to earn an Associate in Applied Science degree by receiving 32 college credits for their apprenticeship training and completing 29 additional credits in general education and technical/business emphasis. Students will work with an advisor to design their own plan of study based on their personal career goals. For further information, see the Technical Studies – Journeyworker information in the curriculum section of this catalog and contact 1-800-342-4325, ext. 3-2257.

Challenge Examinations

A student may seek credit by challenging a course if available by department. Students intending to challenge courses are strongly encouraged to do so the semester prior to when the class would normally be taken. This allowance does not apply to (a) courses for which nationally standardized examinations exist and are accepted by system wide agreements or (b) courses covered by articulation agreements with secondary schools. Students may not challenge a course in which they are actively enrolled or have previously earned a grade. The course challenge fee is 50 percent of the regular tuition charge, must be paid in advance of taking the challenge exam, and is nonrefundable. Students challenging online classes will be charged an additional online access fee.

Successful challenge grades must be a “C” or better and will be posted to the student’s transcript as test credits. Students should be aware that challenge grades may not be accepted in transfer by some other colleges. Unsuccessful challenges are not recorded.

The Challenge Exam Request form and Challenge Exam Policy and Procedure are available by contacting the Student Success Center.

Transfer of NDSCS Credit

Transfer of credits is always determined by the institution to which the student plans to transfer. Students planning to transfer should take the Liberal Arts transfer curriculum plan, which consists of courses most commonly required for preparation to another college or university. For specific bachelor's degree requirements, students should consult the catalog of the campus to which they intend to transfer.

Excess Load

To enroll for more than 20 credits during any semester, a student must have a grade-point average of 3.0 or better and file a request for excess load at the Student Success Center in Old Main, except where more than 20 hours are required in a specific curriculum.

A request for excess load must be approved by both the student's advisor and an academic counselor.

Developmental Education

(ASC) Courses: Developmental Reading, Writing, Mathematics

Based on ACT, ACCUPLACER, or other approved placement scores, students are required to enroll in and satisfactorily complete ASC course sequences prior to registering for college level English and math courses.

ESL/ELL Courses: English as a Second Language & English Language & Grammar Skills

These classes are designed to teach grammar, punctuation, spelling, and to help students develop language and speaking skills. Students are placed in these courses based on their need, TOEFL, ACT, ACCUPLACER, or other approved placement scores. These courses are strongly recommended for non-English speaking students.

Library Resources

The Mildred Johnson Library enhances learning and success by providing information services to support both academic goals and lifelong learning for students, faculty, and campus community members. In this modern age, the Library seeks to serve students in all venues, from brick and mortar to online. The Library's collection includes numerous computer and electronic resources, DVDs, CDs, board games, 3-D models, magazines, academic journals, newspapers, and print books. The Library also has quiet study rooms and collaborative workstations.

Additional information is available in the Student Services section of this catalog, at www.NDSCS.edu/Library or by calling the NDSCS Customer Service Desk at 1-800-342-4325, Ext. 3-2618 or the direct number 701-671-2618, or by emailing NDSCS.Library@ndscs.edu.

Final Examination Policy

End-of-term examinations are held according to the published examination schedule. If a student has more than two exams scheduled the same day, the student may contact his or her instructor(s) to establish a mutually acceptable time to reschedule one or more of the exams.

Grading System

A letter grade is used to indicate the quality of a student's work in a course. Grade points are assigned for each letter grade so a grade-point average can be calculated. The system is as follows:

Grade	Grade Points Grade Explanation	Per Credit
A	Excellent	4.0
B	Good	3.0
C	Average	2.0
D	Poor	1.0
F	Failure	0.0
Au	Audit	
S	Satisfactory	
U	Unsatisfactory	

I	Incomplete	
W	Withdrawal	
WV	Waive	
X	In Progress	
NR	Not Reported	

- The grade of “Incomplete” must be removed no later than the end of the mid-term examination week in the next college term, excluding the summer sessions. If the “Incomplete” is not removed by this time, it will automatically be changed to “F” or “U” by the Enrollment Services office.
- The grade of “Incomplete” is given at the instructor’s discretion and is dependent on missing work and attendance.
- The summer session is not considered in determining the time allowed for make-up of “I” grades.
- It is the student’s responsibility to see that “I” grades are made up.
- The term “Withdrew” is to be used when a student officially drops a course.

Satisfactory/Unsatisfactory

Students must perform a minimum of average work (at the discretion of the instructor) in order to receive a “Satisfactory.” Anything less is considered “Unsatisfactory.”

Semester Grades and President's Honor Roll

Grades are available to students as soon as possible after the close of a semester. Grades will be available to the student via the NDSCS website, the CampusConnection link.

Students who have completed 12 semester credits with a term GPA of 3.5 or higher and with 8 of those credits earned being traditional letter grades (honor points) will be placed on the President's Honor Roll for the semester. Remedial/Pre-College, courses taken through the NDUS collaboration program, and credit by exam will not be eligible.

Students making less than a 2.0 GPA may be placed on academic warning, probation or suspension.

Grade Transcripts

Students may request their official transcript through Parchment which can be found at www.parchment.com or through their CampusConnection account. Students will be charged a fee to have a transcript sent.

Grade Change

In the event a grade is recorded incorrectly, a change must be made by the instructor no later than the conclusion of the semester immediately following the semester in which the grade was issued, excluding the summer sessions.

Repeating Courses

When a course in which a student has previously received a grade is repeated, both grades show on the permanent record, but only the last grade received is used in the grade-point average.

Dropping or Adding Courses/Changing Curriculums

Students desiring to drop or add classes or change curriculums are strongly encouraged to visit with their instructor, advisor or academic counselor. Appropriate forms are available with the academic counselor in the Student Success Center.

Students should review the current academic calendar for specific drop and add dates.

A grade of “F” will be recorded for any course not formally dropped.

A change in registration may affect your tuition charges and/or your financial aid. In order to fulfill financial aid requirements, a student must successfully complete 67 percent of the attempted courses. Check with the Financial Aid office for any changes resulting in a change of schedule or dropping to the status of part-time student. Information regarding refunding of tuition and fees for withdrawing from college or dropping individual classes may be found in the tuition and fees section of this catalog.

For information regarding dropping remaining credits or fully withdrawing, please visit procedures for dropping or withdrawing.

Auditing Courses

A student may wish to take a course for no credit. This is completed by auditing the course. A student who wishes to enroll in a course as an "audit" must seek prior consent from the instructor. To enroll in an audit course, the student would need to meet with an academic counselor. To earn an audit, the student is not required to complete daily assignments or take examinations; however, is expected to maintain satisfactory attendance in order to have an "AU" recorded on the transcript. While a student cannot fail an audit course, an instructor may file a "W" (withdrawn) for non-attendance. A student may not later establish credit in an audited course by taking a special examination; the course must be repeated in residence to earn credits. Additionally, auditing a course will not be used to satisfy a prerequisite for another course. A course initially registered as an audit will be charged 50 percent of tuition, plus applicable fees.

A student may drop a graded course and add it as an audit. This must be completed by the last day to add a course for the session attributable to the course.

Financial aid is not awarded for audited course work for either a full or part-time status.

Academic Warning, Probation, Suspension & Reinstatement Policy

The academic warning, probation and suspension policy is designed to give a student every possible opportunity to be successful in a college program.

The student is expected to maintain the following cumulative grade-point average:

GPA Units	Institutional GPA
9-16	1.50
17-33	1.75
34-50	1.85
51+	2.00

Academic Warning

Failure to maintain the indicated grade point average will result in the student being placed on academic warning. Students and their advisors are notified in writing that the quality of the student's work has fallen below acceptable standards and should this unsatisfactory condition continue during the subsequent semester, the student may be placed on academic probation.

Academic Probation

After one semester on academic warning, students may be placed on academic probation if their cumulative gradepoint averages are not within the limits previously stated.

If the student achieves at least a 2.0 GPA during the subsequent semester(s) of enrollment but still does not achieve the required cumulative grade point average, he/she continues on probation until that requirement is satisfied. (Summer session is equivalent to one semester.)

Any student who is on academic probation and transfers from one program to another will continue to be on probation in the new program until the probationary terms are met.

Academic Suspension

Students who fail to achieve at least a 2.0 grade point average for each of the subsequent semesters while on probation will be placed on academic suspension. Students who are suspended will not be readmitted until a lapse of one regular semester (fall or spring) has occurred and are not eligible to return during a summer semester due to the condensed format of courses.

Students who choose to appeal their academic suspension may do so by following the Academic Reinstatement Process listed below.

Academic Reinstatement Process

A student placed on academic suspension may appeal the suspension by completing the Appeal for Academic Reinstatement Form and filing it with the Enrollment Services office by the date stated in the Notification of Suspension. Students appealing their suspension must provide supporting documentation explaining the compelling circumstances they wish to have considered. Examples of compelling evidence may include: documented medical conditions, death of a family member, divorce and/or dependent support issues, legal problems and other extenuating circumstances that have affected the student's ability to meet required academic standards. This form is available through the Registrar's office, Haverty Hall, Room 101, by calling 701-671-2521, or online at www.NDSCS.edu/Reinstatement. If a reinstatement is granted and the student does not meet the required GPA the semester they are reinstated, the student will be suspended for one academic year with no option for appeal. Students who are suspended are not eligible to enroll in courses during a summer semester. Students are eligible for reinstatement during fall and spring semesters only.

The registrar or other designated academic official will gather the appeal request and academic information from the student. The Academic Review Committee will review provided documentation, meet with the student and make a decision to lift or uphold the suspension.

If the suspension is upheld, the student may advance a written appeal to the Executive Vice President of Academic Affairs within five business days of the response. The executive vice president or their designee shall review the appeal and other relevant information and inform the student of the decision within five business days. The decision of the executive vice president is final.

If the student chooses to appeal an academic suspension decision, he/she is allowed to register and attend classes pending a resolution of the appeal. The student is responsible for any charges (tuition, fees, housing, dining services, tools, etc.) incurred during the review process. The student must adhere to the *NDSCS Student Rights and Responsibilities: A Code of Conduct.*

All students have the right to present an appeal in accordance to the steps outlined in this policy and are assured freedom from discrimination, coercion, restraint or reprisal in presenting appeal.

For additional information regarding academic support resources, please visit www.NDSCS.edu/AcademicStanding.

Academic Forgiveness for NDSCS Courses

Students Currently Enrolled at NDSCS

Upon successful completion of one semester (12 credits of 2.00 GPA), students may request academic forgiveness for previously taken courses that do not apply to their (new) currently-enrolled program. All requests must be in writing to the NDSCS Registrar. Courses that are assigned academic forgiveness may not be used to meet graduation requirements in a current or future program. Courses will remain on the student's academic transcript but will not be calculated as a part of the cumulative grade point average. Academic forgiveness cannot be requested for courses that have been used to meet graduation requirements in another curriculum.

Students Enrolled at Another Institution

NDSCS does not provide academic forgiveness for students who are enrolled at another institution. NDSCS respects the right of the receiving institution to award academic forgiveness if they deem it to be appropriate.

Student Eligibility to Participate in Student Clubs, Organizations or Leadership Programs

To participate in music or drama, a student must meet established NDSCS standards of academic progress. Eligibility for participation in intercollegiate athletics is established by the National Junior College Athletic Association.

Only students not on probation (academic or disciplinary) are permitted to hold student leadership positions in college recognized clubs, organizations or programs. Student leadership program eligibility requirements may vary. Please consult program advisor(s) for more information and eligibility criteria.

A student must have a 2.0 GPA in the semester preceding election or appointment and must have a cumulative average of 2.0 (some programs may have higher standards) to hold a leadership position in a recognized college organization or program.

Should a student fail to maintain a 2.0 GPA for any given semester, they may be required to step down from their position.

Absences

Students are required to regularly attend all classes, labs, clinical and other educational experiences for which they are scheduled. In general, absences are excused only when due to illness or official representation of the College. For more detailed information concerning this matter, the student should consult the general regulations which will be found in the *NDSCS Student Rights and Responsibilities: A Code of Conduct or department policies*. For more information see Attendance Policy in the Academic and College Policies and Procedures section of the *NDSCS Catalog.*

Procedures for Dropping or Withdrawing

Students who are enrolled for the current semester and will no longer be attending classes for the remainder of the semester, need to initiate that drop/withdraw request through the Office of the Registrar. Office of the Registrar will determine if the request qualifies as a "Drop of Remaining Credits" or a "Term Withdrawal". The effective date is the date of notification to the Office of the Registrar. Failure to initiate the request within the designated time-frame will result in final earned grade(s). Note: A final grade is considered "earned" after the last day to drop the class. For more information contact: Office of the Registrar 701-671-2521.

For more information on dropping and withdrawing, please visit: www.ndscs.edu/paying-college/drops-withdrawals-refunds-procedures-deadlines

Petition for Graduation

Graduation procedures are as follows:

1. Formal application for graduation should be made by the candidates prior to the semester during which they expect to complete requirements for graduation.
2. Petition for Graduation forms are located on the NDSCS website at www.NDSCS.edu/Graduation.
3. The award will be sent to the graduate.
4. Students are requested to participate in graduation exercises in order to have their degrees, diplomas or certificates conferred.

Graduation Requirements

Students enrolled at the North Dakota State College of Science become candidates for a graduation award when it is determined they have or will have successfully completed the requirements for graduation.

All program requirements must be completed as outlined in the official *NDSCS Catalog* for the year in which the applicant matriculated. Any exceptions to this requirement must have written approval of the department.

If the NDSCS graduation requirements change during a student's period of enrollment at NDSCS, the following will apply.

1. Students who are enrolled continuously will follow the graduation requirements in effect at the time of their initial enrollment.
2. Students who are not enrolled as a continuous student will follow the graduation requirements in effect during the academic year they reinitiate enrollment.
3. At least 16 of the final 24 credits of the curriculum must be taken through NDSCS.

The applicant's record must show an institutional grade-point average of at least 2.0 for all work completed that applies to the curriculum from which the applicant is graduating.

Students returning to NDSCS to complete a program that they were previously enrolled in will follow the guidelines of the program when they re-enroll. Additional documentation may be required for proof of current skills, employment and certifications.

All students who have completed 90 days or more of active military service are excused from the wellness requirements. These requirements will be waived. Proof of military service must be filed in the Enrollment Services office to waive the requirement. This will be a waiver of the course requirement only and no credits will be awarded. Students must still earn the minimum credits required for graduation for an associate degree, diploma or certificate.

Courses or credits that are waived by NDSCS are an institutional waiver only and may not be recognized at other colleges.

The requirements for graduation are as follows:

Associate in Arts Degree

The Associate in Arts degree is conferred upon recommendation of the faculty and satisfactory completion of the following requirements:

1. The student must have completed a curriculum with a minimum of 60 credits, or more, if specified in the specific curriculum, with a minimum cumulative GPA of 2.0 (C) or higher.
2. The student must have completed the following minimum general education requirements:
    a. six credits in ND:ENGL
    b. three credits in ND:COMM
    c. six credits in ND:HUM or ND:HIST (must have courses from two prefixes)
    d. 13 credits in ND:MATH, ND:LABSC, ND:COMPSC or ND:SCI i. All students must complete one lab science (ND:LABSC), one mathematics course (ND:MATH) and one ND:COMPSC
    e. eight credits in ND:SS (must have courses from two prefixes)
    f. two credits in wellness g) remaining credits will emphasize arts, humanities and social sciences
    g. attendance at designated campus and/or community activities that support the general education learning outcomes
    h. GERTA requirements, 36 credits

In planning a program to meet these requirements, a student upon advisor approval, may substitute general education courses in order to meet requirements of the institution to which the student plans to transfer.

Associate in Science Degree

The Associate in Science degree is conferred on recommendation of the faculty upon satisfactory completion of the following requirements:

1. The student must have completed a curriculum with a minimum of 60 credits, or more, if specified in the specific curriculum, with a minimum cumulative GPA of 2.0 (C) or better.
2. The student must have completed the following minimum general education requirements:
    a. six credits in ND:ENGL
    b. three credits in ND:COMM
    c. six credits in ND:HUM or ND:HIST (must have courses from two prefixes)
    d. 13 credits in ND:MATH, ND:LABSC, ND:COMPSC or ND:SCI i. All students must complete one lab science (ND:LABSC), one mathematics course (ND:MATH) and one ND:COMPSC
    e. eight credits in ND:SS (must have courses from two prefixes)
    f. two credits in wellness
    g. remaining credits will emphasize business, science and/or mathematics transfer courses
    h. attendance at designated campus and/or community activities that support the general education learning outcomes
    i. GERTA requirements, 36 credits

In planning a program to meet these requirements, a student, upon advisory approval, may substitute general education courses in order to meet requirements of the institution to which the student plans to transfer.

Associate in Applied Science Degree

The Associate in Applied Science degree is conferred upon recommendation of the faculty and satisfactory completion of the following requirements:

1. . The student must have completed a curriculum with a minimum of 60 credits, or more, if specified in the specific curriculum, with a minimum cumulative 2.0 (C) GPA or higher.
2. The student must complete the following minimum general education requirements:

a. three credits in English and/or communication
b. two credits in mathematics and/or science
c. two credits in social and behavioral sciences, humanities, history and/or computer
d. two credits in wellness
e. six elective credits in general education, and
f. attendance at designated campus and/or community activities that support the general education learning outcomes

Total General Education requirements, 15 credits.

Associate in Science in Nursing Degree

The Associate in Science in Nursing Degree is conferred on recommendation of the faculty upon satisfactory completion of the following requirements:

1. The student must have completed the specified curriculum with a minimum of 72 credits, with a minimum cumulative grade-point average of 2.0 (C) or better, and completed all required program courses with a “C” or higher grade.
2. The student must have completed the following minimum general education requirements:
   a. six credits in ND:ENGL
   b. three credits in ND:COMM
   c. six credits in ND:HUM or ND:HIST (must have courses from two prefixes)
   d. 13 credits in ND:MATH, ND:LABSC, ND:COMPSC or ND:SCI. All students must complete one lab science (ND:LABSC), one mathematics course (ND:MATH) and one ND:COMPSC
   e. eight credits in ND:SS (must have courses from two prefixes)
   f. two credits in wellness
   g. remaining credits will emphasize nursing
   h. attendance at designated campus and/or community activities that support the general education learning outcomes
   i. GERTA requirements, 43 credits

Diploma

The diploma is conferred upon recommendation of the faculty and satisfactory completion of the following requirements:

1. The student must have completed a curriculum with a minimum of 37 credits, or more if specified in the specific curriculum, with a minimum cumulative GPA of 2.0 (C) or higher.
2. The student must have completed the following minimum general education requirements:
   a. three credits in English or communication
   b. three credits in mathematics and/or science
   c. four credits in social and behavioral sciences, humanities, history and/or computer
   d. one credit in wellness
   e. one elective credit in general education
   f. attendance at designated campus and/or community activities that support the general education learning outcomes

Total General Education requirements, 12 credits.

Certificate

A certificate is awarded to qualified students who successfully complete an approved program of study between 9 and 36 credits. If a summer semester is included, a maximum of eight additional credits may be required.

1. The student must have completed a curriculum with a minimum of 9 credits with a minimum cumulative GPA of 2.0 (C) or higher.
2. The student must have completed the following minimum general education requirements:
   a. three credits of general education in certificate programs of 16-23 credits, or
   b. five credits of general education in at least two disciplines for programs of 24-36 credits or more, and
   c. attendance at designated campus and/or community activities that support the general education learning outcomes

Certificate programs of 24 credits or greater must also have general education student outcomes embedded in the curriculum.

Certificate of Completion

A certificate of completion is awarded to qualified students who successfully complete an approved program of less than 9 credit hours or an approved non-credit course of study. There are no general education requirements.

NOTE: See the General Education and GERTA Course Matrix for a list of courses accepted in the various disciplines.

Posthumous Degree Award Procedure

The North Dakota State College of Science may award degrees posthumously under the following conditions:

1. A request must be received on behalf of the deceased student;
2. The student must have been in good academic standing with the institution at the time of death;
3. The student must have satisfied the institution's requirements for earned credits in residence;
4. The student must have substantially completed the degree requirements as determined by the institution.

General Education Outcomes

Definition

General education is defined as a set of educational experiences that forms a core of common knowledge, skills and attitudes fundamental to all curriculums of substantial length (24 credits or more).

The NDSCS general education component is offered to address the following needs:

1. The employment market requires technically competent graduates who communicate effectively, practice teamwork skills and adapt to changing situations.
2. Today's dynamic society requires skills which will foster continuing formal and informal education and lifelong learning.
3. Personal growth requires exposure to diverse culture and value systems, expansion of critical thinking and development of personal life management skills.

Philosophy

The goal of general education at NDSCS is to assist students in meeting the above needs. To meet this goal, students are provided with a variety of credit and non-credit educational experiences, both inside and outside the classroom.

Involvement of students in campus and/or community life is a part of the general education philosophy of the college. There exists a wide spectrum of extracurricular campus-life situations in which all students are urged to actively participate. Research tells us that students who are involved in campus activities are more satisfied with their college experience and more likely to complete their college goals. Examples of activities NDSCS provides include instrumental and vocal musical groups, intramural and intercollegiate athletic programs, social events, student clubs, lectures, lyceums, dramatic productions, residence hall/apartment living and student government.

Objectives

- To develop skills necessary for creative problem-solving, critical thinking and analysis of values.
- To develop communication skills necessary for effective listening, speaking, reading and writing.
- To strengthen students' interpersonal and personal life management skills.
- To prepare students with skills and attitudes necessary for the pursuit of lifelong learning in a changing society.
- To provide opportunities for cultural enrichment and a developing awareness of a culturally diverse society.
- To provide a campus environment that promotes a lifestyle of mental and physical wellness.

Student Learning Outcomes

1. Communication: Students will demonstrate effective communication skills.
2. Information Technology: Students will be able to utilize information using existing technologies.
3. Social and Cultural Awareness: Students will gain knowledge of diverse cultures and value systems.
4. Wellness: Students will gain skills in mental and physical wellness and leisure activities.
5. Problem-Solving/Critical Thinking: Students will be able to use reasoning skills to analyze and solve applied problems

NDUS Digital Literacy Requirement

Per NDUS SBHE Policy 461.3.c, students will be meeting this requirement with both self-paced modules and/or CIS/CSCI/AH/ICT 101, where the digital literacy outcomes are embedded. Below is a breakdown for different student program tracks.

For students in allied health and computer science programs at NDSCS, the digital literacy requirement will be met by students taking their programs AH 101/ICT 101 course(s). The digital literacy outcomes have been embedded into the course or will be required to take the self-paced module.

For students in our career and technical education and liberal arts programs, as part of their curriculum, they will be required to take either CIS 101 or CSCI 101 to meet the digital literacy requirement. Students who transfer in CIS/CSCI 101, will be required to take the self-paced module.

Students who are unsure about what track they should take to complete the digital literacy requirement, should speak with their academic advisor or contact Student Success at 701-671-3000.

General Education Transfer Agreement (GERTA)

General education courses in the areas of communications, arts and humanities, social sciences, mathematics, science and technology taken at any North Dakota University System institution or any other participating colleges/universities count upon transfer toward the general education requirements at all NDUS institutions in one of the following two ways:

1. If the general education coursework includes courses from each of these areas totaling at least 36 semester credits and completes the general education requirements of the institution from which the student transfers, then the student is deemed to have completed the lower division general education requirements of the institution to which the courses are transferred.
2. In all other cases the general education courses from the indicated areas are applicable to an appropriate general education requirement of the institution to which they are transferred. In these cases the number of credits required to complete the general education requirement in each area is determined by the policies of the institution to which the courses are transferred.

Within the stipulated areas each institution shall indicate in its catalog and other student advisement materials its courses which are approved for general education. NDUS institutions may establish program/institution specific requirements. A student should consult the institution to which he or she intends to transfer relative to these program/institution requirements.

NDSCS GERTA Requirements

The following NDSCS requirements have been approved by the North Dakota University System for the purposes of meeting general education requirements for transfer to other NDUS institutions:

1. Communication (nine credits: six credits English and three credits communications): Any course marked ND:ENGL may apply to the six credits English requirement. Any course marked ND:COMM may apply to the speech requirement.
2. Humanities/history (six credits): From two different prefixes within the categories marked ND:HUM or ND:HIST.
3. Social and behavioral sciences (eight credits): From two or more prefixes within the category marked ND:SS.
4. Math, science and computer information systems (13 credits): Any course marked ND:LABSC, ND:MATH, ND:COMPSC, ND:SCI. All students must complete one lab science (ND:LABSC) course, one mathematics (ND:MATH) course and one CIS (ND:COMPSC) course.

NOTE: NDSCS also has a wellness requirement. Please consult specific transfer degree programs for more information.

The NDSCS courses listed in the GERTA column in the General Education and GERTA Course Matrix have been approved by NDUS to meet general education requirements in certain categories

Liberal Arts Transfer Program Purposes

Within the Liberal Arts transfer curriculum plans, students can choose from numerous emphases areas and receive an associate in science or associate in arts degree in Liberal Arts.

Depending on the emphasis selected, students will receive either an associate in science or associate in arts degree upon completion of the required curriculum.

The purposes of the Liberal Arts transfer curriculum plans are:

1. To provide two-year programs of general education for students who will transfer to a senior college or university.
2. To provide courses that meet established professional, accrediting, NDUS standards for two-year colleges.
3. To provide two-year programs for those students who are undecided about their choice of a career.
4. To provide general education courses for personal enrichment.

Curriculums for each emphasis are presented in the Academic Program section of the *NDSCS Catalog.*

General Education & GERTA Matrix

COURSE		CREDITS	GERTA (NDUS)	DEGREE	
				AA/AS	AAS/Dipl./Cert.
COMPUTER TECHNOLOGY					
CIS 101	Digital Literacy	2	ND:COMPSC	X	X
CSCI 101	Software Apps and Digital Literacy	3	ND:COMPSC	X	X
CSCI 160	Computer Science I	4	ND:COMPSC	X	X
CSCI 161	Computer Science II	4	ND:COMPSC	X	X
ENGLISH COMPOSITION					
ENGL 105	Technical Communications	3			X
ENGL 110	College Composition I	3	ND:ENGL	X	X
ENGL 120	College Composition II	3	ND:ENGL	X	X
ENGL 125	Introduction to Professional Writing	3	ND:ENGL	X	X
FINE ARTS ACTIVITIES					
THEA 201	Theatre Practicum	1	ND:FA	X	X
THEA 270	Stagecraft	1	ND:FA	X	X
HISTORY					
HIST 101	Western Civilization I	3	ND:HIST	X	X
HIST 102	Western Civilization II	3	ND:HIST	X	X
HIST 103	United States History to 1877	3	ND:HIST	X	X
HIST 104	United States History Since 1877	3	ND:HIST	X	X
HIST 207	United States and Current World Affairs	3	ND:HIST	X	X
HIST 220	North Dakota History	3	ND:HIST	X	X
HIST 260	Women in America	3	ND:HIST	X	X
HUMANITIES					
ENGL 207	Language Studies: Conversational English and American Studies	3	ND:HUM	X	X
ENGL 211	Introduction to Creative Writing	3	ND:HUM	X	X
ENGL 220	Introduction to Literature	3	ND:HUM	X	X
ENGL 225	Introduction to Film	3	ND:HUM	X	X
ENGL 232	Mythology	2-3	ND:HUM	X	X
ENGL 238	Children's Literature	3	ND:HUM	X	X
ENGL 240	World Literature Masterpieces	3	ND:HUM	X	X
HUM 101	Introduction to Humanities I	3	ND:HUM	X	X
HUM 211	Integrated Cultural Excursion: Regional and Cultural Studies	1-3	ND:HUM	X	X
MUSC 100	Music Appreciation	3	ND:HUM	X	X
MUSC 101	Fundamentals of Music	3	ND:HUM	X	X
MUSC 201	World Music	3	ND:HUM	X	X
MUSC 207	History of Rock and Roll Music	3	ND:HUM	X	X
PHIL 215	Contemporary Moral Issues	3	ND:HUM	X	X
LABORATORY SCIENCE					

COURSE		CREDITS	GERTA (NDUS)	DEGREE	
BIOL 109	The Living World	3	ND:SCI	X	X
BIOL 111/L	Concepts of Biology/Lab	3/1	ND:LABSC	X	X
BIOL 115/L	Concepts of Anatomy and Physiology/Lab	3/1	ND:LABSC	X	X
BIOL 124/L	Environmental Science/Lab	3/1	ND:LABSC	X	X
BIOL 150/L	General Biology I/Lab	3/1	ND:LABSC	X	X
BIOL 151/L	General Biology II/Lab	3/1	ND:LABSC	X	X
BIOL 170/L	General Zoology/Lab	3/1	ND:LABSC	X	X
BIOL 213	General Pathology	3	ND:LABSC	X	X
BIOL 220/L	Anatomy and Physiology I/Lab	3/1	ND:LABSC	X	X
BIOL 221/L	Anatomy and Physiology II/Lab	3/1	ND:LABSC	X	X
CHEM 115/L	Introductory Chemistry/Lab	3/1	ND:LABSC	X	X
CHEM 116/L	Introduction to Organic and Biochemistry/Lab	3/1	ND:LABSC	X	X
CHEM 121/L	General Chemistry I/Lab	4/1	ND:LABSC	X	X
CHEM 122/L	General Chemistry II/Lab	4/1	ND:LABSC	X	X
CHEM 241/L	Organic Chemistry I/Lab	4/1	ND:LABSC	X	X
CHEM 242/L	Organic Chemistry II/Lab	4/1	ND:LABSC	X	X
MICR 202/L	Introductory Microbiology/Lab	3/1	ND:LABSC	X	X
PHYS 211/L	College Physics I/Lab	3/1	ND:LABSC	X	X
PHYS 212/L	College Physics II/Lab	3/1	ND:LABSC	X	X
PHYS 251/L	University Physics I/Lab	4/1	ND:LABSC	X	X
PHYS 252/L	University Physics II/Lab	4/1	ND:LABSC	X	X
MATHEMATICS					
BOTE 108	Business Mathematics	3			X
CULA 121	Culinary Mathematics	2			X
MATH 102	Intermediate Algebra	3			X
MATH 103	College Algebra	3	ND:MATH	X	X
MATH 104	Finite Mathematics	3	ND:MATH	X	X
MATH 105	Trigonometry	2	ND:MATH	X	X
MATH 107	Pre-Calculus	4	ND:MATH	X	X
MATH 110	Mathematics in Society	3	ND:MATH	X	X
MATH 120	Basic Mathematics I	2			X
MATH 123	Basic Mathematics II	2			X
MATH 125	Basic Mathematics III	2			X
MATH 130	Technical Mathematics	2			X
MATH 132	Technical Algebra I	2			X
MATH 134	Technical Algebra II	2			X
MATH 136	Technical Trigonometry	2			X
MATH 137	Applied Algebra	3			X
MATH 146	Applied Calculus I	4	ND:MATH	X	X
MATH 147	Applied Calculus II	4	ND:MATH	X	X
MATH 165	Calculus I	4	ND:MATH	X	X
MATH 166	Calculus II	4	ND:MATH	X	X
MATH 210	Elementary Statistics	3	ND:MATH	X	X
MATH 227	Applied Linear Algebra	3		X	X
MATH 265	Calculus III	4	ND:MATH	X	X
MATH 266	Introduction to Differential Equations	3	ND:MATH	X	X
SCIENCE AND TECHNOLOGY					
PLSC 110	World Food Crops	3	ND:SCI	X	X
SOIL 210	Introduction to Soil Science	3	ND:SCI	X	X

COURSE		CREDITS	GERTA (NDUS)	DEGREE	
SOCIAL SCIENCE					
BADM 251	Personal Finance	3		X	X
CJ 160	The Legal System	4		X	X
CJ 201	Introduction to Criminal Justice	3	ND:SS	X	X
CJ 232	Administration of Justice	3		X	X
COMM 112	Understanding Media and Social Change	3	ND:SS	X	X
ECON 105	Elements of Economics	3	ND:SS	X	X
ECON 201	Principles of Microeconomics	3	ND:SS	X	X
ECON 202	Principles of Macroeconomics	3	ND:SS	X	X
POLS 115	American Government	3	ND:SS	X	X
POLS 116	State and Local Government	3	ND:SS	X	X
POLS 225	Comparative Politics I	3	ND:SS	X	X
PSYC 100	Human Relations in Organizations	2	ND:SS	X	X
PSYC 111	Introduction to Psychology	3	ND:SS	X	X
PSYC 230	Educational Psychology	3	ND:SS	X	X
PSYC 240	Industrial/Organizational Psychology	3	ND:SS	X	X
PSYC 250	Developmental Psychology	3	ND:SS	X	X
PSYC 255	Child and Adolescent Psychology	3	ND:SS	X	X
PSYC 270	Psychological Disorders and Treatment	3	ND:SS	X	X
SOC 110	Introduction to Sociology	3	ND:SS	X	X
SOC 115	Social Problems	3	ND:SS	X	X
SOC 220	Family	3	ND:SS	X	X
SOC 221	Minority Relations	3	ND:SS	X	X
COMMUNICATION					
COMM 110	Fundamentals of Public Speaking	3	ND:COMM	X	X
COMM 212	Interpersonal Communication	3		X	X
COMM 200	Intro to Media Writing	3		X	X
WELLNESS					
CULA 119	Culinary Nutrition	2		X	X
EMS 100	Emergency Medical Responder (EMR)	2		X	X
HPER 100	Concepts of Fitness and Wellness	2		X	X
HPER 101	Activity: Intro Level	1		X	X
HPER 110	Sports Officiating	2		X	X
HPER 111	The Science of Well-being	2		X	X
HPER 150/250	Athletic Participation	2		X	X
HPER 151/251	Athletic Participation	2		X	X
HPER 200	Introduction to Parks and Recreation	2		X	X
HPER 201	Introduction to Coaching	2		X	X
HPER 207	Prevention and Care of Injuries	2		X	X
HPER 208	Introduction to Physical Education	2		X	X
HPER 210	First Aid and CPR (Professional/Community)	2		X	X
HPER 217	Personal and Community Health	3		X	X
MUSC 115	Concert Band	1		X	X
MUSC 117	Concert Choir	1		X	X
MUSC 138	Jazz Band	1		X	X
MUSC 157	Pop-Swing Choir	1		X	X
NUTR 240	Principles of Nutrition (and Diet Therapy)	3		X	X
NUTR 255	Eating Disorders	1		X	X
THEA 201	Theatre Practicum	1	ND:FA	X	X

COURSE		CREDITS	GERTA (NDUS)	DEGREE	
THEA 270	Stagecraft	1	ND:FA	X	X

Academic & College Policies & Procedures

The North Dakota State College of Science is committed to the principle that the affairs of the college shall be conducted in an orderly fashion to ensure the well-being of students and other constituent groups in pursuit of learning and academic achievement. This section contains complete and/or introductory statements for key policies and procedures necessary for the administration of learning and academic programming. It also contains information on where to locate complete and/or other relevant policies and procedures.

The *NDSCS Student Rights and Responsibilities: A Code of Conduct* outlines many of the academic and college policies and procedures related to student rights and responsibilities, including the student conduct process. Please refer to it for a complete overview of these policies and procedures. It also includes procedures for addressing student sanctions, judicial actions and student complaint, appeal and grievance issues.

The *NDSCS Student Rights and Responsibilities: A Code of Conduct* can be found at www.NDSCS.edu/Student-Rights.

Respect for the NDSCS Community

All NDSCS stakeholders have a responsibility to respect the NDSCS community. It is vital for all individuals to conduct themselves in a manner that does not negatively affect the educational mission of the College or the welfare of themselves or others. This includes promoting an environment conducive to learning and fostering a sense of shared and mutual community responsibility. Community responsibility also involves awareness of how personal decisions affect others.

A community respecting the protection of rights of others is necessary to provide a positive and enriching educational environment. Conduct that inhibits the educational process is of concern, whether it occurs on or off College premises.

All NDSCS students have identified rights within the Code and as afforded by due process. The College will work with students in an educational and fair manner to assist them in reflecting upon and growing from their personal experiences.

Community Expectations

All students are expected to observe the College standards published in *NDSCS Student Rights and Responsibilities: A Code of Conduct*. and those outlined in any other College policies, procedures, contracts or license contracts published elsewhere (College catalog and website, formal College notices and communications). In addition, students are expected to observe all community, state, federal and international laws (when touring and/or studying abroad).

The College reserves the right to address any conduct occurring on or off campus that may be construed as potential or alleged violations of local, state or federal laws. For a complete list of prohibited conduct, see the *NDSCS Student Rights and Responsibilities: A Code of Conduct.*

Student Alcohol/Other Drug Policy & Tobacco Free College Policy

NDSCS Alcohol, Tobacco, and Other Drug Policy

Regardless of a person's age, the manufacture, sale, transfer, purchase, transportation, possession, use or consumption of alcohol (in any form), and/or possession or display of empty alcohol beverage containers anywhere on NDSCS owned or controlled property and/or sponsored or supervised events is prohibited.

Possession, consumption, being under the influence, or transport of illegal drugs or any other controlled substances not prescribed to you is prohibited. The manufacture, exchange, distribution, purchase or sale of illegal drugs or controlled substance is prohibited. The possession of drug paraphernalia for illegal drug use is prohibited.

NDSCS prohibits the use of all tobacco/nicotine products on College property including off property, College-sponsored events/activities. This prohibition includes indoors, outdoors, College vehicles, and/or personal vehicles while on College property. NDSCS prohibits the use and possession of all electronic nicotine delivery devices in College-owned residential buildings.

Students may face sanctions under this code for alcohol related incidents occurring off college property. Such incidents include but are not limited to: minor in possession/consumption/under the influence of alcohol, driving under the influence of alcohol or other drugs, public consumption of alcohol or other drugs, and providing alcohol to a minor.

In addition to prohibiting active participation in alcohol consumption, the NDSCS Code prohibits **passive participation**, which is defined as being present and having reasonable knowledge that a code violation is taking place.

In addition to prohibiting active participation in alcohol consumption, the NDSCS Code prohibits passive participation, which is defined as being present while a violation is occurring, actively encouraging a violation to occur, or failing to report an alleged conduct violation.

Students are expected to make decisions that align with the Code, and those decisions include:

- Leaving the situation immediately,
- Encouraging individuals to cease the behavior,
- Leaving the situation immediately and reporting the alleged violation(s), or
- Staying and being charged with a violation of the Code.

Passive participants may be sanctioned to the same extent as if they had committed the prohibited act. Students are accountable for their guests' conduct and may be sanctioned under this provision as if they had committed the violations themselves.

Parents or guardians of students under the age of 21 may be contacted by an NDSCS administrator following alcohol and/or other drug related policy violations.

Please see the *NDSCS Student Rights and Responsibilities*: A Code of Conduct for information related to sanctions. More information can be found at www.NDSCS.edu/Alcohol-Drug/Policies.

Weapons/Firearms/Explosives

Unauthorized and/or illegal possession, display or use of firearms, explosives or other weapons is prohibited. Possession, display or storage of weapons in College-owned buildings is prohibited. **All firearms must be registered with NDSCS Police upon arrival to NDSCS.**

- Firearms and weapons include, but are not limited to, airsoft guns, BB guns, dart guns, handguns, paint ball guns, pellet guns, rifles, shotguns, stun guns or similar device designed to deliver an electric shock.
- Explosives include, but are not limited to, bombs, explosives, fireworks and other incendiary devices. Incendiary devices are defined as any flammable substance enclosed in a readily breakable container that can be equipped with an igniter of any type.
- Other weapons include, but are not limited to, martial arts implements, dangerous fuels and chemicals, daggers, knives, sabers, swords, and bows and arrows. Any object may be considered a weapon when used to inflict or threaten infliction of bodily injury or property damage.
- Throwing or casting any object into, upon, or against any building, structure, motor vehicle or at any person is prohibited.

This policy shall not prohibit individuals or student organizations from possessing, storing or using weapons at approved locations for the purpose of meeting requirements of educational programs and/or approved activities being conducted by a student group recognized by the College. For authorization, contact the NDSCS Police Department at 701-671-2233.

NDSCS Police provides storage for students to store sporting arms, such as those used for hunting and other shooting sports. An officer must be present for check-in/check-out. Contact the NDSCS Police Department at 701-671-2233 to make arrangements for weapons storage.

Non-Discrimination Statement

North Dakota State College of Science does not discriminate on the basis of age, color, gender identity/expression, genetic information, marital status, national or ethnic origin, mental or physical disability, public assistance status, race, religion, sex, sexual orientation, familial or parental status, status as a U.S. veteran/service member, or participation in lawful activity off the employer's premises during nonworking hours which is not in direct conflict with the essential business related interests of the employer. This non-discrimination statement applies to all phases of NDSCS's employment process, admissions, financial aid programs, and all other aspects of its educational programs and activities.

Furthermore, this non-discrimination statement applies to sexual harassment and sexual violence (forms of sexual discrimination) if such conduct has a negative effect on an individual's educational or work environment, regardless if such conduct occurs on or off campus.

Equal Opportunity Policy

The North Dakota State College of Science is an equal opportunity employer and equal opportunity educator. NDSCS is fully committed to equal opportunity in employment decisions and educational programs and activities. All practices are in compliance with all applicable federal and state laws, for all individuals without regard to age, color, gender identity/expression, genetic information, marital status, national or ethnic origin, physical and mental ability status, public assistance status, race, religion, sex, sexual orientation, familial or parental status, status as a U.S. veteran/service member, or participation in lawful activity off the employer's premises during nonworking hours which is not in direct conflict with the essential business related interests of the employer.

Inquiries regarding non-discrimination policies at NDSCS should be directed to: Student Concerns and Comments page at www.NDSCS.edu/Concern or the Executive Director of Human Resources, Haverty Hall 136, North Dakota State College of Science, 800 Sixth St. North, Wahpeton, ND 58076-0002, 701-671-2904.

Sexual Misconduct & Title IX Compliance Policy

Title IX of the Educational Amendments of 1972 provides: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational program or activity receiving federal financial assistance."

In accordance with Title IX, NDSCS does not tolerate sex or gender discrimination, including sexual misconduct such as sexual harassment and sexual assault, stalking, and intimate partner violence in NDSCS's education program and activities. Also prohibited under Title IX is any rule violated on the basis of the recipient of the behavior's sex and/or gender, which is severe enough to cause discriminatory effect. For more information on the NDSCS Sexual Misconduct and Title IX Compliance Policy visit www.NDSCS.edu/Title9 or contact the Title IX Coordinator:

Sandi Gilbertson
NDSCS – Haverty Hall 120
800 6th St. N.
Wahpeton, ND 58076
Sandi.Gilbertson@ndscs.edu
701-671-2904

Academic Integrity Policy Statement

Acts of academic dishonesty, including but not limited to cheating, plagiarism, falsifying research data or results, or assisting others to do the same will be cause for sanction up to and including a reduction in grade, failure of the course, or removal from class.

Academic Integrity Procedure

Purpose

To ensure academic honesty and integrity in the classroom, regardless of modality.

Academic Misconduct

Academic misconduct consists of, but is not limited to the following:

1. Cheating on an examination, clinical, or the preparation of academic work. Any student who engages in any of the following shall be deemed to have engaged in cheating:
    a. Copying from another student's test paper, laboratory report, report, computer files, data, listings, and/or programs;
    b. Using, during a test, materials not authorized by the instructor (including when taking tests at a NDSCS Test Center);
    c. Conspiring with another person, without authorization, during an examination, clinical, or in preparing academic work;
    d. Contributing to or facilitating academic misconduct with others ;
    e. Knowingly and without authorization, using, buying, selling, stealing, transporting, soliciting, copying, or possession in whole or in part, the contents of coursework, an examination or quiz;
    f. Substituting for another student, or permitting another student to substitute for oneself in taking an examination, clinical, or preparing academic work;
    g. Bribing another person to obtain an examination or information about an examination;
    h. Individual alteration or attempting to bribe any faculty/staff/student to alter a grade.
2. Plagiarizing or appropriating another work or idea without properly acknowledging incorporation of that work or idea into one's own work offered for credit.
3. Any forgery, alteration, or misuse of academic documents, forms, or records.
4. Fabrication including the intentional falsification or invention of any information.
5. Working with another student(s) to participate in academic misconduct.
6. Violating requirement or agreements associated with academic work or guided work experiences.
7. Sharing passwords, login information, or access to online course content.

Outcomes of Academic Misconduct

When an instructor has convincing evidence of academic misconduct, outcomes may include, but are not limited to:

- A reduced or failing grade may be assigned for the course, academic work, or activity.
- The student may be required to re-submit the assignment.
- The student may be required to submit an alternative assignment that meets the same learning outcomes.
- Additional action may be taken in certain academic programs (refer to academic program guidelines/expectations)

Academic Conduct Procedure

The instructor will provide notice to the student(s) via their official NDSCS email account. The notice will include the alleged academic misconduct and potential outcome(s) based on the instructor's stated policies and those of the academic program or institution.

Informal Resolution

The student may request a meeting within five (5) business days with the instructor to discuss the alleged academic misconduct and the potential outcome.

If a meeting is requested, the instructor will:

- Explain the alleged academic misconduct;
- Detail any related evidence; and
- Provide the student the opportunity to respond to the allegation of academic misconduct.

Informal resolution is reached where:

- The student and the instructor agree academic misconduct did not occur; or
- The student agrees to the alleged academic misconduct and agrees to the proposed outcome, waiving all appeal rights.
- Instructor completes the Academic Misconduct Reporting Form which is routed to the Student Conduct Office to document student acknowledgement of the outcome.

If informal resolution is not achieved at the individual or departmental level, the student should contact the program director/coordinator, director, or academic dean with administrative responsibility for the department or individual involved.

These individuals may be able to provide assistance in resolving the issue in an informal manner at the individual or department level. If an informal resolution is not successful, the instructor or administrator will inform the student of the formal grievance process.

Formal Resolution

Formal resolution will follow the established Academic Grievance Process.

Filing for a Formal Academic Grievance

Step 1. Students wishing to file a formal academic grievance shall do so to the program director/coordinator, director, or academic dean with responsibility for the department or individual involved by submitting the grievance in writing. The grievance shall be submitted within five (5) business days of the departmental decision or determination by the administrator that informal resolution is not possible.

Step 2. The program director/coordinator, director, or academic dean, either alone or in consultation with appropriate faculty, staff and students will initiate the resolution process by investigating the complaint. An alternate resolution or decision will be reached within ten (10) business days of receipt of the grievance and communicated to the student in writing. The program director, director, or academic dean will submit an Academic Misconduct Reporting Form documenting the outcome of the grievance process. If there is no appeal, the decision of the program director/coordinator, director, or academic dean is final.

Filing an Appeal of an Academic Grievance Decision

If the student is not satisfied with the resolution or decision, a written appeal may be submitted to the executive vice president of academic affairs office, located in Haverty Hall 123, 701-671-2416, within five (5) business days of the decision. The appeal must be based on one or more of the following factors:

- the established procedures were not properly followed; or
- an adequate opportunity to present evidence was not allowed; or
- additional information exists that was not available or considered at the time of the decision; or
- the evidence was not substantial enough to justify the decision.

The executive vice president of academic affairs shall assemble a Student Academic Grievance Committee within ten (10) business days of receipt of the written appeal. The Student Academic Grievance Committee shall be composed of two students designated by the Student Senate, two faculty members designated by the Faculty Senate and the Executive Vice President of Academic Affairs or their designee. A member with a conflict of interest may be removed or may voluntarily withdraw from the committee if the situation warrants such action.

The executive vice president of academic affairs or their designee shall inform the student and Student Academic Grievance Committee of the specific time and place of the meeting. The committee shall review the written appeal provided by the student and the record made by the program director/coordinator, director or academic dean, and reach a decision based upon these documents. The committee may, in its sole discretion, receive additional testimony or other evidence and make that information part of its record. Upon reaching a decision, the executive vice president of academic affairs or their representative shall, if possible, orally communicate the committee's decision to the student followed by a written decision within two business days. The decision of the Student Academic Grievance Committee is final.

All references to business days shall be days that College offices are open.

All students have the right to present grievances in accordance with the steps outlined in this policy and are assured freedom from discrimination, coercion, restraint, or reprisal in presenting grievances.

If a student chooses to appeal an academic grievance decision, he/she is allowed to register and attend classes pending a resolution of the appeal. The student is responsible for any charges (tuition, fees, housing, dining services, tools, etc.) incurred during the review process. The student must adhere to the NDSCS Student Rights and Responsibilities: A Code of Conduct. Students engaging in dangerous, unlawful, or ongoing disruptive behavior may be denied from attending classes.

Student Academic Complaints and Grievances

General

A complaint or grievance exists when an enrolled student is dissatisfied with a decision or an aspect of his or her academic college experience over which the student has no control and on which remedial action is desired.

Resolving Student Academic Compliances or Grievances

Initially, the student should attempt to resolve the concern directly with the appropriate program director/coordinator, supervisor, faculty member, staff member or student. If the student is not satisfied or is unwilling to address the issue at the individual or departmental level, the student should contact the program director, director or academic dean with administrative responsibility for the department or individual involved. These individuals may be able to provide assistance in resolving the issue in an informal manner at the individual or department level. If informal resolution is not successful or is deemed unrealistic, the administrator will inform the student of the formal grievance process.

Filing a Formal Academic Grievance

Step 1. Students wishing to file a formal academic grievance shall do so to the program director/coordinator, director or academic dean with responsibility for the department or individual involved by submitting the grievance in writing via the NDSCS Concern Report form. The grievance shall be submitted within five business days of the departmental decision or determination by the administrator that informal resolution is not possible.

Step 2. The program director/coordinator, director, or academic dean, either alone or in consultation with appropriate faculty, staff and students, will initiate the resolution process by investigating the complaint. An alternate resolution or decision will be reached within 10 business days of receipt of the grievance and communicated to the student in writing. If there is no appeal, the decision of the program director/coordinator, director or academic administrator is final.

Filing an Appeal of Academic Grievance Decision

If the student is not satisfied with the resolution or decision, a written appeal may be submitted to the Executive Vice President of Academic Affairs office via the NDSCS Concern Report form within five business days of the decision. The appeal must be based on one or more of the following factors:

- the established procedures were not properly followed; or
- an adequate opportunity to present evidence was not allowed; or
- additional information exists that was not available or considered at the time of the decision; or
- the evidence was not substantial enough to justify the decision.

The Executive Vice President of Academic Affairs shall assemble a Student Academic Grievance Committee within 10 business days of receipt of the written appeal. The Student Academic Grievance Committee shall be composed of two students designated by the Student Senate, two faculty members designated by the Faculty Senate and the Executive Vice President of Academic Affairs or his/her designee. A member with a conflict of interest may be removed or may voluntarily withdraw from the committee if the situation warrants such action.

The Executive Vice President of Academic Affairs or his/her designee shall inform the student and Student Academic Grievance Committee of the specific time and place of the meeting. The committee shall review the written appeal provided by the student and the record made by the program director/coordinator, director or academic dean, and reach a decision based upon these documents. The committee may, in its sole discretion, receive additional testimony or other evidence and make that information part of its record. Upon reaching a decision, the Executive Vice President of Academic Affairs or their representative shall, if possible, orally communicate the committee's decision to the student followed by a written decision within two business days. The decision of the Student Academic Grievance Committee is final.

All references to business days shall be actual days that College offices are open.

All students have the right to present grievances in accordance to the steps outlined in this policy and are assured freedom from discrimination, coercion, restraint or reprisal in presenting grievances. If a student chooses to appeal an academic grievance decision, they are allowed to register and attend classes pending a resolution of the appeal. The student is responsible for any charges (tuition, fees, housing, dining services, tools, etc.) incurred during the review process. The student must adhere to the *NDSCS Student Rights and Responsibilities: A Code of Conduct.* Students engaging in dangerous, unlawful or ongoing disruptive behavior may be denied from attending classes.

Attendance Policy

General

Regular attendance, promptness and participation in classes, laboratories and/or shops is expected of each student.

If a student must be absent for an extenuating circumstance, such must be communicated to the instructor(s). Individual departments and/or instructors may develop attendance policies to meet specific program or course needs.

It is the responsibility of the instructor to enforce the attendance policy as specified in the course syllabi and/or student handbook. The instructor shall refer to the Student Success Center for any case of absenteeism that might require special attention.

The following action may be taken regarding irregular attendance:

1. Administrative drop from a course or program;
2. Course grade may be lowered;
3. Termination of financial aid assistance;
4. Cancellation of registration;
5. Restriction from extra-curricular activities; or
6. Any other judgments deemed necessary.

Attendance is especially critical in technical programs at NDSCS because learning environments are specialized. Because of the special equipment and facilities needed to provide students with a quality education, it is often impossible to make up work missed due to absences from class.

Therefore, many technical programs have instituted an attendance policy that applies to all courses. The policy is as follows:

1. Any student absent more than 10 percent of a course's total contact hours automatically will have one letter grade deducted from his or her current grade;
2. Any student absent more than 14 percent of a course's total contact hours will have an additional letter grade deducted from his or her current course grade; or
3. Any student absent more than 18 percent of a course's total contact hours will be dropped from the course if that rate is reached before the last day to drop classes. If the 18 percent absence rate is reached after the drop date, the student will receive an "F."

Excused absences are allowed only for the following circumstances:

- Serious illness verified by a medical provider
- Participation in school-sponsored activities which are documented on official college field trip forms and/or notifications
- Mandatory military duty (verified by the campus Veteran Certifying Official)
- Verified family emergencies (verified by the Student Success Center)

Inclement winter weather that does not result in classes being canceled, but still provides hazardous driving conditions for commuters in certain areas, will be dealt with on a case-by-case basis;

Individual departments within the division have the option to impose stricter attendance policies than the above. The division policy sets a minimum standard for the departments to follow or adjust; or

Students are to be referred to the Student Success Center after three consecutive absences.

Students receiving sanctions as a result of this policy can file a written appeal with the Student Success Center. The appeal will be reviewed by the student's advisor, the appropriate department chair (or his or her designee), and the academic counselor.

North Dakota University System Computer & Network Usage Policy

See NDUS policy 1901.2 – Computing Facilities: www.ndus.edu/sbhe-overview/sbhe-policies for information related to acceptable use of college technology at NDSCS. For additional information, call ITS Service Desk at 701-671-3333 or email NDSCS.ServiceDesk@ndscs.edu.

The following is a partial list of unacceptable uses of the NDSCS electronic resources:

- Unauthorized use, sharing, lending or borrowing of an account;
- Using computer services or facilities for purposes other than those for which the account was issued;
- Copying, altering, or destroying the files of another individual without the express permission of that individual;
- Altering system software or hardware configuration, or disrupting or interfering with the delivery or administration of computer resources;
- Misrepresenting oneself as another individual or entity in electronic communications;
- Using the College's network system to download copyright-protected media without permission including, but not limited to, books, music, movies, television programs and games;
- Exceeding college bandwidth limits;
- Sharing or distributing copyright-protected media without authorization of the content owner;
- Abusing or misusing the computer facilities so as to cause damage, to disturb or harass others;
- Using the College's network system to enter obscene material into college-owned computers or send obscene material through the Internet or any other electronic system; and/or
- Any other violation of NDSCS policies governing electronic communications.

Consumer Information

The U.S. Department of Education has mandated that schools must provide currently enrolled students and/or prospective students a list of the information that must be disclosed with instructions for obtaining the full disclosure. The list must be provided annually. The schools are required to list all information that must be disclosed, briefly describe the disclosure information, and explain how students may obtain the disclosure information. Schools must promptly make the information available to any student upon request.

Please see the *NDSCS Student Rights and Responsibilities: A Code of Conduct* for a complete copy of the NDSCS statement regarding the disclosure of U.S. Department of Education mandated Consumer Information.

Grievance Process for Out-of-State Online Students

The North Dakota State College of Science desires to resolve student grievances, complaints and concerns in an expeditious, fair and amicable manner. Students residing outside of the State of North Dakota while attending NDSCS who desire to resolve a grievance should follow the college's Student Complaints and Grievances procedure as found in the *NDSCS Student Rights and Responsibilities: A Code of Conduct* and the *NDSCS Catalog*. However, if an issue cannot be resolved internally, you may file a complaint with your state. The Student Grievance Contact Information for Individual States provides phone numbers, emails and/or links to state education agencies. North Dakota State College of Science is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools.

Role of the North Dakota University System Regarding Grievances

The North Dakota State Board of Higher Education has delegated to North Dakota University System (NDUS) college and university officials the authority and responsibility to resolve student and other complaints. Absent applicable law or policy establishing another remedy, the first step in resolving student or other complaints or grievances is to attempt to resolve the matter directly with the administration of the involved institution under established institution complaint or grievance procedures. Every NDUS institution is required to establish, publish, and enforce policies related to redress of complaints and grievances. With limited exceptions, a student or other person who contacts the NDUS office regarding complaints regarding NDUS institutions will be referred to college or university officials responsible for resolving those matters.

With the exception of reporting fraud, waste or abuse as noted in NDUS Procedure 513, the NDUS does not review anonymous complaints or matters that are or have been in litigation. Further, matters concerning an individual's grades or examination results are the prerogative of the college/university faculty.

Please see NDUS Procedure 513 at www.ndus.edu/makers/procedures/ndus for a complete copy of this information.

Family Educational Rights & Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) is a federal law designed to protect the privacy of your educational records, to establish the rights you have as a student to inspect and review your education records, and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings.

In accordance with FERPA, NDSCS is notifying you of your rights to:

- be informed about their educational records;
- inspect their educational records;
- request an amendment to their educational records;
- challenge the accuracy of their educational records;
- prevent unauthorized disclosure of their educational records;
- complain to DOE about a violation of FERPA; and
- waive these rights in writing.

Under FERPA, some information in a student's record is considered public (directory information) and may be released without the student's written permission. This information includes: (a) name (all names on record); (b) primary program enrolled in; (c) e-mail address (*Campus email addresses are only disclosed to requestors who agree not to use them for solicitation.); (d) phone number (all phone numbers on record); (e) height, weight and photos of athletic team members; (f) program field of study (all declared programs); (g) class level; (h) dates of attendance; (i) enrollment status (full-time or part-time); (j) names of previous institutions attended; (k) participation in officially recognized activities and sports; (l) honors/awards received; (m) degree earned (all degrees earned); (n) date degree earned (dates of all degrees earned); (o) Directory photos, photographs and video recordings of student in public or non-classroom settings (photographs from classrooms or class-related activities are NOT directory information). Everything else is considered to be confidential.

Students have the right to suppress/restrict the release of directory information. When a student chooses to suppress the release of information, that information will not be released to any source, including publications such as telephone directories or other institutional publications that may include President's Honor Roll, enrollment/degree information, etc. To suppress information please contact the Registrar at 701-671-2204 or email NDSCS.StudentRecords@ndscs.edu

NDSCS may receive inquiries for "directory information" from a variety of sources including, but not limited to prospective employers, other colleges and universities, graduate schools, licensing agencies, government agencies, media, parents, friends and relatives. Students should consider very carefully the consequences of their decision to withhold release of any or all directory information items. NDSCS has no responsibility to contact students for subsequent permission to release directory information after it is restricted. NDSCS will honor student requests to withhold directory information until the student specifically and officially requests the lift of these restrictions.

Educational records are those records which are directly related to a student and maintained by this institution or by a party acting for this institution. These records include any information from which students can be individually identified, and have not been previously defined as public directory information.

Under the laws of FERPA, NDSCS may not disclose information about current or former students nor permit inspection of their educational records without the expressed, written consent of the student. Deceased students' records will also be protected under NDUS Policy 1912. Records of deceased students may be released or disclosed only at the request of a parent, personal representative, or other qualified representative of the student's estate, or pursuant to a court order or subpoena.

Current and former students will be permitted to inspect and review their own educational records, to the exclusion of their parents and/or guardians. This applies to all students enrolled at NDSCS, regardless of age. Specific exemptions do apply to the release of educational records.

These exemptions include the situations that follow:

- Parents of students who are dependents, as defined under tax code, must be permitted to inspect and review the educational records of the student.
- Educational records must be disclosed pursuant to lawfully issued subpoenas or court orders.
- Educational records may be disclosed if knowledge of personal information contained in these education records is, in fact, deemed necessary by institutional personnel to protect the health or safety of the student or other person.
- Upon request, NDSCS discloses educational records without consent to officials of another North Dakota University System institution in which a student seeks or intends to enroll.
- The disclosure is made to College officials with a legitimate educational interest. A College official is a person employed by the College or the North Dakota University System in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company supervising an educational experience (student teaching, clinical experience, practicum, internship, etc.); a person or organization related to credentialing or licensing a student; a person or company with whom the College or North Dakota University System has contracted (such as an attorney, auditor, or collection agent); employees of the North Dakota Attorney General's Office providing legal representation to the College; a person serving on the Board of Higher Education; or a student serving on an official committee, such as a disciplinary or grievance Committee, or assisting another College/University or University System official in performing his or her tasks. A College/University official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

Additional information regarding FERPA may be found on the NDSCS website (www.NDSCS.edu/FERPA), or contact the Registrar, at 701-671-2204 or via e-mail at NDSCS.StudentRecords@ndscs.edu.

A student may choose to suppress their directory information. If they choose to do so, they may also use the contact number/email address for further information and required documentation.

Students can file complaints with the US Department of Education, Student Privacy Policy Office's complaint process at studentprivacy.ed.gov/file-a-complaint.

Distance Education

General Information

General Information

Distance Education at NDSCS utilizes technology and innovative delivery methods to support faculty and students to ensure robust distance learning online. Online courses appear in course listings alongside courses offered at NDSCS in Wahpeton and at NDSCS-Fargo.

Registering for Online Courses

Registration can be completed entirely online by logging into CampusConnection at www.NDSCS.edu. Students having any problems registering should call Student Success at 701-671-3000.

Tuition & Fees for Online Courses

In addition to the regular tuition and fees, online courses are charged an Online Access Fee per credit. Please see the **Tuition and Fees** section of this catalog for amounts.

Buying Textbooks

Required books for online courses may be purchased from the NDSCS Bookstore.

NDSCS-Fargo

NDSCS provides on-site delivery of the following academic options at NDSCS-Fargo

- Business Management (certificate, A.A.S. degree)
  - Administration and Finance (A.A.S. degree)
  - Entrepreneurship (certificate)
  - Finance (certificate)

    - Management/Supervision (certificate)
    - Marketing, Sales and Hospitality Services (A.A.S. degree)
    - Restaurant Management (third-year option) A.A.S. degree)
    - Sales (certificate)
- Emergency Medical Services (EMS) (certificate, A.A.S. degree)
    - Emergency Medical Technician (EMT) (certificate)**
    - Paramedic Technology (certificate, A.A.S. degree)**
- Information and Communications Technology (certificate, A.A.S. degree)
    - Information Technology Support (certificate, A.A.S. degree)
    - Information Systems Administrator (A.A.S. degree)
    - IT Forensics and Cybersecurity (certificate)
    - Software Coding (certificate)
    - Software Engineering (A.A.S. degree)
    - Web Design (certificate)
    - Web Developer (A.A.S. degree)
- Liberal Arts (A.A., A.S. degree)
    - Business Transfer (A.A. degree)
    - Computer Science Transfer (A.S. degree)
    - Criminal Justice - Transfer (A.A. degree)
    - Education Transfer (A.A. degree)
    - General Liberal Arts (A.A., A.S. degree)
    - Management Information Systems Transfer (A.S. degree)
    - Paralegal Transfer (A.A. degree)
- Practical Nursing (A.A.S. degree)***
- Technical Studies (certificate, diploma, A.A.S. degree)
    - Journeyworker Track (certificate, diploma, A.A.S. degree)
- Welding Technology (certificate, diploma, A.A.S. degree)

See the Academic Programs section of the NDSCS Catalog for more information on NDSCS-Fargo based academic options.

**NDSCS-Fargo is located at 1305 19th Avenue North in Fargo, just north of the FargoDome and one mile east of Hector International Airport and Interstate 29. This classroom facility includes a test center, computer labs, science labs and general classrooms. NDSCS partners with North Dakota State University (NDSU) to allow NDSCS-Fargo students (taking at least six credits) to live on campus at NDSU. The NDSCS-Fargo telephone number is 701-231-6900. More information can be found at www.NDSCS.edu.*

***NDSCS partners with Sanford Health EMS Education/F-M Ambulance Service to offer Emergency Medical Services (EMS) degrees. Both certificate and A.A.S. degrees are available.*

****Practical Nursing cohorts are offered on a periodic basis depending on funding, student interest, and needs of area facilities.*

NDSCS Online & Remote Delivery

NDSCS offers the following academic emphases that can be completed entirely by internet-based delivery.

- Business Management (A.A.S. degree)
    - Business Technology Management (A.A.S. degree) (third-year option)
    - Marketing, Sales and Hospitality Services (A.A.S. degree)
    - Restaurant Management (A.A.S. degree) (third-year option)
- General Liberal Arts Transfer (A.A. degree)
- Health Information (certificate, A.A.S. degree)
    - Health Information (A.A.S. degree)
    - Medical Coding (certificate)
- Information and Communications Technology (certificate, A.A.S. degree)
    - Social Media Specialist (certificate)
    - Software Coding (certificate)
    - Software Engineering (A.A.S. degree)
    - Web Design (certificate)
    - Web Developer (A.A.S. degree)

- Pharmacy Technician (certificate, A.A.S. degree) (some classes have face-to-face components) *Note for online students: Specific meeting days and times are required for remote students to attend online.*
- Technical Studies
  - Journeyworker Track (A.A.S. degree)

For more information on these academic options, please see the NDSCS Catalog or visit the website at www.NDSCS.edu.

For additional information about online and other remote delivery programs and courses, co-/prerequisites, course descriptions, technical requirements or college services, visit www.NDSCS.edu or call the Distance Education office at 1-800-342-4325, ext. 3-2347.

Registering for Online Courses

Registration can be completed entirely online by logging into CampusConnection at www.NDSCS.edu. Students having any problems registering should call Student Success at 701-671-3000.

Tuition & Fees for Online Courses

In addition to the regular tuition and fees, online courses are charged an Online Access Fee per credit. Please see the **Tuitions and Fees** section of this catalog for amounts.

Buying Textbooks

Required books for online courses may be purchased from the NDSCS Bookstore.

State Authorization for Out-of-State Students

State Authorization for Out-of-State Students

State authorization requirements vary from state to state. To determine if NDSCS is authorized to offer courses in a particular state, please go to www.NDSCS.edu/Online and click on Out-of-State Students.

Institutional Registration in Other States

Selected states may require registration by various government entities within their state. Such states often require disclosure of the status within their state.

Institutional Registration in Other States

Selected states may require registration by various government entities within their state. Such states often require disclosure of the status within their state.

Division for Workforce Affairs

General Information

The NDSCS Division for Workforce Affairs is focused on providing comprehensive solutions to meet the workforce needs of both North Dakota and the Red River Valley. We provide customized training for business and organizations, as well as open-enrollment training for individuals. We also offer apprenticeship programs and skills classes for the under/unemployed and New American populations. The three areas that make up the Division for Workforce Affairs include TrainND, ApprenticeshipND and SkillsND.

TrainND

TrainND SE offers courses and customized programs for many industries. More importantly, we make our training fit your organization and your needs.

We will:

- **Train** at NDSCS-Wahpeton, NDSCS-Fargo, at your site or virtually.
- **Customize** every program to address your specific challenges and deliver exactly the experience your employees need.
- **Tailor** courseware to deliver only topics you select.
- **Maximize** cost effectiveness by training on multiple topics in a single program.
- **Deliver** private training on any of the topics we regularly offer.

Our open enrollment option is ideal for individual(s) seeking training regardless if they are representing a company/ organization, self-employed or an individual seeking skills for their personal benefit.

As a member of the TrainND statewide workforce training system, the Division for Workforce Affairs can link you to state and region-wide networks of professionals and resources for the exact training you need to become more competitive.

For a comprehensive list of our course offerings, visit our website www.NDSCS.edu/Training.

ApprenticeshipND

ApprenticeshipND provides opportunities for workers seeking high-skilled jobs with competitive salaries, and employers seeking to build a highly qualified workforce. Registered apprenticeship programs are a proven solution for preparing workers for in-demand occupations and meeting the business needs for a highly skilled workforce that is innovative and adaptive. ApprenticeshipND currently offers Registered Apprenticeship Programs in Emergency Medical Services, Operating Engineer, Diesel Mechanic Automotive Technician, Certified Medication Aide, Certified Nurse Aide and Construction Equipment Mechanics, with more programs currently under development. ApprenticeshipND provides related technical instruction to apprentices throughout the United States for more than 100 courses in the fields of skilled trades, and pharmacy technician.

ApprenticeshipND has its main office at NDSCS-Fargo and an office at NDSCS-Wahpeton. For more information, please visit www.NDSCS.edu/ApprenticeshipND.

SkillsND

The purpose of SkillsND is to provide job skills training to under/unemployed and New Americans for full-time jobs in nursing assistant or skilled trades-construction and manufacturing. Located at NDSCS-Fargo, SkillsND serves low income, working adults needing a shorter-term program that can lead to immediate improvement in quality of life. Job skills training emphasizes language and vocabulary of the workplace combined with communication, job search training, and workforce expectations. Participants in the program earn higher wages and have increased math and English scores. Funded through the generous support of local, state and regional public and private agencies, SkillsND has operated since 2002 and trained over a 1,000 people. SkillsND helps contribute to a strong workforce. For more information, please visit www.NDSCS.edu/SkillsND.

Student Services

Library Resources & Services

The Mildred Johnson Library offers a plethora of resources and services available online and in-house. The Library offers a supportive environment with collaborative workstations, study rooms, cozy couches, and many other amenities to serve our students on their collegiate path.

The Library lends books, DVDs, CDs, 3-D models, and board games to current NDSCS campus community members. If an item of interest is not owned by the Library, a request can be made to purchase the material. Additionally, interlibrary loan requests can be submitted to borrow materials from other North Dakota academic libraries.

Computers, printers and scanners are available for in-house use. Wireless access is available for those who bring their own laptops or other devices.

Access to thousands of eBooks and hundreds of thousands of articles from magazines, journals, and newspapers are provided through electronic resources found on the Library's web pages. These resources are available to current students, faculty, and staff while on- and off-campus.

Faculty may request library orientation sessions to prepare students for library research specific to their curriculum and students can expect to attend an orientation session at some point during their academic career. Faculty and staff members are also welcome to request NDSCS archive collection services to bring the history of the College to life.

Complete library information is available at **www.NDSCS.edu/Library**. You can also call 701-671-2618, email NDSCS.Library@ndscs.edu, or call the NDSCS Customer Service Desk at 1-800-342-4325, ext. 3-2618. Come in and visit with us. We are here to support you.

Student Success Center

The Student Success Center is a one-stop place for students to go for assistance or concerns with a variety of academic resources to support our students as they work to achieve their academic goals.

Accessibility Services

Accessibility Services office provides access to accommodations based on a student's documented disability. Individuals with physical disabilities, hearing or visual impairments, speech or language impairments, learning disabilities or other health-related impairments may be eligible for accommodations.

To receive services, a student with a disability must contact the accessibility support office coordinator to:

- Self-disclose disability;
- Fill out the Application for Services and Release of Information forms;
- Provide appropriate documentation regarding disability; and
- Request services and/or accommodations.

The accessibility coordinator will determine eligibility for accommodations and send an eligibility notice to students. If a student with a disability visits campus and has access needs, contact the accessibility coordinator. The accessibility services coordinator works with Academic Services, counseling services, housing, dining services and instructors to ensure equal access to academic programs and student life.

Academic Guidance and Support

- Provide guidance in choosing a major and/or career path
- Help with planning a class schedule and course registration
- Provide current information about course requirements (prerequisites, assessment exams, and deadlines)
- Follow-up and support students needing/requesting assistance or are struggling academically
- Refer students to additional campus and community services
- Administration of Career Ready Internship program

Career Services

- Assistance with creating connections with employers
- Annual Career Fair (for all NDSCS students, 200+ employers visit campus)
- Help with job search skills (mock interviews, resume writing, etc.)
- Facilitation of Cooperative Education program
- Exclusive access to online job-posting site
- Coordination of student sponsorship programs

Career Exploration and Counseling

Assist students with exploring occupations and selecting an academic program that best fits with their strengths and abilities.

New Student Orientation

Orientation may be face-to-face or online, depending on where you are taking the majority of your classes. Orientation is mandatory for all new students.

Test Center

The Test Center provides proctoring for online testing, ACCUPLACER placement testing, and an alternative testing site for students who qualify. More information can be found at www.NDSCS.edu/TestCenter.

Tutoring

- Free tutoring to all NDSCS students
- Individual and small group study sessions
- Tutor schedules are online at www.NDSCS.edu/Tutoring

Wahpeton
Tutoring is located in the Student Success Center in Old Main 130.

Fargo
Tutoring is located in Room 147A.

Requests for Tutors
Requests for tutors in areas not currently offered, should be directed to the student support coordinator at 701- 671-2278. Students wishing to gain employment as a tutor should contact the student support coordinator. Tutoring requests are welcome, but not guaranteed and are based on student need, ability to find qualified tutors, and scheduling considerations.

Online
SMARTHINKING provides live, web-based tutoring in a variety of subjects. This service supplements our existing academic support services by offering real-time online tutoring and homework help for core courses and skills up to 24 hours a day, seven days a week. Students can access SMARTHINKING through their NDSCS Online account.

Veteran Affairs (VA School Certifying Official)

- Directs students to VA education application information
- Certifies and updates student enrollment with the VA
- Serves as a liaison to the VA (related to education benefits)

Student Activities, Organizations & Volunteer Opportunities

Students are encouraged to participate in activities outside the classroom. Choosing to become involved can greatly enhance your college experience. Students can participate in entertainment events like FREE movie nights, dances, special celebratory meals and more. Students can also attend educational and recreational events such as FREE paint nights, concerts, and special speakers. NDSCS also has intramurals, student leadership opportunities and over 30 clubs and organizations to choose from. To learn about your involvement opportunities, visit www.NDSCS.edu/StudentLife.

Athletics

- **Intercollegiate Athletics** – Intercollegiate athletic competition for women includes volleyball, basketball, soccer, and softball. Intercollegiate competition for men includes football, basketball, and baseball.
- **Intramurals** – The Intramurals program for all interested students offers competition in various activities, such as basketball, softball, flag football, volleyball, pickleball, and dodge ball etc.
- **Clair T. Blikre Activities Center** – Student are able to access the health and wellness activities/facilities within the Blikre Activities Center for free. Activities include swimming, racquetball, jogging, weightlifting, basketball and volleyball.

Clubs & Organizations

There are over 30 student clubs and organizations. Go to www.NDSCS.edu/Clubs for a complete listing of clubs and advisors.

- **Campus Life** – Campus life includes movies, dances, various events and activities, plays, educational speakers, concerts, organization events, and other special events.

Student Leadership

- **Campus Activities Board** – Students serving on the Campus Activities Board (CAB) gain valuable leadership skills by planning events and activities to enrich the student experience at NDSCS. CAB members seek to create new engagement opportunities where students meet new people and have fun.
- **NDSCS Ambassadors** – NDSCS Ambassadors serve as a resource and help facilitate NDSCS events.
- **Student Senate** – The Student Senate represents and serves the student body. Student Senate is responsible for chartering new student clubs, awarding discretionary funding to student clubs and organizations, and representing student interests across campus.
- **Resident Assistants** – Resident Assistants (RAs) are student employees who support NDSCS living and learning communities by fostering welcoming environments that contribute to student success and personal growth. RAs provide educational and recreational programming, information, guidance and support.

To learn more about any of the above student leadership opportunities, please visit www.NDSCS.edu/StudentLeadership.

Performing Arts

- **Instrumental Music** – Students interested may join the Concert Band with the option of auditioning for the Jazz Band. Students will participate in various ensembles and have performance and touring opportunities throughout the year. Students may join either Fall or Spring semesters. NDSCS has many school instruments that can be borrowed. Private Lessons are also available on all band instruments, piano, and guitar. A wellness credit is awarded for each group and scholarships are available.
- **Vocal Music** – Students interested may join the Concert Choir with the option of auditioning for the Wildcat Singers. Students will participate in various ensembles and have performance touring opportunities throughout the year. Students may join either Fall or Spring semesters. Private individual lessons and class voice for ensembles are also available for a credit. A wellness credit is awarded for each group and scholarships are available.
- **Drama** – Students may enroll in theater classes at NDSCS. The Art of Stagecraft would include building and painting set as well as working back stage on productions. The Theater Practicum class would allow a student to gain experience on stage in various situations and perform in a play. A wellness credit is awarded for each class.

Community

- **Volunteer Internship Course (PSYC 290 and 291)** – NDSCS students have the opportunity to volunteer in agencies, organizations, healthcare facilities, and/or educational institutions to gain experience in civic duty, volunteerism, and the assistance of those in need. Students may also volunteer at a career-related site to evaluate and validate their vocational choice. The internship site may be in the Wahpeton-Breckenridge area, or in another community of the student's choice. All NDSCS students are eligible to participate and receive academic credit. Contact the Social and Behavioral Sciences Department chair at 701-671-2364 for more information.
- **Service Learning Opportunities** – For a full list of opportunities to serve the community, visit www.NDSCS.edu/Volunteer.

Campus Activity Facilities

Music, Drama & Alumni - Ella Stern & Harry Stern Cultural Center Facilities

The privately-funded Ella Stern and Harry Stern Cultural Center has been designed specifically for the practice, performance and enjoyment of the fine arts. As a part of the full collegiate atmosphere, these music and drama facilities are centrally located at NDSCS Wahpeton. The 35,000 sq. ft. building features a 500 seat, semi-circular open theater auditorium using the latest sound and lighting technology. Public performances of college and community music and drama events often draw large audiences from the campus and community.

Athletic & Recreation Facilities - Clair T. Blikre Activities Center (BAC)

The Clair T. Blikre Activities Center houses the Ed Werre Arena, home for men's and women's basketball teams and women's volleyball. Other facilities include Beck Gym, Shorma Family Gym/Weight Room, wellness center, classrooms, swimming pool, two racquetball courts, and an indoor eight-lane track.

Staff offices for intramural, varsity athletics and physical education are also located in the building. Located adjacent to the Blikre Activities Center is the Gayle Miller softball complex and the Frank Vertin football complex along with recreation athletic facilities offering a lighted football field, one softball diamond and four practice football fields.

Recreation and intramural athletics are among the most popular activities for students. Varsity athletic teams compete within the National Junior College Athletic Association and qualify for national tournaments through NJCAA Region XIII competition.

On-Campus Living Policy

All first-year students are REQUIRED to live on campus, unless the student meets one of the following criteria:

- Is transferring in with 24 or more college credits. Dual credits, PSEO or AP credits completed while in high school do not qualify.
- Is 21 years of age or older.
- Will be enrolled in nine or fewer credit hours during both the fall and spring semesters of the academic year.
- Lives with a parent or legal guardian within a 50 mile radius of NDSCS.
- Is married or has primary custody of a minor child.
- Is enrolled in online classes only.
- Has extenuating circumstances.

Please see www.NDSCS.edu/Residential-Life for more information regarding the on-campus living policy.

On-Campus Living Facilities

Campus living is available at the NDSCS-Wahpeton campus. NDSCS has six residence halls that offer a variety of supportive and engaging living environments.

The campus apartments and townhomes include options for family, roommates and single student living. Students must meet specific eligibility requirements to live in the campus apartments. Students who transition from renting with a roommate to renting as a single, will assume responsibility for the full rental rate.

Please visit www.NDSCS.edu/Residential-Life for photos, videos, rates and a detailed list of amenities for each hall and apartment complex.

Campus Community Facilities

Hektner Student Center

The Hektner Student Center is the community center for NDSCS, hosting the major portion of social activities and numerous recreational activities, in addition to student government and organizations. The facility includes several student service areas, dining and recreational spaces.

Bookstore

The Bookstore follows the latest textbook trends to reduce course material costs for students by offering new, used, rental, e-books, and inclusive access materials. Textbook buyback is offered at the end of each term in-store and online. Through partnerships, the Bookstore sells high-quality, name-brand tools at a discounted price. Additionally, the NDSCS Bookstore sells Wildcat apparel, school supplies, and giftware.

Mail and shipping services are also provided. Services include mailboxes, daily incoming and outgoing USPS mail, package delivery, and access to FedEx, UPS, and USPS shipping services.

The Bookstore is located in the Hektner Student Center on the Wahpeton Campus, and NDSCS-Fargo in Room 155, or shop online at anytime at www.NDSCSbookstore.com.

Customer Service Desk & Student Life

The Customer Service Desk located in Hektner Student Center serves as the College's central information center and Student Life office. For more information on services offered, visit www.NDSCS.edu/CustomerService and www.NDSCS.edu/StudentLife

Dining Services

Wildcat Dining Room

- Open seven days a week (except during college break periods)
- All you care to eat, unlimited entry (must scan each time you enter)
- Grab-n-go options
- Offers two entrees/sides, pizza and pasta bar, soup and full salad bar, deli bar, waffle bar, ice cream, dessert station, cereal, beverages, and more.
- Accepts dining plans, credit card or cash

Wildcat Express (including Willie's Burger Bar, Taco Cat, and Wild Grounds Coffee Shop)

- Open Monday-Thursday (dine in or carry out)
- Signature burgers, burritos/bowls, or your own signature crafted beverage or snack from the coffee shop
- Accepts dining plans, credit card or cash

Additional information may be found at www.NDSCS.edu/Dining.

Information Technology Services (ITS)

The walk-up ITS Service Desk is located in the computer lab near the bookstore in the north end of the Hektner Student Center. The ITS Service Desk provides assistance with passwords, email, Wi-Fi access and Microsoft Office support/ download. During business hours students can call the ITS Service Desk at 701-671-3333 (3-3333 from a campus phone) or email NDSCS.ServiceDesk@ndscs.edu. After hours assistance is available for password changes and a limited range of technical issues from the North Dakota University System Help Desk at 866-457-6387.

Parking

Students are required to register vehicles to obtain a parking permit. A current and valid NDSCS parking permit must be purchased and appropriately displayed on all vehicles parked anywhere on the Wahpeton and Fargo NDSCS locations. Parking rules and permit information can be found at www.NDSCS.edu/Parking. All questions related to vehicles and parking should be directed to NDSCS police at 701-671-2233.

Community Childcare Options

For students or families that may be seeking child care, please see the community child care options below:

- Child Care Aware of North Dakota: www.ndchildcare.org
- Parent Aware (Minnesota): www.parentaware.org

Academic Program Matrix

Title	Degree Type
Agriculture (Meat Processing)	Certificate
Agriculture Applicator and Operations	Certificate
Agriculture Business	Associate in Applied Science
Agriculture Communications and Marketing	Associate in Applied Science
Agriculture Education	Associate in Applied Science
Animal Science	Associate in Applied Science
Architectural Modeling and Design Technology	Associate in Applied Science
Auto Body Repair and Refinishing Technology	Associate in Applied Science
Automotive and Diesel Master Technician	Associate in Applied Science
Automotive and Diesel Master Technician	Associate in Applied Science
Automotive Technology	Associate in Applied Science
Automotive Technology	Certificate
Automotive Technology (Electrical & Drivability)	Certificate
Automotive Technology (Engines)	Certificate
Automotive Technology (Powertrains)	Certificate
Automotive Technology (Steering, Suspension, and Alignment)	Certificate
Aviation Maintenance Technology	Associate in Applied Science
Aviation Maintenance Technology	Certificate
Baking and Pastry Arts	Associate in Applied Science
Baking and Pastry Arts	Certificate
Building Construction Technology	Associate in Applied Science
Business Management	Associate in Applied Science
Business Management (Administration and Finance)	Associate in Applied Science
Business Management (Business Technology Management)	Associate in Applied Science
Business Management (Marketing, Sales and Hospitality Services)	Associate in Applied Science
Business Management (Restaurant Management)	Associate in Applied Science
Carpentry	Certificate
Catering and Banqueting	Certificate
Caterpillar Dealer Service Technician	Associate in Applied Science
Collision Engineering Technology	Associate in Applied Science
Commercial Construction	Certificate
Computer Science (IT Forensics and CyberSecurity)	Certificate
Computer Science (Information Technology Support / Information Systems Administrator)	Associate in Applied Science
Computer Science (Information Technology Support / Information Systems Administrator)	Certificate
Computer Science (Software Coding)	Certificate
Computer Science (Software Engineering)	Associate in Applied Science
Computer Science (Web Design / Web Developer)	Associate in Applied Science
Computer Science (Web Design / Web Developer)	Certificate
Construction Management Technology	Associate in Applied Science
Culinary and Food Truck Entrepreneur	Certificate
Culinary Arts	Associate in Applied Science
Culinary Management	Associate in Applied Science
Culinary Management	Certificate
Cybersecurity Defense	Certificate
Cybersecurity Essentials	Certificate
Cybersecurity Incident Response	Certificate
Cybersecurity Penetration Testing	Certificate
Cybersecurity Specialist	Associate in Applied Science
Dental Assisting	Associate in Applied Science
Dental Assisting	Certificate
Dental Hygiene	Associate in Applied Science
Diesel Technology (Case IH)	Associate in Applied Science
Diesel Technology (Electrical)	Certificate
Diesel Technology (Engines)	Certificate
Diesel Technology (General Diesel)	Associate in Applied Science
Diesel Technology (Hydraulics)	Certificate
Diesel Technology (Komatsu)	Associate in Applied Science
Diesel Technology (Powertrains)	Certificate
Electrical Technology (Electrical Construction)	Associate in Applied Science
Electrical Technology (Electrical Master Technician)	Associate in Applied Science
Electrical Technology (Industrial Electrical)	Associate in Applied Science
Emergency Medical Services (Emergency Medical Technician)	Certificate
Emergency Medical Services (Paramedic Technology)	Associate in Applied Science
Emergency Medical Services (Paramedic Technology)	Certificate

Title	Degree Type
Farm and Ranch Management	Associate in Applied Science
Finance	Certificate
Fire Science	Associate in Applied Science
Firefighter I	Certificate
Firefighter II	Certificate
General Liberal Arts Transfer	Associate in Arts
Health Information (Health Information Technician)	Associate in Applied Science
Health Information (Medical Coding)	Certificate
Heating, Ventilating, Air Conditioning and Refrigeration Technology	Associate in Applied Science
Heating, Ventilating, Air Conditioning and Refrigeration Technology	Certificate
Intermediate Precision Machining Technology	Certificate
Introduction to Precision Machining Technology	Certificate
Italian Cuisine	Certificate
Italian Cuisine	Certificate of Completion
John Deere Tech	Associate in Applied Science
Journeyworker Track	Associate in Applied Science
Lactation Consultant	Certificate
Land Surveying and Civil Engineering Technology	Associate in Applied Science
Liberal Arts (Agriculture Transfer)	Associate in Science
Liberal Arts (Biological Science Transfer)	Associate in Science
Liberal Arts (Biotechnology Transfer)	Associate in Science
Liberal Arts (Business Transfer)	Associate in Arts
Liberal Arts (Chemistry Transfer)	Associate in Science
Liberal Arts (Computer Science Transfer)	Associate in Science
Liberal Arts (Criminal Justice Transfer)	Associate in Arts
Liberal Arts (Cybersecurity Transfer)	Associate in Science
Liberal Arts (Early Childhood Education Transfer)	Associate in Arts
Liberal Arts (Education Transfer)	Associate in Arts
Liberal Arts (Elementary Education Transfer)	Associate in Arts
Liberal Arts (Engineering Transfer)	Associate in Science
Liberal Arts (Health, Physical Education and Recreation Transfer)	Associate in Arts
Liberal Arts (Law Transfer)	Associate in Arts
Liberal Arts (Mathematics Transfer)	Associate in Science
Liberal Arts (Medical Laboratory Science Transfer)	Associate in Science
Liberal Arts (Music Transfer)	Associate in Arts
Liberal Arts (Nursing Transfer)	Associate in Science
Liberal Arts (Pharmacy Transfer)	Associate in Science
Liberal Arts (Physical Science Transfer)	Associate in Science
Liberal Arts (Pre-Health Professions Transfer)	Associate in Science
Liberal Arts (Psychology Transfer)	Associate in Arts
Liberal Arts (Social Work Transfer)	Associate in Arts
Management	Certificate
Marine Technology	Certificate
Mechanical Systems	Associate in Applied Science
Motorcycle/ATV Technology	Certificate
Occupational Therapy Assistant	Associate in Applied Science
Outdoor Power Equipment and Snowmobile Technology	Certificate
Pharmacy Technician	Associate in Applied Science
Pharmacy Technician	Certificate
Plumbing	Certificate
Powersports Technology	Associate in Applied Science
Practical Nursing	Diploma
Precision Agriculture Technician	Associate in Applied Science
Precision Agronomy	Associate in Applied Science
Precision Machining Technology	Associate in Applied Science
Precision Machining Technology	Certificate
RAMT-General Technician	Associate in Applied Science
RAMT-Mechatronics Engineering Technology	Associate in Applied Science
Registered Nursing	Associate in Applied Science
Registered Nursing (LPN to RN) AAS	Associate in Applied Science
Sales and Marketing	Certificate
Technical Studies	Associate in Applied Science
Unmanned Aircraft Systems	Certificate
Unmanned Aircraft Systems (Architectural Modeling Emphasis)	Associate in Applied Science
Unmanned Aircraft Systems (Business & Marketing Emphasis)	Associate in Applied Science
Unmanned Aircraft Systems (Civil Engineering Technology Emphasis)	Associate in Applied Science
Unmanned Aircraft Systems (Construction Inspection Emphasis)	Associate in Applied Science

Title	Degree Type
Unmanned Aircraft Systems (Land Surveying Emphasis)	Associate in Applied Science
Unmanned Aircraft Systems (Transfer Emphasis)	Associate in Applied Science
Welding Technology	Associate in Applied Science
Welding Technology	Certificate
Wildcats Transfer Connection (Liberal Arts Gen Ed)	Transfer Certificate
Wildcats Transfer Connection (Tech Gen Ed)	Transfer Certificate

Degrees & Certificates

Dental Assisting

Dental Assisting

Degree Type Associate in Applied Science

Contact Information

Stacy Owens, Dental Programs Director
stacy.owens@ndscs.edu
701-671-2522
Mayme Green Allied Health Center 213I

Delivery Methods

Face to Face: Wahpeton

Online: Some Classes

The duties of a Dental Assistant are among the most comprehensive and varied in the dental office. The Dental Assistant performs a wide range of tasks requiring both interpersonal and technical skills. Depending on each state's regulations, some specific tasks Dental Assistants may perform are:

- assisting the dentist during a variety of procedures and direct patient care.
- helping patients feel comfortable before, during and after treatment.
- taking patient's medical history and vital signs.
- exposing and developing dental radiographs (X-rays).
- teaching patients' appropriate oral hygiene strategies to maintain oral health.
- taking impressions of patient's teeth for study models.
- applying preventive agents such as fluoride or pit and fissure sealants.
- serving as an infection control officer, developing infection control protocol, and preparing and sterilizing instruments and equipment.
- performing office management tasks such as scheduling appointments, answering the telephone, billing, ordering and computer use.
- provide other expanded duties according to state regulations.

Career Opportunities

- solo and group dental practices.
- private or community dental practices.
- general or specialty practices such as oral and maxillofacial surgery, orthodontics, dentofacial orthopedics, endodontics, periodontics, prosthodontics, and pediatric dentistry; and
- sales and marketing of dental products.

The Dental Assisting program includes curriculum content in general studies, biodental sciences, dental sciences, clinical sciences, and clinical practice. Students receive more than 300 hours of clinical experience in community and regional dental offices in addition to courses taken on campus. Students will be required to cover all expenses associated with affiliation and internship assignments.

Criminal background checks will be required. A felony charge and/ or conviction may affect participation in clinical experience(s), and therefore, program completion. If this issue applies, the student must meet with the program director.

This program requires access to a personal laptop and printer, capable of completing the assignments/testing required by the program, with a current operating system and webcam/microphone. Tablets and Chromebooks are not compatible with online classes/ testing.

Admission/Selection Requirements*

The following criteria must be complete by **March 15th** prior to entry into the Dental Assisting program. Late applications will not be accepted.

1. Complete the NDSCS Admission process and submit an official high school transcript and all official college transcripts to Enrollment Services.
2. Complete the Supplemental Program Application for Dental Assisting.
3. Submit an official transcript with a minimum of 12 college credits semester credits and a GPA of 2.0 or higher, OR a high school transcript with a minimum GPA 2.5 or higher will be used if no college courses.
4. Submit official ACT and/or placement testing results. Results must meet the criteria to enroll into English 110 the first semester of the program or have completed the course with a "C" or higher.
5. Points are awarded for grades in college level courses, concepts of anatomy, and anatomy and physiology. High School grades in biology, chemistry, and algebra will be used if no college course.
6. Complete the selection assessment examination and meet the program benchmark score of 45. The exam can be retaken once. Check with program for current assessment(s) required.
7. Review Essential Functions for Allied Dental Education Students and submit the signed Essential Functions Verification form.

Selection process details contact information and forms are located in the Dental Assisting Program Information and Selection Process Booklet available at www.NDSCS.edu/Dental (click on Program Selection Process) or contact the program at ndscs.dental@ndscs.edu.

The program is a limited enrollment program. Applicant's will |be selected on a point system. Once program capacity is reached, an alternate list will be established based on points. It is recommended that applicants stay in close contact with the program as they complete their admission requirements.

Program Selection Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

For accepted students, specific immunizations, criminal background checks, CPR certification (Basic Life Support (BLS) Provider by American Heart Association (AHA) OR Basic Life Support (BLS) for Healthcare Providers from American Red Cross (ARC) ONLY), and health insurance, are required by the program. *Additional requirements could include but not limited to; drug screening/ finger printing, state background checks, and COVID-19 vaccinations dependent on clinical site-specific student prerequisites.*
**All requirements must remain current while in the program and will be at the students' expense.* Contact the department for information on Bloodborne Pathogens.*

Award

Upon successful completion of the required courses ("C" or higher), students will be awarded an Associate in Applied Science degree in Dental Assisting. Graduates will meet requirements to become registered within the state and eligible to take the Dental Assisting National Board. A criminal background check will be required, and a felony conviction may affect state licensure.

Required Courses

Course Code	Title	Credits
DAST 105	Office Practice and Management	1
DAST 106	Pre-Clinic for the Dental Assistant	1
DAST 110	Oral Anatomy for the Dental Assistant	2
DAST 111	Introduction to Chairside Assisting	3
DAST 115	Dental Radiology for the Dental Assistant	3
DAST 120	Dental Assisting Expanded Functions	2
DAST 132	Clinical Training I	3
DAST 132L	Clinical Training I: Clinic	3
DAST 133	Clinical Training II	5
DAST 142	Dental Materials for the Dental Assistant	3
DAST 144	Biodental Science	2
DAST 151L	Dental Assisting Simulation Lab I	1
DAST 152L	Dental Assisting Simulation Lab II	1
PSYC 111	Introduction to Psychology	3
COMM 110	Fundamentals of Public Speaking	3
CIS 101	Digital Literacy	2
NUTR 240	Principles of Nutrition (and Diet Therapy)	3
	BIOL 115 and BIOL 115L or BIOL 220 and BIOL 220L or BIOL 221 and BIOL 221L	4
ENGL 110	College Composition I	3
	English Elective (choose one)	3
	General Education Electives (9 credits)	9
DENT 101	Science of Success: Introduction to Dental Professions	1

The program adheres to the NDSCS Equal Opportunity Policy as stated in the NDSCS Catalog. Dental Assisting Program Competencies, Program Goals, and Essential Functions are available on the website at www.NDSCS.edu.

A certificate in Dental Assisting is also available. Please see separate fact sheet for additional information.

The Dental Assisting program is fully accredited by the Commission on Dental Accreditation of the American Dental Association, 401 North Michigan Avenue, Chicago, IL 60611-4250.

	Total Required Credits	61

Dental Assisting

Degree Type Certificate

Contact Information

Chanel Malone - Associate Professor / Program Coordinator
chanel.malone@ndscs.edu
701-671-2367
MGAHC 213P

Delivery Methods

Face to Face: Wahpeton
Online: Some Classes

The duties of a Dental Assistant are among the most comprehensive and varied in the dental office. The Dental Assistant performs a wide range of tasks requiring both interpersonal and technical skills. Depending on each state's regulations, some specific tasks Dental Assistants may perform are:

- assisting the dentist during a variety of procedures and direct patient care.
- helping patients feel comfortable before, during and after treatment.
- taking patient's medical history and taking vital signs.
- exposing and developing dental radiographs (X-rays).
- teaching patient's appropriate oral hygiene strategies to maintain oral health.
- taking impressions of patient's teeth for study models.
- applying preventive agents such as fluoride or pit and fissure sealants.
- serving as an infection control officer, developing infection control protocol, and preparing and sterilizing instruments and equipment.
- performing office management tasks such as scheduling appointments, answering the
- telephone, billing, ordering and computer use.
- provide other expanded duties according to state regulations.

Career Opportunities

- private or community dental practices.
- solo and group dental practices.
- general or specialty practices such as oral and maxillofacial surgery, orthodontics, dentofacial orthopedics, endodontics, periodontics, prosthodontics, and pediatric dentistry; and
- sales and marketing of dental products.

The Dental Assisting program includes curriculum content in general studies, biodental sciences, dental sciences, clinical sciences, and clinical practice. Students receive more than 300 hours of clinical experience in community and regional dental offices in addition to courses taken on campus. Students will be required to cover all expenses associated with affiliation and internship assignments.

Criminal background checks will be required. A felony charge and/or conviction may affect participation in clinical experience(s), and therefore, program completion. If this issue applies, the student must meet with the program director.

This program requires access to a personal laptop and printer, capable of completing the assignments/testing required by the program, with a current operating system and webcam/microphone. Tablets and Chromebooks are not compatible with online classes/ testing.

Admission/Selection Requirements*

The following criteria must be complete by **March 15th** prior to entry into the Dental Assisting program. Late applications will not be accepted.

1. Complete the NDSCS Admission process and submit an official high school transcript and all official college transcripts to Enrollment Services.
2. Complete the Supplemental Program Application for Dental Assisting.
3. Submit an official transcript with a minimum of 12 college credits semester credits and a GPA of 2.0 or higher, OR a high school transcript with a minimum GPA 2.5 or higher will be used if no college courses.
4. Submit official ACT and/or placement testing results. Results must meet the criteria to enroll into English 110 the first semester of the program or have completed the course with a "C" or higher.
5. Points are awarded for grades in college level courses, concepts of anatomy and anatomy and physiology. High school grades in biology, chemistry, and algebra will be used if no college course.
6. Complete the selection assessment examination and meet the program benchmark score of 45. The exam can be retaken once. Check with program for current assessment(s) required.
7. Review Essential Functions for Allied Dental Education Students and submit the signed Essential Functions Verification form.

Selection process details, contact information and forms are located in the Dental Assisting Program Information and Selection Process Booklet available at www.NDSCS.edu/Dental (click on Program Selection Process) or contact the program at ndscs.dental@ndscs.edu.

The program is a limited enrollment program. Applicants will be selected on a point system. Once program capacity is reached, an alternate list will be established based on points. It is recommended that applicants stay in close contact with the program as they complete their admission requirements. Program Selection Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

For accepted students, specific immunizations, criminal background checks, CPR certification (Basic Life Support (BLS) Provider by American Heart Association (AHA) OR Basic Life Support (BLS) for Healthcare Providers from American Red Cross (ARC) ONLY), and health insurance, are required by the program. Additional requirements could include but not limited to; drug screening/ finger printing, state background checks, and COVID-19 vaccinations dependent on clinical site-specific student prerequisites.
**All requirements must remain current while in the program and will be at the students' expense.* Contact the department for information on Bloodborne Pathogens.*

Award

Upon successful completion of the required courses ("C" or higher), students will be awarded a certificate in Dental Assisting. Graduates will meet requirements to become registered within the state and eligible to take the Dental Assisting National Board. A criminal background check will be required, and a felony conviction may affect state licensure.

Required Courses

Course Code	Title	Credits
DAST 105	Office Practice and Management	1
DAST 106	Pre-Clinic for the Dental Assistant	1
DAST 110	Oral Anatomy for the Dental Assistant	2
DAST 111	Introduction to Chairside Assisting	3
DAST 115	Dental Radiology for the Dental Assistant	3
DAST 120	Dental Assisting Expanded Functions	2
DAST 132	Clinical Training I	3
DAST 132L	Clinical Training I: Clinic	3
DAST 133	Clinical Training II	5
DAST 142	Dental Materials for the Dental Assistant	3
DAST 144	Biodental Science	2
DAST 151L	Dental Assisting Simulation Lab I	1
DAST 152L	Dental Assisting Simulation Lab II	1
PSYC 111	Introduction to Psychology	3
BIOL 115	Concepts of Anatomy and Physiology	3
BIOL 115L	Concepts of Anatomy and Physiology Lab	1
DENT 101	Science of Success: Introduction to Dental Professions	1
ENGL 110	College Composition I	3

An Associate in Applied Science degree in Dental Assisting is also available. Please see separate fact sheet for additional information.

The program adheres to the NDSCS Equal Opportunity Policy as stated in the NDSCS Catalog. Dental Assisting Program Competencies, Program Goals, and Essential Functions are available on the website at www.NDSCS.edu.

The Dental Assisting program is fully accredited by the Commission on Dental Accreditation of the American Dental Association, 401 North Michigan Avenue, Chicago, IL 60611-4250.

	Total Required Credits	41

Dental Hygiene

Dental Hygiene

Degree Type Associate in Applied Science

Contact Information

Stacy Owens, Dental Programs Director
stacy.owens@ndscs.edu
701-671-2522
Mayme Green Allied Health Center 213I

Delivery Methods

Face-to-Face: Wahpeton

The Dental Hygiene program is designed to prepare students as professionals in the discipline of dental hygiene. The dental hygienist, a licensed member of the dental health team, provides dental health education, promotes and encourages the preventive aspects of dental care, removes stains and deposits from teeth, exposes and processes dental radiographs, administers local anesthesia, provides many other patient treatment procedures, and assumes other responsibilities in the dental office.

Career Opportunities

Dental hygienists are typically employed in general dental practices or specialty practices. Dental hygienists also can apply their skills and knowledge in other career activities including public health, corporate dental representative, dental office management, and dental hygiene education depending on the level of education and experience they have achieved.

Dental Hygiene Curriculum

The Dental Hygiene program consists of classroom, laboratory and clinical experiences emphasizing skill development, self-assessment, and professionalism offered over five continuous semesters. The majority of the clinical experience is in the NDSCS dental clinic. Students are also assigned to off-campus affiliation sites to enhance their dental hygiene education. Students must provide their own transportation to off-campus affiliation sites. Criminal background checks will be required. A felony charge and/or conviction may affect participation in clinical experience(s), and therefore, program completion. If this issue applies, the student must meet with the program director.

The program is fully accredited by the Commission on Dental Accreditation of the American Dental Association, 401 North Michigan Avenue, Chicago, IL 60611-4250. The program adheres to the NDSCS Equal Opportunity Policy as stated in the NDSCS Catalog. Dental Hygiene Program Competencies, Program Goals, and Essential Functions are available on the website at www.NDSCS.edu.

This program requires access to a personal laptop and printer, capable of completing the assignments/testing required by the program, with a current operating system and webcam/microphone. Tablets and Chromebooks are not compatible with online classes/ testing.

Admission/Selection Requirements*

Applicants will be admitted to the program following a selection process. The following requirements must be met by **March 1** to be considered for selection. Late applications will not be accepted.

1. Complete the NDSCS Admission process and submit an official high school transcript and all official college transcripts to Enrollment Services.
2. Complete the Supplemental Program Application for Dental Hygiene.
3. Submit official ACT and/or placement testing results to enrollment services.
4. Submit an official college transcript(s) with a minimum of twelve college semester credits and a GPA of 2.50 or higher.
5. Complete the selection assessment examination and meet the program benchmark score of 55. The exam can be retaken once. Check with program for current assessment(s) required.
6. Complete pre-requisite courses by January 1: Introductory Chemistry (CHEM 115 and 115L), Anatomy and Physiology I (BIOL 220 and 220L) and College Composition I (ENGL 110 with a "C" or higher). Complete pre-requisite course by May 15: Anatomy and Physiology II (BIOL 221 and 221L) with a “C” or higher.
7. Additional admission points will also be awarded for completing classes at NDSCS.
8. Additional admission points will be awarded to graduates from a Dental Assisting Program Accredited by CODA.
9. Additional admission points will be awarded to graduates from the NDSCS Dental Assisting Program.
10. Verification Form

Selection process details, contact information and forms are located in the Dental Hygiene Program Information and Selection Process Booklet available at www.NDSCS.edu/Dental (click on Program Selection Process) or contact the program at NDSCS.dental@ndscs.edu.

The program is a limited enrollment program. Applicants will be selected on a point system. Once program capacity is reached, an alternate list will be established based on points. It is recommended that applicants stay in close contact with the program as they complete their selection requirements.

Program Selection Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

For accepted students, specific immunizations, criminal background checks, CPR certification (Basic Life Support (BLS) Provider by American Heart Association (AHA) OR Basic Life Support (BLS) for Healthcare Providers from American Red Cross (ARC) ONLY), and health insurance, are required by the program. *Additional requirements could include but not limited to; drug screening/ finger printing, state background checks, and COVID-19 vaccinations dependent on clinical site-specific student prerequisites. *All requirements must remain current while in the program and will be at the students’ expense. *Contact the program for information on Bloodborne Pathogens.*

Licensure requirements for dental hygienists include successful completion of the Dental Hygiene National Board Examination and a regional clinical examination, i.e., CRDTS. Individual states have additional licensure requirements. A criminal background check will be required and a felony conviction may affect state licensure.

Award

Upon program completion of the required courses (“C” or higher), students will be awarded an Associate in Applied Science degree in Dental Hygiene.

Required Courses

Course Code	Title	Credits
DHYG 101	Pre-Clinic	1
DHYG 101L	Pre-Clinic Lab	3
DHYG 102	Clinic I	1
DHYG 102L	Clinic I Lab	4
DHYG 103	Clinic II	1
DHYG 103L	Clinic II Lab	3
DHYG 110	Oral Anatomy	2
DHYG 112	Oral Embryology & Histology	1
DHYG 114	Dental Radiology	3
DHYG 145	Periodontics I	1
DHYG 151L	Pre-Clinic Simulation Lab	1
DHYG 152L	Simulation Lab I	1
DHYG 153L	Simulation Lab II	1
DHYG 201	Clinic III	1
DHYG 201L	Clinic III Lab	4
DHYG 202	Clinic IV	1
DHYG 202L	Clinic IV Lab	4
DHYG 205	Dental Pharmacology	2
DHYG 209	Head and Neck Anatomy	1
DHYG 210	Local Anesthesia	1
DHYG 212	Oral Pathology	1
DHYG 220	Community Dental Health	2
DHYG 242	Dental Materials	3
DHYG 243	Dental Jurisprudence	1
DHYG 245	Periodontics II	1
DHYG 251L	Simulation Lab III	1
DHYG 252L	Simulation Lab IV	1

Related/General Education Courses

Course Code	Title	Credits
BIOL 213	General Pathology	3
CIS 101	Digital Literacy	2
COMM 110	Fundamentals of Public Speaking	3
ENGL 120	College Composition II	3
MICR 202	Introductory Microbiology	3
MICR 202L	Introductory Microbiology Lab	1
NUTR 240	Principles of Nutrition (and Diet Therapy)	3
PSYC 111	Introduction to Psychology	3
SOC 110	Introduction to Sociology	3
DENT 101	Science of Success: Introduction to Dental Professions	1
	Total Required Credits	72

Emergency Medical Services

Emergency Medical Services (Paramedic Technology)

Degree Type Associate in Applied Science

Contact Information

Tyler DeKrey - Program Coordinator
tyler.dekrey@sanfordhealth.org
701-231-6901
Sanford Ambulance

Delivery Methods

Face-to-Face: Fargo / CIC
*Hybrid: Live-video and
Face-to-Face

The Paramedic Technology program is designed to prepare the student with the necessary skills to complete national certification and obtain employment as a paramedic. Paramedics primarily provide care to emergency patients in an out of hospital setting. Through proper patient assessment and medical care, the paramedic's goal is to prevent and reduce mortality and morbidity due to illness and injury. Paramedics are an essential component of the continuum of care and serve as a link to other health care professionals. Paramedics are responsible and accountable to physician medical direction.

NDSCS offers a certificate program and an Associate in Applied Science degree in Paramedic Technology and is affiliated with F-M Ambulance Service and Sanford Health EMS Education in Fargo. Courses start in the fall of each year. The program length will be three semesters including the summer semester.

Clinical and field internship experiences will be completed concurrently with the classroom schedule. Numerous hospitals and ambulance services across North Dakota, South Dakota, and Minnesota are utilized. Students may need to drive various distances to clinical sites. Additional clinical sites can be added to suit student needs. Specific immunizations and a current American Heart Association Healthcare Provider CPR card will be required before the start of clinicals.

During orientation, students will be required to pay for and complete a background check. A previous misdemeanor or felony can prevent a student from attending clinical sites and completing the program. If you have any concerns about your history, please contact the Paramedic program coordinator.

EMS accreditation was recommended by the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP), 8301 Lakeview Parkway Suite 111-312, Rowlett, TX 75088, Phone: 214-703-8445, Fax: 214-703-8992, www.coaemsp.org. Upon completion of the certificate or degree program, students will be eligible to take the NREMT paramedic exams.

* Special computer and internet requirements for hybrid delivery, please check with program for specific requirements.

Admission Requirements*

The applicant must be a high school graduate or equivalent and be 18 years of age. Applicants must have the ability to meet technical standards of the program and may be required to complete a basic skills evaluation during the admissions process.

1. Complete the NDSCS Application for Admission if the applicant has not attended NDSCS or complete a re-application if the applicant has previously attended or is a past graduate of NDSCS.
2. Applicants without a United States high school transcript (four years), will be required to complete English language proficiency exam(s) and meet the benchmark score(s) prior to continuing the selection process. Contact the program to schedule the assessments if this applies.
3. Hold a current State or National Registry of Emergency Medical Technicians (NREMT) EMT or AEMT certification.
4. Submit official ACT and/or Placement testing results to Enrollment Services. Results must meet criteria to enroll in English 110 and MATH 103 fall semester OR submit an official college transcript with ENGL 110 and MATH 103 completed with a "C" or higher.
5. Completion of BIOL 220 and BIOL 220L with a "C" or higher.
6. Applicants will participate in a formal interview process with the Paramedic program faculty to discuss the internship shifts as well as expectations of the program. Interview points will be graded on a rubric.

Class selection process will be determined by the completion of admission requirements and slots will be filled by order of those who have completed all requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, ("C" or higher) students will be awarded a certificate or an Associate in Applied Science degree in Paramedic Technology.

Related Courses

Course Code	Title	Credits
EMS 101	Introduction into EMS	2
EMS 180	Pharmacology I	1
EMS 203	Pharmacology II	2
EMS 204	Medical Emergencies I	2
EMS 205	Medical Emergencies II	2
EMS 207	Special Populations in EMS	2
EMS 215	Cardiology	4
EMS 217	Airway and Respiratory Management	2
EMS 218	Clinical Decision-Making in EMS	2
EMS 219	Trauma in EMS	3
EMS 231	Paramedic Lab I	2
EMS 232	Paramedic Simulation Lab	2
EMS 233	Advanced Life Support Lab	3
EMS 234	Paramedic Assessment Lab	1
EMS 241	Advanced Provider Practicum I	2
EMS 242	Advanced Provider Practicum II	4
EMS 243	Capstone in Paramedicine	3
EMS 255	Leadership in EMS	2
	EMS/HPER Electives	2

Related/General Education Courses

Course Code	Title	Credits
BIOL 220	Anatomy & Physiology I	3
BIOL 220L	Anatomy & Physiology I Lab	1
BIOL 221	Anatomy & Physiology II	3
BIOL 221L	Anatomy & Physiology II Lab	1
	Wellness Elective(s) (2 credits)	2
ENGL 110	College Composition I	3
	English/Communication Elective (choose one)	3
	Social and Behavioral Science Electives (5 credits)	5
AH 101	Science of Success: Allied Health	1

Certificate is also available. Please see separate fact sheet for additional information.

	Total Required Credits	65

Emergency Medical Services (Emergency Medical Technician)

Degree Type Certificate

Contact Information

Jaymes Feil, Program Coordinator
Jaymes.feil@sanfordhealth.org

701-365-1739

Delivery Methods

Face-to-Face: Fargo / CIC

Online: Some Classes
Combination
*Hybrid online lectures with
weekend labs

NDSCS offers a program certificate in Emergency Medical Technician (EMT).

The Emergency Medical Technician (EMT) program offers career training for entry-level positions in an emergency medical setting. Those students who successfully complete the EMT coursework will be eligible to apply to take state or national certification exams.

As members of the emergency medical services system, EMTs respond to emergency calls to provide efficient and immediate care to the critically ill and injured and transport patients to appropriate medical facilities.

EMTs use communication skills in person, via radio and in writing. A solid foundation in the basic elements of emergency pre-hospital care is developed and is required to make sound judgments in critical circumstances. Duties include patient assessment, airway and ventilation management, CPR, bleeding control, bandaging and splinting, administration of certain medications and even the use of automated external defibrillators. EMTs also help with childbirth, cardiac, respiratory and endocrine emergencies, behavioral problems, extrication and lifting and moving patients under the authority of an approved medical director.

EMTs are employed by many organizations, public and private, emergency and non-emergency. These include: ambulance companies, fire departments, recreational facilities, law enforcement, hospitals, educational institutions, care centers, search and rescue squads, transfer services, and others. Positions range from volunteer services to part and full-time employment.

Students who successfully complete the EMT NREMT exam may choose to also pursue a certificate or an Associate in Applied Science degree in Paramedic Technology from NDSCS.

* Special computer and internet requirements for hybrid delivery, please check with program for specific requirements.

Admission Requirements*

The applicant must be a high school graduate or equivalent and be 18 years of age. Applicants must have the ability to meet technical standards of the program and may be required to complete a basic skills evaluation during the admissions process.

1. Complete the NDSCS Application for Admission if the applicant has not attended NDSCS or complete a re-application if the applicant has previously attended or is a past graduate of NDSCS.
2. Submit official ACT and/or Placement testing results to Enrollment Services. Results must meet criteria to enroll in English 110 fall semester OR submit an official college transcript with ENGL 110 completed with a “C” or higher.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, (“C” or higher) students will be awarded a certificate in Emergency Medical Services (EMS) with an emphasis in Emergency Medical Technician.

Required Courses

Course Code	Title	Credits
EMS 101	Introduction into EMS	2
EMS 110	EMT Fundamentals	3
EMS 110L	EMT Fundamentals Lab	1
EMS 110P	EMT Practicum	1

*Completion of EMS 101 (“C” or higher) within 5 years will transfer into Paramedic Program.

**Upon successful completion of the required core courses (“C” or higher) students will be eligible to take the EMT NREMT exam.

Related/General Education Courses

Course Code	Title	Credits
BIOL 220	Anatomy & Physiology I	3
BIOL 220L	Anatomy & Physiology I Lab	1
	English/Communication Elective (choose one)	3
	Social and Behavioral Science Electives	2
	Wellness Elective(s) (2 credits)	2
AH 101	Science of Success: Allied Health	1

***ENGL 110 is required for Paramedic AAS degree

	Total Required Credits	19

Emergency Medical Services (Paramedic Technology)

Degree Type Certificate

Contact Information

Tyler DeKrey - Program Coordinator
tyler.dekrey@sanfordhealth.org
701-231-6901
Sanford Ambulance

Delivery Methods

Face-to-Face: Fargo / CIC
*Hybrid: Live-video and
Face-to-Face

The Paramedic Technology program is designed to prepare the student with the necessary skills to complete national certification and obtain employment as a paramedic. Paramedics primarily provide care to emergency patients in an out of hospital setting. Through proper patient assessment and medical care, the paramedic's goal is to prevent and reduce mortality and morbidity due to illness and injury. Paramedics are an essential component of the continuum of care and serve as a link to other health care professionals. Paramedics are responsible and accountable to physician medical direction.

NDSCS offers a certificate program and an Associate in Applied Science degree in Paramedic Technology and is affiliated with F-M Ambulance Service and Sanford Health EMS Education in Fargo. Courses start in the fall of each year. The program length will be three semesters including the summer semester.

Clinical and field internship experiences will be completed concurrently with the classroom schedule. Numerous hospitals and ambulance services across North Dakota, South Dakota and Minnesota are utilized. Students may need to drive various distances to clinical sites. Additional clinical sites can be added to suit student needs. Specific immunizations and a current American Heart Association Healthcare Provider CPR card will be required before the start of clinicals.

During orientation, students will be required to pay for and complete a background check. A previous misdemeanor or felony can prevent a student from attending clinical sites and completing the program. If you have any concerns about your history, please contact the Paramedic program coordinator.

EMS accreditation was recommended by the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP), 8301 Lakeview Parkway Suite 111-312, Rowlett, TX 75088, Phone: 214-703-8445, Fax: 214-703-8992, www.coaemsp.org. Upon completion of the certificate or degree program, students will be eligible to take the NREMT paramedic exams.

* Special computer and internet requirements for hybrid delivery, please check with program for specific requirements.

NOTE: This program requires a tablet with a 7-inch screen or larger. For further information, please contact the program coordinator.

Admission Requirements*

The applicant must be a high school graduate or equivalent and be 18 years of age. Applicants must have the ability to meet technical standards of the program and may be required to complete a basic skills evaluation during the admissions process.

1. Complete the NDSCS Application for Admission if the applicant has not attended NDSCS or complete a re-application if the applicant has previously attended or is a past graduate of NDSCS.
2. Applicants without a United States high school transcript (four years), will be required to complete English language proficiency exam(s) and meet the benchmark score(s) prior to continuing the selection process. Contact the program to schedule the assessments if this applies.
3. Hold a current State or National Registry of Emergency Medical Technicians (NREMT) EMT or AEMT certification. Applicants not holding an EMT/AEMT certification, upon successful completion of EMS101, 110, 110L and 110P with a "C" or higher, can be eligible to apply to test the NREMT EMT exam for certification.
4. Submit official ACT and/or Placement testing results to Enrollment Services. Results must meet criteria to enroll in English 110 and MATH 103 fall semester OR submit an official college transcript with ENGL 110 and MATH 103 completed with a "C" or higher.
5. *Completion of BIOL 220 and BIOL 220L with a "C" or higher.
6. Applicants will participate in a formal interview process with the Paramedic Program faculty to discuss the internship shifts as well as expectations of the program. Interview points will be graded on a rubric.

Class selection process will be determined by the completion of admission requirements and slots will be filled by order of those who have completed all requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, ("C" or higher) students will be awarded a certificate or an Associate in Applied Science degree in Paramedic Technology.

Required Courses

Course Code	Title	Credits
EMS 101	Introduction into EMS	2
EMS 180	Pharmacology I	1
EMS 203	Pharmacology II	2
EMS 204	Medical Emergencies I	2
EMS 205	Medical Emergencies II	2
EMS 207	Special Populations in EMS	2
EMS 215	Cardiology	4
EMS 217	Airway and Respiratory Management	2
EMS 218	Clinical Decision-Making in EMS	2
EMS 219	Trauma in EMS	3
EMS 231	Paramedic Lab I	2
EMS 232	Paramedic Simulation Lab	2
EMS 233	Advanced Life Support Lab	3
EMS 234	Paramedic Assessment Lab	1
EMS 241	Advanced Provider Practicum I	2
EMS 242	Advanced Provider Practicum II	4
EMS 243	Capstone in Paramedicine	3
EMS 255	Leadership in EMS	2

Related/General Education Courses

Course Code	Title	Credits
BIOL 221	Anatomy & Physiology II	3
BIOL 221L	Anatomy & Physiology II Lab	1
	Wellness Elective (1 credit)	1
AH 101	Science of Success: Allied Health	1

* Program prerequisite: BIOL 220 Anatomy and Physiology I and BIOL 220L Anatomy and Physiology I Lab (See Admission Requirement #5).

An Associate in Applied Science degree is also available. Please see separate fact sheet for additional information.

	Total Required Credits	47

Health Information

Health Information (Health Information Technician)

Degree Type Associate in Applied Science

Contact Information

Dr. Brandy Gustavus, Instructor/Program Director
brandy.gustavus@ndscs.edu
701-671-3329

Delivery Methods

Face-to-Face: Wahpeton
Online: All Classes
Combination

Health information professionals care for patients by caring for their medical data, focusing on completeness, accuracy and protection. They use computer applications to organize, analyze, evaluate, and report health data, complying with laws, standards, and regulations. Health information technicians often specialize in coding diagnoses and procedures in health records for reimbursement and other purposes.

NDSCS offers North Dakota's only Health Information Technician program accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM).

According to the Bureau of Labor Statistics, employment of health information technicians is projected to grow 13 percent from 2016 to 2026; faster than the average for all occupations.

Work settings include hospitals, long-term care, behavioral health facilities, home health agencies, insurance companies, physician practices, software vendors, consulting and auditing firms, government agencies, and other facilities outside of healthcare. With appropriate experience, RHITs may be employed remotely (at-home).

Graduates may pursue a bachelor's degree at another institution, and/or obtain specialty certifications for further advancement and management opportunities in the profession.

Academic training includes online learning laboratories. Students will participate in two virtual professional practice courses, including an onsite experience. Whenever possible, the onsite experience is scheduled in the student's geographic area. Tuition and fees are assessed for these courses.

*A criminal background check, drug testing, and other health-related documentation is required prior to starting on-site professional practice experience. Results may affect placement and the student's ability to complete the program of study. These requirements are at the student's expense.

*If a student transfers in BIOL 220, BIOL 220L, BIOL 221, BIOL 221L, AH 171, and Pharmacology, the course(s) must have been taken and completed within the last 10 years. If you have any questions regarding the transfer-ability of these courses, please contact the Program Director.

Delivery Options

The program is available both online and on-campus. Online students complete all courses online, while on-campus students complete HIT prefix courses online and most related/general education courses in a traditional classroom.

Transfer credit will be evaluated per college policy.

This program requires access to a personal laptop and printer, capable of completing the assignments/testing required by the program, with a current operating system and webcam/microphone. Tablets and Chromebooks are not compatible with online classes/testing.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are computer applications, anatomy, and medical terminology.

Submit official ACT and/or Placement testing results to Enrollment Services. Results must meet criteria to enroll in English 110 fall OR must submit an official college transcript with ENGL 110 completed with a "C" or higher.

Applicants must have the ability to perform the Essential Program Requirements as listed in the Health Information Program Information FAQ file on the college website www.NDSCS.edu.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Curriculum Requirements

A grade of "C" or above must be achieved in all courses in order to advance in the program and prior to taking the professional practice courses. Required computer skills include the ability to use email, upload and download files, install software, and navigate the internet. The program is sequenced with pre/co-requisites.

Accreditation

The Health Information Management accreditor of NDSCS is the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). All inquiries about the program's accreditation status should be directed by mail to CAHIIM, 200 East Randolph Street, Suite 5100, Chicago, IL, 60601; by phone at (312) 235-3255; or by email at info@cahimm.org.

Program Goals and Student Learning Outcomes

Published in program handbook.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Health Information with an emphasis in Health Information Technician.

As early as the final semester of the program, students are eligible to sit for the national certification examination administered by the American Health Information Management Association to become a Registered Health Information Technician (RHIT).

Required Courses

Course Code	Title	Credits
HIT 176	Introduction to Health Information	4
HIT 180	Pathopharmacology	3
HIT 181	Healthcare Delivery Systems	3
HIT 184	Basic DiagnosisCoding	3
HIT 185	Basic Procedure Coding	3
HIT 197	Professional Practice I	2
HIT 280	Coding Application	2
HIT 281	Health Law, Privacy and Ethics	3
HIT 282	Health Information Data Analytics	3
HIT 283	Health Information Leadership	2
HIT 284	Healthcare Quality Management	3
HIT 285	Reimbursement Methodologies	3
HIT 286	Intermediate Diagnosis Coding	3
HIT 287	Computer Applications in Healthcare	3
HIT 288	Intermediate Procedure Coding	3
HIT 297	Professional Practice II	2

Related/General Education Courses

Course Code	Title	Credits
BIOL 220	Anatomy & Physiology I	3
BIOL 221	Anatomy & Physiology II	3
AH 171	Medical Terminology	3
COMM 110	Fundamentals of Public Speaking	3
	Wellness Elective(s) (2 credits)	2
PSYC 100	Human Relations in Organizations	2
AH 101	Science of Success: Allied Health	1
CSCI 101	Software Apps and Digital Literacy	3

**BIOL 220L and BIOL 221L are recommended for students who are planning to complete a transfer degree at a later time.

	Total Required Credits	65

Health Information (Medical Coding)

Degree Type Certificate

Contact Information

Brandy Gustavus, Instructor/Program Director
brandy.gustavus@ndscs.edu
701-671-3329

Delivery Methods

Face-to-Face: Wahpeton
Online: All Classes
Combination

Coders review medical documentation, using classification system software and assign medical codes. The codes are used for billing, research, statistics, reporting, and administrative purposes. Work settings include hospitals, clinics, home health agencies, long-term care, insurance, consulting and auditing firms, and healthcare software companies. With appropriate experience, coders may be employed remotely (at-home).

NDSCS offers North Dakota's only medical coding certificate approved by the AHIMA Professional Certificate Approval Program (PCAP).

According to the Bureau of Labor Statistics, employment of health information technicians (classification includes medical coders) is projected to grow 13 percent from 2016 to 2026, faster than the average for all occupations.

Coding guidelines will be studied in detail, as well as concepts in insurance and reimbursement concepts, including payment systems.

Students can easily continue their education by completing the additional courses in the Health Information Technician AAS degree program option. Additional coding certifications are desirable after the graduate attains work experience, for further advancement in the profession.

*If a student transfers in BIOL 220, BIOL 220L, BIOL 221, BIOL 221L, AH 171, and Pharmacology, the course(s) must have been taken and completed within the last 10 years. If you have any questions regarding the transfer-ability of these courses, please contact the Program Director.

Practicum

Academic training includes online learning laboratories. At the end of the program, students will complete a capstone virtual practicum, coding a variety of types of authentic health records, using encoder/grouper software.

Delivery Options

The program is available both online and in a traditional campus environment. Online students complete all courses online, while on-campus students complete HIT prefix courses online and most related/general education courses in a traditional classroom.

Transfer credit will be evaluated per college policy.

This program requires access to a personal laptop and printer, capable of completing the assignments/testing required by the program, with a current operating system and webcam/microphone. Tablets and Chromebooks are not compatible with online classes/testing.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are computer applications, anatomy, and medical terminology.

Submit official ACT and/or Placement testing results to Enrollment Services

Applicants must have the ability to perform the Essential Program Requirements as listed in the Health Information Program Information FAQ file on the college website www.NDSCS.edu.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Curriculum Requirements

A grade of "C" or above must be achieved in all courses in order to advance in the program and prior to taking the practicum course. Required computer skills including ability to use email, upload and download files, install software and navigate the internet. The program is sequenced with pre/co-requisites.

Program Approval Statement

The North Dakota State College of Science comprehensive coding program is approved by the AHIMA Professional Certificate Approval Program (PCAP). This designation acknowledges the coding program as having been evaluated by a peer review process using a national minimum set of standards for entry-level coding professionals. This process allows academic institutions to be acknowledged as offering an AHIMIA Approved Coding Certificate Program.

"Value for Students" Statement

The valuable AHIMA PCAP approval designation:

a. Identifies specialized programs that meet established coding educational standards.
b. Stimulates improvement of educational standards through faculty development opportunities, and by involving faculty and staff in program evaluation and planning.
c. Promotes a better understanding of the goals of professional coding education.
d. Provides reasonable assurance that practitioners possess the necessary job skills upon entry into the profession.

Program Goals and Student Learning Outcomes

Published in program handbook.

Award

Upon successful completion of the required courses, students will be awarded a certificate in Health Information with an emphasis in Medical Coding.

AHIMA sponsors a voluntary entry-level coding certification examination, the Certified Coding Associate (CCA). The CCA credential distinguishes coders by exhibiting commitment and demonstrating coding competencies across all settings, including both hospitals and physician practices. Completion of an AHIMAapproved coding program (PCAP Program) is one of the training and recommendations listed on the AHIMA website (www.ahima.org).

Required Courses

Course Code	Title	Credits
HIT 176	Introduction to Health Information	4
HIT 180	Pathopharmacology	3
HIT 184	Basic DiagnosisCoding	3
HIT 185	Basic Procedure Coding	3
HIT 285	Reimbursement Methodologies	3
HIT 286	Intermediate Diagnosis Coding	3
HIT 287	Computer Applications in Healthcare	3
HIT 288	Intermediate Procedure Coding	3
HIT 197C	Practicum	2

Related/General Education Courses

Course Code	Title	Credits
BIOL 220	Anatomy & Physiology I	3
BIOL 221	Anatomy & Physiology II	3
AH 171	Medical Terminology	3
CSCI 101	Software Apps and Digital Literacy	3
AH 101	Science of Success: Allied Health	1

**BIOL 220L and BIOL 221L are recommended for students who are planning to complete a transfer degree at a later time.

Total Required Credits	40

Nursing

Registered Nursing

Degree Type Associate in Applied Science

Contact Information

Wahpeton:
Trina Fear, Associate Professor/RN Program Coordinator
trina.fear@ndscs.edu
701-671-2698
Mayme Green Allied Health Center 213L

NDSCS-Fargo:
Amanda Bjerken - Instructor / Fargo Nursing Coordinator
amanda.bjerken@ndscs.edu
701-231-3339
NDSCS-Fargo 135

Delivery Methods

Face-to-Face: Wahpeton

Face-to-Face: Fargo / CIC

Combination

Online: Some Classes

This two-year program is available for individuals who wish to pursue a career in nursing and become a Registered Nurse (RN). The graduate will have an excellent opportunity for immediate employment and/or transfer to a baccalaureate program in nursing utilizing the transfer (articulation) agreements the program has with select colleges.

The course sequence for the program is sequenced to include general education and nursing program courses over four semesters, concluding with the national examination (NCLEX-RN) to receive licensing as a Registered Nurse (RN).

Criminal background checks will be required. A previous conviction may affect clinical rotations, and a state board of nursing could deny an application for licensure as a Registered Nurse. If arrested, charged and/or convicted of any felony, the applicant is required to meet with the program director and/or RN program coordinator. A federal criminal history background check will also be required to test for the NCLEX-RN.

The NDSCS Registered Nursing program has been granted full approval from the North Dakota Board of Nursing (NDBON), 919 South 7th Street, Suite 504, Bismarck, ND 58504, 701-328-9777, www.ndbon.org.

The NDSCS Registered Nursing Program is accredited by the Accreditation Commission for Education in Nursing (ACEN) 3390 Peachtree Road NE, Suite 1400 Atlanta, GA 30326 (404) 975-5000. The most recent accreditation decision made by the ACEN Board of Commissioners for the Registered Nursing program is Continuing Accreditation.

This program requires students to own a personal laptop and printer, capable of completing the assignments and testing required by the program, with a current operating system that includes a webcam and microphone. Tablets and Chromebooks are not compatible with online classes and testing.

Equal opportunity policy

The NDSCS Department of Nursing adheres to the NDSCS Equal Opportunity Policy as stated in the NDSCS Catalog (www.ndscs.edu).

Admission/Selection Requirements*

Applicants will be admitted to the program following a point-based selection process. The following requirements must be met by April 1st or November 15th Applicants that apply after the deadline can complete the selection requirements and be placed on the alternate list. If openings become available the applicant may be selected, based on points, until the first day of class.

1. Complete the NDSCS Application for Admission if the applicant has not attended NDSCS or complete a re-application if the applicant has previously attended or is a past graduate of NDSCS.

2. Applicants without a United States high school transcript (four years), will be required to complete English language proficiency exam(s) and meet the benchmark score(s) prior to continuing the selection process. Contact the program to schedule the assessments if this applies.

3. Complete the Supplemental Program Application for the AAS-Registered Nursing Program.

4. Submit a high school transcript or GED with a 2.25 cumulative GPA or higher. If an applicant fails to meet the high school or GED cumulative GPA of 2.25, then the following requirements apply. Applicants have completed 12 or more credits at a college with a cumulative GPA of 2.25 or higher

5. Complete a program assessment examination and meet the program benchmark.

6. Be a current Certified Nursing Assistant (CNA) and submit a copy of the certificate. If an applicant is in process (As of April 1st or November 15th) they may continue the selection process and may be accepted conditionally on successful completion of CNA License.

7. Review Essential Functions for Registered Nursing students and submit the Essential Functions Verification form.

8. Holistic admission criteria required by the nursing program for selection.

Criteria for Program Selection

The point-based selection process will be determined by meeting all selection requirements, assessment score, completed selected college level general education courses within the program plan, overall cumulative GPA (high school/GED or college) and holistic admission criteria. It is highly recommended that the applicant checks with the RN program to ensure all admission requirements have been received before the application deadline.

**Program selection process details, contact information, and forms are in the Registered Nursing-AAS Program Information and Selection Process available at www.ndscs.edu/nursing (click on Program Selection Process) or contact the program at ndscs.nursing@ndscs.edu.*

Selection Requirements are subject to revision. Please check with the department or program website under Program Selection Requirements for current information.

For accepted students, specific immunizations, criminal background checks, CPR certification (Basic Life Support (BLS) Provider by American Heart Association (AHA) OR Basic Life Support (BLS) for Healthcare Providers from American Red Cross (ARC) ONLY), and TB screening are required by the program as dictated by the clinical site facilities. Additional requirements could include but are not limited to drug screening, finger printing, state specific background checks, and other vaccinations dependent on clinical or preceptor site-specific student prerequisites. *All requirements must remain current while in the program and will be at the students' expense.

Award

Upon successful completion of the required courses ("C" or higher), students will be awarded an Associate in Applied Science (RN) degree; and be eligible for the National Council Licensure Exam for Registered Nurses (NCLEX-RN).

Required Courses

Course Code	Title	Credits
NURS 114	Role Development	1
NURS 115	Essentials for Registered Nursing I	4
NURS 116	Essentials for Registered Nursing I Clinical	1
NURS 117	Mental Health Nursing/Clinical	3
NURS 118	Essentials for Registered Nursing II	4
NURS 119	Essentials for Registered Nursing II Clinical	2
NURS 201	Complex Nursing Care Concepts I	4
NURS 202	Complex Nursing Care Concepts I Clinical	3
NURS 203	Preventative Community Health	2
NURS 204	Maternal Child	4
NURS 205	Complex Nursing Care Concepts II	3
NURS 206	Complex Nursing Care Concepts II Clinical	4
NURS 207	Leadership	2
NURS 208	Transition to Practice	1
NURS 210	Pharmacology for Nursing	3

Related/General Education Courses

Course Code	Title	Credits
BIOL 220	Anatomy & Physiology I	3
BIOL 220L	Anatomy & Physiology I Lab	1
BIOL 221	Anatomy & Physiology II	3
BIOL 221L	Anatomy & Physiology II Lab	1
	English/Communication Elective (choose one)	3
AH 101	Science of Success: Allied Health	1
MICR 202	Introductory Microbiology	3
MICR 202L	Introductory Microbiology Lab	1
NUTR 240	Principles of Nutrition (and Diet Therapy)	3
PSYC 250	Developmental Psychology	3
	Total Required Credits	63

Registered Nursing (LPN to RN) AAS

Degree Type Associate in Applied Science

Contract Information:

Wahpeton:
Trina Fear, Associate Professor/RN Program Coordinator
trina.fear@ndscs.edu
701-671-2698
Mayme Green Allied Health Center 213L

NDSCS-Fargo:
Amanda Bjerken - Instructor / Fargo Nursing Coordinator
amanda.bjerken@ndscs.edu
701-231-3339
NDSCS-Fargo 135

Delivery Methods:

Face-to-Face: Wahpeton; Fargo / CIC; Combination
Online: Some Classes

This program is available for Licensed Practical Nurses who wish to continue their nursing education and become a Registered Nurse (RN). The graduate will have an excellent opportunity for immediate employment and/or transfer to a baccalaureate program in nursing utilizing the transfer (articulation) agreements the program has with select colleges.

The course sequence for the program follows a specific sequence as the student progresses through the program. Required general education courses must be completed prior to beginning the program. Nursing program courses over two semesters, concluding with the national examination (NCLEX-RN) to receive licensing as a Registered Nurse (RN).

Criminal background checks will be required. A previous conviction may affect clinical rotations, and a state board of nursing could deny an application for licensure as a Registered Nurse. If arrested, charged and/or convicted of any felony, the applicant is required to meet with the program director and/or RN program coordinator. A federal criminal history background check will also be required to test for the NCLEX-RN.

The NDSCS Registered Nursing program has been granted full approval from the North Dakota Board of Nursing (NDBON), 919 South 7th Street, Suite 504, Bismarck, ND 58504, 701-328-9777, www.ndbon.org.

The NDSCS Registered Nursing Program is accredited by the

Accreditation Commission for Education in Nursing (ACEN) 3390 Peachtree Road NE, Suite 1400 Atlanta, GA 30326 (404) 975-5000. The most recent accreditation decision made by the ACEN Board of Commissioners for the Registered Nursing program is Continuing Accreditation.

This program requires students to own a personal laptop and printer, capable of completing the assignments and testing required by the program, with a current operating system that includes a webcam and microphone. Tablets and Chromebooks are not compatible with online classes and testing.

Equal opportunity policy

The NDSCS Department of Nursing adheres to the NDSCS Equal Opportunity Policy as stated in the NDSCS Catalog (www.ndscs.edu).

Admission/Selection Requirements*

Applicants will be admitted to the program following a point-based selection process. The following requirements must be met by April 15th. Applicants that apply after the deadline can complete the selection requirements and be placed on the alternate list. If openings become available the applicant may be selected, based on points, until the first day of class.

1. Complete the NDSCS Application for Admission if the applicant has not attended NDSCS or complete a re-application if the applicant has previously attended or is a past graduate of NDSCS.
2. Applicants without a United States high school transcript (four years), will be required to complete English language proficiency exam(s) and meet the benchmark score(s) prior to continuing the selection process. Contact the program to schedule the assessments if this applies.
3. Complete the Supplemental Program Application for the AAS Registered Nursing Program.
4. Be a graduate of a Board of Nursing approved Practical Nursing program.
5. Hold an active and unencumbered license as a Practical Nurse (LPN). Send a copy to the program.
6. Achieve benchmark of "C" or higher in all prerequisite courses required for the Registered nursing program with a minimum cumulative GPA of 2.25 required.
7. Complete selection assessment examination and meet the program benchmark if less than two years of experience as an LPN. The program reserves the right to change the assessment.
8. Review Essential Functions for Registered Nursing students and submit the Essential Functions Verification form.
9. IV Therapy Certification completed, and proof sent to the program.
10. Holistic admission criteria required by the nursing program for selection.

Criteria for Program Selection

The point-based selection process will be determined by meeting all selection requirements, assessment score, completed selected college level general education courses within the program plan, overall cumulative GPA (high school/GED or college) and holistic admission criteria. It is highly recommended that the applicant checks with the RN program to ensure all admission requirements have been received before the application deadline.

**Program selection process details, contact information, and forms are in the Registered Nursing (LPN to RN)-AAS Program Information and Selection Process available at www.ndscs.edu/nursing (click on Program Selection Process) or contact the program at ndscs.nursing@ndscs.edu.*

Selection Requirements are subject to revision. Please check with the department or program website under Program Selection Requirements for current information.

For accepted students, specific immunizations, criminal background checks, CPR certification (Basic Life Support (BLS) Provider by American Heart Association (AHA) OR Basic Life Support (BLS) for Healthcare Providers from American Red Cross (ARC) ONLY), and TB screening are required by the program as dictated by the clinical site facilities. Additional requirements could include but are not limited to drug screening, finger printing, state specific background checks, and other vaccinations dependent on clinical or preceptor site-specific student prerequisites. *All requirements must remain current while in the program and will be at the students' expense.

Award

Upon successful completion of the required courses ("C" or higher), students will be awarded an Associate in Applied Science (RN) degree; and be eligible for the National Council Licensure Exam for Registered Nurses (NCLEX-RN).

Prerequisite Courses

Course Code	Title	Credits
BIOL 220	Anatomy & Physiology I	3
BIOL 220L	Anatomy & Physiology I Lab	1
BIOL 221	Anatomy & Physiology II	3
BIOL 221L	Anatomy & Physiology II Lab	1
	English/Communication Elective (3 credits)	3
MICR 202	Introductory Microbiology	3
MICR 202L	Introductory Microbiology Lab	1
NUTR 240	Principles of Nutrition (and Diet Therapy)	3
PSYC 250	Developmental Psychology	3
	LPN Transfer Credits (14 credits)	14

Registered Nursing Program Courses

Course Code	Title	Credits
NURS 117	Mental Health Nursing/Clinical	3
NURS 201	Complex Nursing Care Concepts I	4
NURS 202	Complex Nursing Care Concepts I Clinical	3
NURS 203	Preventative Community Health	2
NURS 204	Maternal Child	4
NURS 205	Complex Nursing Care Concepts II	3
NURS 206	Complex Nursing Care Concepts II Clinical	4
NURS 207	Leadership	2
NURS 255	Role Transition	1

At least 16 credits of the final 24 credits of the curriculum must be taken through NDSCS and be from the RN required courses.

	Total Required Credits	61

Lactation Consultant

Degree Type Certificate

Contact Information:
Candi Smith
candi.smith@ndscs.edu
GAHC 213

Delivery Methods:
Online

Program Information:
The Human Lactation Pathway 2 Program at NDSCS prepares individuals to become International Board Certified Lactation Consultants (IBCLCs), healthcare professionals specializing in the clinical management of breastfeeding. To qualify for the IBCLC exam, individuals must complete one of three pathways. Pathway 2 involves completing a comprehensive, accredited academic program in human lactation.

IBCLCs are vital members of the healthcare team, responsible for managing and addressing clinical lactation concerns for mothers, babies, and families. While IBCLCs are not required to be registered nurses or healthcare professionals, some hospitals may have this requirement.

This certificate could be a standalone program or could be stack-able credential for someone already in healthcare.

Due to the adaptability of the certification and its value in a wide variety of settings, IBCLCs can thrive in a range of healthcare environments, including local, regional, national and international public health organizations.

This program equips students to sit for the International Board of Lactation Consultant Examiners (IBLCE) certification exam, which is necessary to earn the IBCLC credential.

NOTE: This program requires access a personal laptop and printer, capable of completing the assignments/testing required by the program, with a current operating system and webcam/microphone.

Admission Requirements:
The applicants must be high school graduates or equivalent.

*Program Admission Requirements are subject to revision. Please check with department or program website under Program Admission Requirements for current information.

Award:
Upon successful completion of the required courses, students will be awarded an certificate in Lactation Consultant.

Core Curriculum

*Program will accept BIOL 220/L and BIOL 221/L in place of BIOL 115/L.

**Medical Terminology not necessary if prior healthcare degree.

Course Code	Title	Credits
AH 101	Science of Success: Allied Health	1
BIOL 115	Concepts of Anatomy and Physiology	3
BIOL 115L	Concepts of Anatomy and Physiology Lab	1
NUTR 240	Principles of Nutrition (and Diet Therapy)	3
PSYC 250	Developmental Psychology	3
	PSYC Electives (3 credits)	3
	SOC Electives (3 credits)	3
	COMM Electives (3 credits)	3
NUTR 241	Human Lactation I	3
NUTR 242	Human Lactation II	3
NUTR 243	Human Lactation	6
CTE 350	Introduction to Research Methods	3
AH 171	Medical Terminology	3
	Total Required Credits	38

Practical Nursing

Degree Type Diploma

Contact Information

Jeri Christiansen, Associate Professor/PN Program Coordinator
jeri.christiansen@ndscs.edu
701-671-2640
Mayme Green Allied Health Center 213M

Delivery Methods

Face-to-Face Wahpeton
Face-to-Face Fargo / CIC
Combination

This three-semester program is available for individuals who wish to pursue a career in nursing and become a Practical Nurse (PN). The graduate will have an excellent opportunity for immediate employment and/or transfer to a Registered Nursing program.

The course sequence for the program is sequenced to include general education and nursing program courses over three semesters, concluding with the national examination (NCLEX-PN) to receive licensing as a Practical Nurse (PN).

Criminal background checks will be required. A previous conviction may affect clinical rotations, and a state board of nursing could deny an application for licensure as a Practical Nurse. If arrested, charged and/or convicted of any felony, the applicant is required to meet with the program director and/or PN program coordinator. A federal criminal history background check will also be required to test for the NCLEX-PN.

The NDSCS Practical Nursing program has been granted full approval from the North Dakota Board of Nursing (NDBON), 919 South 7th Street, Suite 504, Bismarck, ND 58504, 701-328-9777, www.ndbon.org.

The NDSCS Practical Nursing Program is accredited by the Accreditation Commission for Education in Nursing (ACEN) 3390 Peachtree Road NE, Suite 1400 Atlanta, GA 30326 (404) 975-5000. The most recent accreditation decision made by the ACEN Board of Commissioners for the Registered Nursing program is Continuing Accreditation.

This program requires students to own a personal laptop and printer, capable of completing the assignments and testing required by the program, with a current operating system that includes a webcam and microphone. Tablets and Chromebooks are not compatible with online classes and testing.

Equal opportunity policy

The NDSCS Department of Nursing adheres to the NDSCS Equal Opportunity Policy as stated in the NDSCS Catalog (www.ndscs.edu).

Admission/Selection Requirements

Applicants will be admitted to the program following a point-based selection process. The following requirements must be met by April 1st or November 15th. Applicants that apply after the deadline can complete the selection requirements and be placed on the alternate list. If openings become available the applicant may be selected, based on points, until the first day of class.

1. Complete the NDSCS Application for Admission if the applicant has not attended NDSCS or complete a re-application if the applicant has previously attended or is a past graduate of NDSCS.
2. Applicants without a United States high school transcript (four years), will be required to complete English language proficiency exam(s) and meet the benchmark score(s) prior to continuing the selection process. Contact the program to schedule the assessments if this applies.
3. Complete the Supplemental Program Application for the Diploma Practical Nursing Program.
4. Submit a high school transcript or GED with a 2.0 cumulative GPA or higher. If an applicant fails to meet the high school or GED cumulative GPA of 2.0, then the following requirements apply. Applicants have completed 12 or more credits at a college with a cumulative GPA of 2.0 or higher.
5. Anatomy & Physiology (BIOL 220*) and Anatomy & Physiology Lab (BIOL 220L*) must be completed or if in process of completing, student may continue the selection process and be admitted as a conditional acceptance. Once grades are posted and received a "C" or better student would receive full acceptance into the program.
6. Complete a program assessment examination and meet the program benchmark.
7. Be a current Certified Nursing Assistant (CNA) and submit a copy of the certificate. If an applicant is in process (As of April 1st or November 15th) they may continue the selection process and may be accepted conditionally on successful completion of CNA License.
8. Review Essential Functions for Practical Nursing students and submit the Essential Functions Verification form.
9. Holistic admission criteria required by the nursing program for selection.

Criteria for Selection

The point-based selection process will be determined by meeting all selection requirements, assessment score, completed selected college level general education courses within the program plan, overall cumulative GPA (high school/GED or college) and holistic admission criteria. It is highly recommended that the applicant checks with the PN program to ensure all admission requirements have been received before the application deadline.

**Program selection process details, contact information, and forms are in the Practical Nursing Program Information and Selection Process available at www.ndscs.edu/nursing (click on Program Selection Process) or contact the program at ndscs.nursing@ndscs.edu.*

Selection Requirements are subject to revision. Please check with the department or program website under Program Selection Requirements for current information.

For accepted students, specific immunizations, criminal background checks, CPR certification (Basic Life Support (BLS) Provider by American Heart Association (AHA) OR Basic Life Support (BLS) for Healthcare Providers from American Red Cross (ARC) ONLY), and TB screening are required by the program as dictated by the clinical site facilities. Additional requirements could include but are not limited to drug screening, finger printing, state specific background checks, and other vaccinations dependent on clinical or preceptor site-specific student prerequisites. *All requirements must remain current while in the program and will be at the students' expense.

Award

Upon successful completion of the required courses ("C" or higher), students will be awarded a Diploma (PN) degree; and be eligible for the National Council Licensure Exam for Practical Nurses (NCLEX-PN).

Required Courses

Course Code	Title	Credits
NURS 111	Fundamentals of Nursing	5
NURS 112	Fundamentals of Nursing Clinical	2
NURS 132	Adult Health Nursing	5
NURS 133	Practical Nursing Clinical	4
NURS 134	Specialty Nursing Topics (Mental Health, Maternal, and Peds)	3
NURS 210	Pharmacology for Nursing	3
NURS 250	Leadership in Practical Nursing	1
NURS 251	NCLEX-PN Review	1

Related/General Education Courses

Course Code	Title	Credits
BIOL 220	Anatomy & Physiology I	3
BIOL 220L	Anatomy & Physiology I Lab	1
BIOL 221	Anatomy & Physiology II	3
BIOL 221L	Anatomy & Physiology II Lab	1
	ENGL/COMM Elective (choose one) (3 credits)	3
AH 101	Science of Success: Allied Health	1
NUTR 240	Principles of Nutrition (and Diet Therapy)	3
PSYC 250	Developmental Psychology	3

BIOL 220, BIOL 220L, BIOL 221 and BIOL 221L have an expiration date of completion when transferring into the program. Check with the program.

A placement test may be required if you have not met the ENGL (110 or higher) requirement.

Practical Nursing (NURS) courses must be taken in sequence. Sequencing is available on the program website at www.ndscs.edu/nursing.

Equal opportunity policy

The NDSCS Department of Nursing adheres to the NDSCS college equal opportunity policy as stated in the NDSCS Catalog

	Total Required Credits	42

Occupational Therapy Assistant

Occupational Therapy Assistant

Degree Type Associate in Applied Science

Contact Information

Missi Twidwell, Associate Professor/Program Director
NDSCS.OTAdepartment@ndscs.edu
701-671-2685
Mayme Green Allied Health Center 213G

Delivery Methods

Face-to-Face: Wahpeton
Online: *Some Classes

Occupational therapy assistants are a valued team member of the healthcare setting. COTA's assess, utilize and adapt everyday occupations to improve daily living skills, promote health and wellness, and enhance independence in the daily occupations of their clients. OT practitioners can work with clients ranging from newborn to geriatric in a variety of settings including school systems, hospitals, mental health clinics, nursing homes, and rehabilitation facilities. The COTA provides intervention strategies under the supervision of a registered occupational therapist.

The program at NDSCS offers an exceptional education in a supportive learning environment. The curriculum consists of three semesters of academic preparation and one semester of full-time fieldwork education. Semester progression is based on meeting established benchmarks. Criminal background checks will be required. A felony charge and/or conviction may affect fieldwork placements, and therefore, program completion. If this issue applies, the student must meet with the department chair and fieldwork coordinator. All expenses incurred in preparation for, and during fieldwork are the responsibility of the student.

The OTA program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 7501 Wisconsin Avenue, Suite 510E, Bethesda, MD 20814. ACOTE's telephone number, C/O AOTA, is (301) 652-6611 and the web address is www.acoteonline.org. Graduates will be eligible to sit for the National Certification Examination for the Occupational Therapy Assistant, administered by NBCOT, One Bank Street, Suite 300, Gaithersburg, MD 20878, phone number 301-990-7979, Federal ID: 52-1620299, www.nbcot.org. When application is made, the candidate will be required to disclose any previous felony conviction, which may affect the graduate's eligibility to sit for the exam. Upon successful completion of the exam, the candidate will be a Certified Occupational Therapy Assistant (COTA). Most states require licensure, which is based on the results of the examination.

The OTA program adheres to the NDSCS equal opportunity policy as stated in the NDSCS Catalog.

This program requires access to a personal laptop and printer, capable of completing the assignments/testing required by the program, with a current operating system and webcam/microphone. Tablets and Chromebooks are not compatible with online classes/testing.

Admission/Selection Requirements:

Applicants will be admitted to the program according to the following process:

Fall Semester (first year): Students will be accepted into the program until capacity is reached, so early application/registration is strongly encouraged. Students admitted will take all foundational OTA prefix courses offered fall semester. The following criteria must be met for fall semester selection:

1. Complete the NDSCS Admission process and submit an official high school transcript and all official college transcript(s) to Enrollment Services.
2. Applicants without a United States high school transcript (four years), will be required to complete English language proficiency exam(s) and meet the benchmark score(s) prior to continuing the selection process. Contact the program to schedule the assessments if this applies.
3. Submit official ACT and/or Placement testing results to Enrollment Services. Results must meet criteria to enroll in English 110 fall semester OR submit an official college transcript with ENGL 110 completed with a "C" or higher.
4. Applicants (with a college transcript) must have a GPA of 2.25 or higher.
5. Review Essential Functions for Occupational Therapy Assistant Students and submit the Essential Functions Verification Form.

Spring Semester (first year): Students will be granted continued acceptance in the program using a point-based selection process. The following criteria must be submitted to the OTA program by December 1. Students will be notified of their status in the program prior to the end of fall semester.

1. Basic Entrance Exam results. Benchmark of 45. Testing date/time to be announced.
2. Documentation of 20 hours of job shadow in Occupational Therapy or non-paid volunteer/community service.
3. Professional Development Assessment scores.
4. Departmental interview scores.
5. Additional admission points will be awarded for completion (with a "C" or higher) of the following college level courses, as they appear on an official college transcript: BIOL 220/220L Anatomy and Physiology I, BIOL 221/221L Anatomy and Physiology II, PSYC 250 Developmental Psychology and PSYC 270 Abnormal Psychology.
6. Specific immunizations, criminal background checks, CPR certification (Basic Life Support (BLS) Provider by American Heart Association (AHA) OR Basic Life Support (BLS) for Healthcare Providers from American Red Cross (ARC) ONLY), health insurance, and First Aid Certification are required by the program. *Additional requirements could include but not limited to; drug screening/ finger printing, state background checks, and COVID-19 vaccinations dependent on fieldwork site-specific student prerequisites. *All requirements must remain current while in the program and will be at the students' expense.*

Selection process details, contact information and forms are in the Occupational Therapy Assistant Program Information and Selection Process Booklet available at www.NDSCS.edu/OTA (click on Program Selection Process) or contact the program at lisa.sande@NDSCS.edu.

Program Selection Requirements are subject to revision. Please check the with the department or the programs website under Program Admission Requirements for current information.

Award

Upon successful completion of the required courses ("C" or higher), students will be awarded an Associate in Applied Science degree in Occupational Therapy Assistant.

Required Courses

Course Code	Title	Credits
OTA 101	Introduction to Occupational Therapy	3
OTA 102	Disability Awareness	1
OTA 105	Medical Terminology	2
OTA 110	Introduction to Muscle Function	2
OTA 111	Therapeutic Media	1
OTA 112	Documentation	1
OTA 113	Physical Disabilities I: Theory-Practice	3
OTA 114	Pediatrics I - Theory and Practice	2
OTA 115	Behavioral Health: Theory/Practice-Children and Adolescents	2
OTA 151	Fieldwork Level I-Experience I	1
OTA 213	Physical Disabilities II: Theory and Practice	2
OTA 214	Pediatrics II: Theory and Practice	3
OTA 215	Behavioral Health: Theory/Practice-Adults	3
OTA 216	Professional Issues	2
OTA 217	Simulation Lab	1
OTA 218	Aging	2
OTA 219	Community Models of Occupational Therapy Practice	2
OTA 252	Fieldwork Level I - Experience II	1
OTA 253	Orientation to Fieldwork Level II	1
OTA 254	Fieldwork Level II: Experience I	6
OTA 255	Fieldwork Level II: Experience II	6
OTA 256	Seminar	1

Related/General Education Courses

Course Code	Title	Credits
BIOL 220	Anatomy & Physiology I	3
BIOL 220L	Anatomy & Physiology I Lab	1
BIOL 221	Anatomy & Physiology II	3
BIOL 221L	Anatomy & Physiology II Lab	1
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
PSYC 250	Developmental Psychology	3
PSYC 270	Psychological Disorders and Treatment	3
	Wellness Elective(s) (2 credits)	2
AH 101	Science of Success: Allied Health	1

*OTA 105, OTA 115, OTA 215: These courses are offered in an online platform and will include some evening and weekends face-to-face classroom session. Exams for online courses follow the NDSCS Distance Education Proctoring Guidelines.

**Wellness Elective: Recommended: HPER 217 Personal and Community Health or NUTR 240 Principles of Nutrition (and Diet Therapy). OTA courses must be taken in sequence. Sequencing of courses is available on the program's website at www.NDSCS.edu/OTA.

	Total Required Credits	71

Pharmacy Technician

Pharmacy Technician

Degree Type Associate in Applied Science

Contact Information

Melissa Krava, Associate Professor/Program Director
Melissa.Krava@ndscs.edu
701-671-2114
Mayme Green Allied Health Center 213H

Delivery Methods

Face-to-Face: Wahpeton
Hybrid: Live-video and Face-to-Face: Wahpeton
Fargo / CIC

The Pharmacy Technician program is designed to prepare students for careers performing and managing the technical distributive functions in pharmacies and pharmacy-related industries. By doing so, pharmacy technicians allow the pharmacist to concentrate on clinical services such as patient consultation, physician intervention, drug therapy analysis, and other clinical topics. The pharmacy technician performs functions of pharmacy practice that do not require a pharmacist's professional education or judgment.

NDSCS offers two program options — a one-year (32 academic credits) Certificate and a two-year (61 credits) Associate in Applied Science degree. Both of these include six weeks of internship in community and institutional practice settings, which occur after all classroom requirements have been completed.

This advanced level program is jointly accredited by the American Society of Health System Pharmacists (ASHP), 4500 East-West Highway, Suite 900, Bethesda, MD 20814 Phone 866-279-0681, and Accreditation Council for Pharmacy Education (ACPE), 135 S. LaSalle Street, Suite 4100, Chicago, IL 60603, Phone 312-664-3575.

Students receive classroom, laboratory and practical experience covering community and institutional practice, sterile product preparation, manufacturing, inventory management, record-keeping, medical terminology, and drug products. Students also take courses in communications, writing, psychology and speech that will help provide them with the skills to advance in their careers. Upon completion of our program, the graduate will be eligible to become registered with the North Dakota Board of Pharmacy (which is required for employment) and are eligible for national certification.

Most pharmacies employ several technicians, and opportunities within the field are steadily increasing. Pharmacy technicians are found in community, hospital, and home health care pharmacies, as well as research institutions, manufacturers, and other industrial settings. Our graduates have enjoyed 100 percent job placement since our program's inception in 1994.

Completed application for the federal criminal background checks will be required prior to internships. A previous felony conviction, alcohol or drug related misdemeanor may affect internship placements. The applicant must visit with the program director regarding this issue if it applies.

This program requires access to a personal laptop and printer, capable of completing the assignments/testing required by the program, with a current operating system and webcam/microphone. Tablets and Chromebooks are not compatible with online classes/ testing.

Admission Requirements*

1. High school graduate or G.E.D.
2. Be 18 years of age before completion of the program.
3. Complete the NDSCS admission process and submit an official high school transcript and all official college transcript(s) to Enrollment Services.
4. Submit official ACT and/or placement testing results to Enrollment Services. Results must meet criteria to enroll in English 110 and ASC 93 Math or higher.
5. Applicants without a United States high school transcript (four years), will be required to complete English language proficiency exam(s) and meet the benchmark score(s) prior to continuing the selection process. Contact the program to schedule the assessments if this applies.

Students will be allowed to take PRMT 101 and PRMT 111 prior to admittance.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

For experiential hours, specific immunizations, criminal background checks, and health insurance, are required by the program. *Additional requirements could include but not limited to; drug screening/ finger printing, state background checks, and COVID-19 vaccinations dependent on experiential site-specific student prerequisites. *All requirements must remain current while in the program and will be at the students' expense.*

Selection process details, contact information and forms are located in the Pharmacy Technician Program Information and Selection Process Booklet available at www.NDSCS.edu/Pharmacy-Tech (click on Program Selection Process) or contact the program at AlliedHealthCareers@ndscs.edu.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Pharmacy Technician.

Required Courses

Course Code	Title	Credits
PHRM 123	Pharmacology for Pharmacy Technicians I	2
PHRM 124	Pharmacology for Pharmacy Technicians II	2
PRMT 101	Orientation to Pharmacy Practice	1
PRMT 102	Pharmaceutical Calculations	2
PRMT 111	Pharmacy Law and Ethics	1
PRMT 112	Pharmacy Records and Inventory Management	1
PRMT 216	IV and Sterile Product Preparation	1
PRMT 216L	IV and Sterile Product Preparation Lab	1
PRMT 217	Pharmacy Practice	2
PRMT 217L	Pharmacy Practice Lab	1
PRMT 221	Chemical/Physical Pharmacy	1
PRMT 221L	Chemical/Physical Pharmacy Lab	1
PRMT 231	Pharmacy Internship.-Community Based	3
PRMT 241	Pharmacy Internship-Hospital Based	3

Related/General Education Courses

Course Code	Title	Credits
BADM 234	Customer Service	1
BIOL 115	Concepts of Anatomy and Physiology	3
BIOL 213	General Pathology	3
ENGL 110	College Composition I	3
	ENGL/COMM Elective (choose one) (3 credits)	3
HPER 210	First Aid & CPR (Professional/ Community)	2
PHIL 215	Contemporary Moral Issues	3
	General Education Electives (14 credits)	14
PSYC 111	Introduction to Psychology	3
AH 101	Science of Success: Allied Health	1
AH 171	Medical Terminology	3

Courses with the prefix PHRM, PRMT, BIOL115, and BOTE 171 must be completed with a “C” or higher.

*PRMT 102 has a Math entrance requirement of a minimum ACT score of 19 or completion of ASC 092.

Certificate is also available. Please see separate fact sheet for additional information.

NOTE: It is recommended for applicants to have taken algebra and chemistry while in high school.

Total Required Credits	61

Pharmacy Technician

Degree Type Certificate

Contact Information

Melissa Krava, Associate Professor/Program Director
Melissa.Krava@ndscs.edu
701-671-2114
Mayme Green Allied Health Center 213H

Delivery Methods

Face-to-Face: Wahpeton
Hybrid: Live-video and Face-to-Face: Wahpeton
Fargo / CIC

The Pharmacy Technician program is designed to prepare students for careers performing and managing the technical distributive functions in pharmacies and pharmacy-related industries. By doing so, pharmacy technicians allow the pharmacist to concentrate on clinical services such as patient consultation, physician intervention, drug therapy analysis, and other clinical topics. The pharmacy technician performs functions of pharmacy practice that do not require a pharmacist's professional education or judgment.

NDSCS offers two program options — a one-year (32 academic credits) Certificate and a two-year (61 credits) Associate in Applied Science degree. Both include six weeks of internship in community and institutional practice settings, which occur after all classroom requirements have been completed.

This advanced level program is jointly accredited by the American Society of Health System Pharmacists (ASHP), 4500 East-West Highway, Suite 900, Bethesda, MD 20814, Phone 866-279-0681, and Accreditation Council for Pharmacy Education (ACPE), 135 S. LaSalle Street, Suite 4100, Chicago, IL 60603, Phone 312-664-3575.

Students receive classroom, laboratory and practical experience covering community and institutional practice, sterile product preparation, manufacturing, inventory management, record-keeping, medical terminology, and drug products. Students also take courses in communications, writing and psychology that will help provide them with the skills to advance in their careers. Upon completion of our program, the graduate will be eligible to become registered with the North Dakota Board of Pharmacy (which is required for employment) and are eligible for national certification.

Most pharmacies employ several technicians, and opportunities within the field are steadily increasing. Pharmacy technicians are found in community, hospital, and home health care pharmacies, as well as research institutions, manufacturers, and other industrial settings. Our graduates have enjoyed 100 percent job placement since our program's inception in 1994.

Completed application for a federal criminal background checks will be required prior to internships. A previous felony conviction, alcohol or drug related misdemeanor may affect internship placements. The applicant must visit with the program director regarding this issue if it applies.

This program requires access to a personal laptop and printer, capable of completing the assignments/testing required by the program, with a current operating system and webcam/microphone. Tablets and Chromebooks are not compatible with online classes/testing.

Admission Requirements*

1. High school graduate or G.E.D.
2. Be 18 years of age before completion of the program.
3. Complete the NDSCS admission process and submit an official high school transcript and all official college transcript(s) to Enrollment Services
4. Submit official ACT and/or placement testing results to Enrollment Services. Results must meet criteria to enroll in English 110 and ASC 93 Math or higher.
5. Applicants without a United States high school transcript (four years), will be required to complete English language proficiency exam(s) and meet the benchmark score(s) prior to continuing the selection process. Contact the program to schedule the assessments if this applies.

Students will be allowed to take PRMT 101 and PRMT 111 prior to admittance.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

For experiential hours, specific immunizations, criminal background checks, and health insurance, are required by the program. Additional requirements could include but not limited to; drug screening/ finger printing, state background checks, and COVID-19 vaccinations dependent on experiential site-specific student prerequisites. *All requirements must remain current while in the program and will be at the students' expense.

Selection process details, contact information and forms are located in the Pharmacy Technician Program Information and Selection Process Booklet available at www.NDSCS.edu/Pharmacy-Tech (click on Program Selection Process) or contact the program at AlliedHealthCareers@ndscs.edu.

Award

Upon successful completion of the required courses, students will be awarded a certificate in Pharmacy Technician.

Required Courses

Course Code	Title	Credits
PHRM 123	Pharmacology for Pharmacy Technicians I	2
PHRM 124	Pharmacology for Pharmacy Technicians II	2
PRMT 101	Orientation to Pharmacy Practice	1
PRMT 102	Pharmaceutical Calculations	2
PRMT 111	Pharmacy Law and Ethics	1
PRMT 112	Pharmacy Records and Inventory Management	1
PRMT 216	IV and Sterile Product Preparation	1
PRMT 216L	IV and Sterile Product Preparation Lab	1
PRMT 217	Pharmacy Practice	2
PRMT 217L	Pharmacy Practice Lab	1
PRMT 221	Chemical/Physical Pharmacy	1
PRMT 221L	Chemical/Physical Pharmacy Lab	1
PRMT 231	Pharmacy Internship.-Community Based	3
PRMT 241	Pharmacy Internship-Hospital Based	3

Related/General Education Courses

Course Code	Title	Credits
BIOL 115	Concepts of Anatomy and Physiology	3
HPER 210	First Aid & CPR (Professional/Community)	2
AH 101	Science of Success: Allied Health	1
AH 171	Medical Terminology	3

Courses with the prefix PHRM, PRMT, BIOL115, and BOTE 171 must be completed with a "C" or higher.

*PRMT 102 has a Math entrance requirement of a minimum ACT score of 19 or completion of ASC 092.

Associate in Applied Science degree is also available. Please see separate fact sheet for additional information.

NOTE: It is recommended for applicants to have taken algebra and chemistry while in high school.

Total Required Credits	31

Aviation Maintenance Technology

Aviation Maintenance Technology

Degree Type Associate in Applied Science

Contact Information:
Nathan Cowan
Instructor/Program Coordinator
nathan.cowan@ndscs.edu
701-231-6933
Fargo Campus

Terry Marohl
Terry.Marohl@ndscs.edu
701-671-2308
Bisek Hall 111

Delivery Methods:
Face-to-Face: Fargo

Program Information:

The Aviation Maintenance Technology program is designed to prepare students for the many employment opportunities in the aviation industry.

Students are given extensive training and practical experiences in servicing all types of mechanical, electrical and structural systems of airplanes.

Students enrolled in Aviation Maintenance Technology study a variety of subjects, including welding, hydraulics, aerodynamics, aircraft drawings, physics, piston and turbine engines, aircraft systems, aircraft structure, electrical and many more. Training facilities are in excellent condition and labs are very well-equipped.

Students graduating from this Federal Aviation Administration (FAA) certified program are eligible to test for the airframe and powerplant certification upon completion. Graduates career opportunities in the aviation sector include employment at airlines, fixed base operators, manufacturers, repair stations or general aviation programs.

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded an Associate of Applied Science (A.A.S.) degree in Aviation Maintenance Technology.

Core Curriculum

Course Code	Title	Credits
FYE 101	Science of Success	1
GEN 101	Human Factors	1
GEN 102	Mathematics	1
GEN 103	Physics for Aviation	1
GEN 104	Electronic Fundamentals	2
GEN 105	Aircraft Drawings	1
GEN 106	Materials and Processes	1
GEN 107	Regulations & Mechanic Privileges	1
GEN 108	Inspection Tools and Techniques	1
GEN 109	Cleaning and Corrosion Control	2
GEN 110	Aircraft Weight and Balance	1
GEN 111	Fluid Lines & Fittings	1
GEN 112	Ground Operations and Services	1
AIR 101	Flight Controls	2
AIR 102	Metallic Structures	3
AIR 103	Non-Metallic Structures	2
AIR 104	Hydraulic and Pneumatic Systems	2
AIR 105	Aircraft Electrical Systems	2
AIR 106	Landing Gear	2
AIR 107	Aircraft Fuel Systems	2
AIR 108	Environmental Systems	2
AIR 109	Ice, Rain, Water & Waste Systems	2
AIR 110	Airframe Fire Protection	2
AIR 111	Aircraft Instrument Systems	2
AIR 112	Communication and Navigation	2
AIR 113	Airframe Inspection	2
POW 101	Engine Electrical Systems	2
POW 102	Engine Instrument Systems	2
POW 103	Lubrication Systems	2
POW 104	Reciprocating Engines	3
POW 105	Turbine Engines	3
POW 106	Ignition and Starting Systems	2
POW 107	Fuel and Fuel Metering Systems	2
POW 108	Engine Exhaust and Reversers	2
POW 109	Propellers	1
POW 110	Engine Fire Protection Systems	1
POW 111	Engine Inspection	2

General Education Curriculum

To earn an Associate in Applied Science (A.A.S) in Aviation Maintenance Technology, students must also successfully complete in addition to the Aviation Maintenance Technology core courses, **15 credits of general education courses**. Below are the general education courses required and recommended for the Aviation Maintenance Technology degree.

AAS General Education Program

English / Communication (3 credits)

Recommended: ENGL 105 or COMM 110

Mathematics and/or Science (6 credits)

Recommended: MATH 120 and MATH 123 and MATH 125

Social and Behavioral Sciences, Humanities, History and/or Computer Technology (4 credits)

Required: CIS 101

Wellness (2 credits)

Recommended: HPER 100 or HPER 101 or HPER 210

Course Code	Title	Credits
	English / Communication (Aviation) Recommended Courses: ENGL 105 or COMM 110	3
	Mathematics and/or Science (Aviation) Recommended: Math 120 and Math 123 and Math 125	6
	Social and Behavioral Sciences, Humanities, History and/or Computer Technology (4 credits) (Aviation)	4
	Wellness (2 credits) (Aviation): Recommended: HPER 100 or HPER 101 or HPER 210	2
	Total Required Credits	79

Aviation Maintenance Technology

Degree Type Certificate

Contact Information:
Nathan Cowan
Instructor/Program Coordinator
nathan.cowan@ndscs.edu
701-231-6933
Fargo Campus

Terry Marohl
Terry.Marohl@ndscs.edu
701-671-2308
Bisek Hall 111

Delivery Methods:
Face-to-Face: Fargo

Program Information:

The Aviation Maintenance Technology program is designed to prepare students for the many employment opportunities in the aviation industry.

Students are given extensive training and practical experiences in servicing all types of mechanical, electrical and structural systems of airplanes.

Students enrolled in Aviation Maintenance Technology study a variety of subjects, including welding, hydraulics, aerodynamics, aircraft drawings, physics, piston and turbine engines, aircraft systems, aircraft structure, electrical and many more. Training facilities are in excellent condition and labs are very well-equipped.

Students graduating from this Federal Aviation Administration (FAA) certified program are eligible to test for the airframe and powerplant certification upon completion. Graduates career opportunities in the aviation sector include employment at airlines, fixed base operators, manufacturers, repair stations or general aviation programs.

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded a Certificate degree in Aviation Maintenance Technology.

Core Curriculum

Course Code	Title	Credits
FYE 101	Science of Success	1
GEN 101	Human Factors	1
GEN 102	Mathematics	1
GEN 103	Physics for Aviation	1
GEN 104	Electronic Fundamentals	2
GEN 105	Aircraft Drawings	1
GEN 106	Materials and Processes	1
GEN 107	Regulations & Mechanic Privileges	1
GEN 108	Inspection Tools and Techniques	1
GEN 109	Cleaning and Corrosion Control	2
GEN 110	Aircraft Weight and Balance	1
GEN 111	Fluid Lines & Fittings	1
GEN 112	Ground Operations and Services	1
AIR 101	Flight Controls	2
AIR 102	Metallic Structures	3
AIR 103	Non-Metallic Structures	2
AIR 104	Hydraulic and Pneumatic Systems	2
AIR 105	Aircraft Electrical Systems	2
AIR 106	Landing Gear	2
AIR 107	Aircraft Fuel Systems	2
AIR 108	Environmental Systems	2
AIR 109	Ice, Rain, Water & Waste Systems	2
AIR 110	Airframe Fire Protection	2
AIR 111	Aircraft Instrument Systems	2
AIR 112	Communication and Navigation	2
AIR 113	Airframe Inspection	2
POW 101	Engine Electrical Systems	2
POW 102	Engine Instrument Systems	2
POW 103	Lubrication Systems	2
POW 104	Reciprocating Engines	3
POW 105	Turbine Engines	3
POW 106	Ignition and Starting Systems	2
POW 107	Fuel and Fuel Metering Systems	2
POW 108	Engine Exhaust and Reversers	2
POW 109	Propellers	1
POW 110	Engine Fire Protection Systems	1
POW 111	Engine Inspection	2
	General Education Electives (5 credits) (Aviation)	5
	Total Required Credits	69

Agriculture

Agriculture Business

Degree Type Associate in Applied Science

Contact Information

Dr. Jerry Migler, Interim Program Coordinator
jerome.migler@ndscs.edu
Tech Center

Delivery Methods

Face-to-Face: Wahpeton

Students who enroll in the Ag Business option in the Agriculture Department may pursue careers in agriculture sales, management, USDA, banking, and other careers. Students will find many challenging courses. Course work will include basic accounting principles, agriculture economics, management, sales, and fundamental agriculture courses.

Students will have the opportunity to apply concepts learned through hands-on activities at the NDSCS Kosel Family Agriculture Land Lab and other classroom and laboratory activities. The Land Lab is a 90-acre demonstration farm operated by the Agriculture Department, students, and industry partners.

Spring semester concludes mid-April each year to allow students to begin their internship experience. Students enrolled in this option will complete a 400-hour paid internship at a career related training facility during the summer between their first and second year of instruction.

Our philosophy statement is: “The Agriculture Department provides education for the present and future by incorporating leadership and career development, best management practices in crop and livestock production, technology, natural resources, problem solving, internships, and communication through a diverse program.”

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are mathematics, physical science, biology, agricultural education, computer science, and English. Courses that develop communication skills are important.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Agriculture Business.

Required Courses

Course Code	Title	Credits
ACCT 102	Fundamentals of Accounting	3
ACCT 118	Applied Accounting	3
AGEC 142	Agribusiness Internship Orientation I	1
AGEC 143	Agribusiness Internship Orientation II	1
AGEC 242	Introduction to Agricultural Management	3
AGEC 244	Introduction to Agricultural Marketing	3
AGEC 246	Introduction to Agricultural Finance	3
AGEC 248	Introduction to Risk Management and Insurance	3
AGEC 250	Agribusiness Sales	3
AGRI 197	Internship (Agriculture Department)	3
BOTE 108	Business Mathematics	3
PAG 115	Introduction to Precision Agriculture	3
PLSC 225	Principles of Crop Production	3
	Agriculture and Business Electives (9 credits)	9

Related/General Education Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
CSCI 101	Software Apps and Digital Literacy	3
ECON 201	Principles of Microeconomics	3
ENGL 110	College Composition I	3
HPER 210	First Aid & CPR (Professional/ Community)	2
PLSC 110	World Food Crops	3
SOIL 210	Introduction to Soil Science	3
	Total Required Credits	65

Agriculture Communications and Marketing

Degree Type Associate in Applied Science

Contact Information:
Dr. Jerry Migler, Interim Program Coordinator
jerome.migler@ndscs.edu
Tech Center

Delivery Methods:
Face-to-Face: Wahpeton
Online: Some Courses
Combination

Program Information:
The agriculture communications and marketing curriculum is designed for students who would like to pursue a career in agriculture sales and marketing.

Students will take a mixture of agriculture and general education courses while at NDSCS that will assist them in meeting the requirements of their anticipated degree. Smaller class size enables a successful beginning towards completion of a bachelor's degree.

Our philosophy statement is: "The Agriculture Department provides education for the present and future by incorporating leadership and career development, best management practices in crop and livestock production, mechanics, technology, natural resources, problem solving, internships, and communication through a diverse program."

Admission Requirements:
The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are chemistry, algebra. advanced mathematics, biology, agricultural education, English, and computer science.

Applicants may be required to complete a basic skills evaluation during the admissions process.

Award:
Upon successful completion of the required courses, students will be awarded an Associate of Applied Science degree in Agriculture Communications and Marketing.

Agriculture Core Courses

Course Code	Title	Credits
AGEC 142	Agribusiness Internship Orientation I	1
AGEC 143	Agribusiness Internship Orientation II	1
AGRI 197	Internship (Agriculture Department)	3
AGEC 242	Introduction to Agricultural Management	3
AGEC 244	Introduction to Agricultural Marketing	3
AGEC 250	Agribusiness Sales	3
AGEC 232	Agricultural Communication and Marketing	3
	Agriculture, Communications and Business Electives (15 credits)	15

Communication and Marketing Courses

Course Code	Title	Credits
BADM 201	Principles of Marketing	3
BADM 217	Promotion and Advertising	3
CIS 183	Social Media Marketing	3

General Education Core

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
CSCI 101	Software Apps and Digital Literacy	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
AGRI 101	Science of Success: Ag	1
HPER 100	Concepts of Fitness and Wellness	2
PLSC 110	World Food Crops	3
PSYC 100	Human Relations in Organizations	2
SOIL 210	Introduction to Soil Science	3
	Total Required Credits	64

Agriculture Education

Degree Type Associate in Applied Science

Contact Information
Dr. Jerry Migler, Interim Program Coordinator
jerome.migler@ndscs.edu
Tech Center

Delivery Methods
Face-to-Face: Wahpeton
Online: Some Classes
Combination

The Agriculture Education curriculum plan is designed for students who plan to continue their studies toward a bachelor's degree in agriculture from one of the area universities. Since degree requirements of various transfer institutions differ, students should consult an advisor and the catalog of the college to which they plan to transfer so they can determine specific course requirements and transfer policies. Their NDSCS agriculture advisor will assist them with the transfer process.

Students will take a mixture of agriculture and general education courses while at NDSCS that will assist them in meeting the requirements of their anticipated degree. Smaller class size enables a successful beginning towards completion of a bachelor's degree.

Our philosophy statement is: "The Agriculture Department provides education for the present and future by incorporating leadership and career development, best management practices in crop and livestock production, mechanics, technology, natural resources, problem solving, internships, and communication through a diverse program."

Admission Requirements
The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are chemistry, algebra, advanced mathematics, biology, agricultural education, English, and computer science.

Applicants may be required to complete a basic skills evaluation during the admissions process.

Award
Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree.

Animal Science Core (6 credits)

Course Code	Title	Credits
ANSC 114	Introduction to Animal Sciences	3
ANSC 123	Feeds and Feeding	3

Plant Science Core (3 credits)

Course Code	Title	Credits
PLSC 225	Principles of Crop Production	3

Ag Systems Management or Related Courses (9 credits)

PAG 115 required

Course Code	Title	Credits
PAG 115	Introduction to Precision Agriculture	3
	Ag Mechanics Electives	6

AGEC Core (9 credits)

Course Code	Title	Credits
AGEC 242	Introduction to Agricultural Management	3
AGEC 244	Introduction to Agricultural Marketing	3
AGEC 250	Agribusiness Sales	3

General Education Core (31 credits)

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
FYE 101	Science of Success	1
ECON 201	Principles of Microeconomics	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
HPER 100	Concepts of Fitness and Wellness	2
MATH 210	Elementary Statistics	3
PLSC 110	World Food Crops	3
SOIL 210	Introduction to Soil Science	3
CHEM 115	Introductory Chemistry	3
CHEM 115L	Introductory Chemistry Lab	1
CSCI 101	Software Apps and Digital Literacy	3

Agriculture (Transfer) and General Education Electives (9 credits)

See advisor on appropriate courses.

	Total Required Credits	67

Animal Science

Degree Type Associate in Applied Science

Contact Information

Dr. Jerry Migler, Interim Program Coordinator
jerome.migler@ndscs.edu
Tech Center

Delivery Methods

Face-to-Face: Wahpeton

Students who enroll in the Animal Science option in the Agriculture Department can choose between careers in diversified crop and livestock production, sales of livestock feed and supplies, and employment in a livestock operation. Students will find many challenging courses. These may include livestock production, feeds and feeding, livestock health management, range management, and advanced production and nutrition courses.

Students will have the opportunity to apply concepts learned through hands-on activities at the NDSCS Kosel Family Agriculture Land Lab and other classroom and laboratory activities. The Land Lab is a 90-acre demonstration farm operated by the Agriculture Department, students, and industry partners.

Spring semester concludes mid-April each year to allow students to begin their internship experience. Students enrolled in this option will complete a 400-hour paid internship at a career related training facility during the summer between their first and second year of instruction.

Our philosophy statement is: “The Agriculture Department provides education for the present and future by incorporating leadership and career development, best management practices in crop and livestock production, mechanics, technology, natural resources, problem solving, internships, and communication through a diverse program.”

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Craig Zimprich, program director, at 701-671-2249.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are mathematics, physical science, biology, agricultural education, computer science, and English. Courses that develop communication skills are important.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Animal Science.

Required Courses

Course Code	Title	Credits
AGEC 142	Agribusiness Internship Orientation I	1
AGEC 143	Agribusiness Internship Orientation II	1
AGEC 242	Introduction to Agricultural Management	3
AGEC 244	Introduction to Agricultural Marketing	3
AGEC 250	Agribusiness Sales	3
ANSC 114	Introduction to Animal Sciences	3
ANSC 116	Animal Reproduction	3
ANSC 123	Feeds and Feeding	3
ANSC 220	Livestock Production	3
ANSC 224	Applied Livestock Feeding	3
ANSC 236	Introduction to Range Management	2
ANSC 252	Large Ruminant Production	3
AGRI 197	Internship (Agriculture Department)	3

Related/General Education Courses

Course Code	Title	Credits
ENGL 110	College Composition I	3
COMM 110	Fundamentals of Public Speaking	3
CSCI 101	Software Apps and Digital Literacy	3
HPER 210	First Aid & CPR (Professional/ Community)	2
PLSC 110	World Food Crops	3
SOIL 210	Introduction to Soil Science	3
PSYC 100	Human Relations in Organizations	2
	Agriculture Electives (11 credits)	11
	Total Required Credits	65

Farm and Ranch Management

Degree Type Associate in Applied Science

Contact Information

Dr. Jerry Migler, Interim Program Coordinator
jerome.migler@ndscs.edu
Tech Center

Delivery Methods

Face-to-Face: Wahpeton

The Farm and Ranch Management curriculum is designed to provide the student returning to the family farm or entering a career in production agriculture with the management skills necessary to be successful.

Students will have the opportunity to apply concepts learned through hands-on activities at the NDSCS Kosel Family Agriculture Land Lab and other classroom and laboratory activities. The Land Lab is a 90-acre demonstration farm operated by the Agriculture Department, students, and industry partners.

Classroom curriculum focuses on farm management topics such as financial management, record keeping, commodity marketing, precision agriculture, crop production, plant science, and soil fertility. Courses incorporate current technologies enabling students to acquire the skills necessary to manage and operate today's farms.

Spring semester classes conclude mid-April each year allowing students to return to the home farm to assist with spring planting. During the summer, students will complete a farm record keeping internship for a hypothetical farm similar to their home farm. They will be required to collect data from their home farm such as crop mix, seed, fertilizer, chemical costs, real estate taxes, crop yields, prices received for commodities, and land costs. When they return in the fall, this data will then be plugged into the hypothetical farm and analyzed using computerized software. Each student should then have a good understanding of what a typical year might look like on their home farm.

For students who decide to continue their education, the majority of program credits earned at NDSCS will transfer into a bachelor's degree program.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Craig Zimprich, program director, at 701-671-2249.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are mathematics, physical science, biology, agricultural education, computer sciences, and English. Courses that develop communication skills are important.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Farm and Ranch Management.

Core Curriculum

Students are required to complete the core curriculum, general education core, and complete either the Farm Management path or Ranch Management path.

Course Code	Title	Credits
AGEC 145	Farm Records	3
AGEC 197	Farm and Ranch Management Internship	4
AGEC 242	Introduction to Agricultural Management	3
AGEC 244	Introduction to Agricultural Marketing	3
AGEC 246	Introduction to Agricultural Finance	3
AGEC 247	Agricultural Land Resource Acquisition	2
AGEC 248	Introduction to Risk Management and Insurance	3
AGEC 297	Farm and Ranch Management Internship	2
PLSC 110	World Food Crops	3
SOIL 210	Introduction to Soil Science	3

General Education Core

Students are required to complete the core curriculum, general education core, and complete either the Farm Management path or Ranch Management path.

Course Code	Title	Credits
ENGL 110	College Composition I	3
HPER 210	First Aid & CPR (Professional/ Community)	2
COMM 110	Fundamentals of Public Speaking	3
PSYC 100	Human Relations in Organizations	2
CSCI 101	Software Apps and Digital Literacy	3

Suggested Curriculum for Farm Management Path (20 credits)

Students are required to complete the core curriculum, general education core, and complete either the Farm Management path or Ranch Management path.

Course Code	Title	Credits
MFGT 110	Industrial Shop Practices	2
PAG 115	Introduction to Precision Agriculture	3
PAG 276	Data Collection and Management	3
PLSC 115	Crop Technologies	2
PLSC 224	Introduction to Crop Protection	3
PLSC 225	Principles of Crop Production	3
SOIL 222	Soil Fertility and Fertilizers	3
	Agriculture Electives (10 credits) from the following prefixes: AGRI, AGEC, ANSC, PAG, and PLSC	10

Suggested Curriculum for Ranch Management Path (20 credits)

Students are required to complete the core curriculum, general education core, and complete either the Farm Management path or Ranch Management path.

Course Code	Title	Credits
ANSC 114	Introduction to Animal Sciences	3
ANSC 116	Animal Reproduction	3
ANSC 123	Feeds and Feeding	3
ANSC 220	Livestock Production	3
ANSC 224	Applied Livestock Feeding	3
ANSC 236	Introduction to Range Management	2
ANSC 252	Large Ruminant Production	3
	Agriculture Electives (9 credits) from the following prefixes: AGRI, AGEC, ANSC, PAG, and PLSC	9
	Total Required Credits	72

Precision Agriculture Technician

Degree Type Associate in Applied Science

Contact Information

Chandra Langseth, assistant professor/program coordinator
Chandra.Langseth@ndscs.edu
701-671-2602
Tech Center 45

Delivery Methods

Face-to-Face: Wahpeton

Students who enroll In Precision Agriculture Technician degree will seek employment in the agriculture equipment industry. Students will find many challenging courses. Course work includes: agronomic fundamentals, data collection. data management. sales and hands-on practical application of GPS, electrical and hydraulics.

Students will have the opportunity to apply concepts learned through hands-on activities at the NDSCS Kosel Family Agriculture Land Lab and other classroom and laboratory activities. The Land Lab is a 90-acre demonstration farm operated by the Agriculture Department. students, and industry partners.

Spring semester concludes mid-April each year to allow students to begin their internship experience Students enrolled in this option will complete a 400-hour paid internship at a career related training facility during the summer between their first and second year of instruction.

Our philosophy statement is: "The Agriculture Department provides education for the present and future by incorporating leadership and career development, best management practices in crop and livestock production, technology, natural resources, problem solving, internships, and communication through a diverse program."

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer lo the NDSCS website for specifications. For further information, contact Craig Zimprich, program director, at 701-671-2249.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are mathematics, physical science. biology, agricultural education, computer science, and English. Courses that develop communication skills are important.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Precision Agriculture Technician

Required Courses

Course Code	Title	Credits
AGEC 142	Agribusiness Internship Orientation I	1
AGEC 143	Agribusiness Internship Orientation II	1
AGEC 242	Introduction to Agricultural Management	3
AGEC 250	Agribusiness Sales	3
AGRI 197	Internship (Agriculture Department)	3
PAG 115	Introduction to Precision Agriculture	3
PAG 276	Data Collection and Management	3
PAG 215	Mapping of Precision Ag Data	3
PAG 286	Advanced Mapping	3
PLSC 110	World Food Crops	3
PLSC 225	Principles of Crop Production	3
SOIL 210	Introduction to Soil Science	3
SOIL 222	Soil Fertility and Fertilizers	3
DTEC 155	Electricity for Diesel Technology	4
DTEC 164	Introduction to Mobile Hydraulics	4
MFGT 110	Industrial Shop Practices	2
	Any Agriculture Electives (6 credits)	6

Related/General Education Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
HPER 210	First Aid & CPR (Professional/ Community)	2
CSCI 101	Software Apps and Digital Literacy	3
PSYC 100	Human Relations in Organizations	2
	Total Required Credits	65

Precision Agronomy

Degree Type Associate in Applied Science

Contact Information

Dr. Jerry Migler, Interim Program Coordinator
jerome.migler@ndscs.edu
Tech Center

Delivery Methods

Face-to-Face· Wahpeton

The Agronomy curriculum is designed to provide instruction in crop production, soils, agriculture sales, field crop scouting, and business management. Cutting edge agricultural technology is infused into this curriculum wherever possible.

Students will have the opportunity to apply concepts learned through hands-on activities at the NDSCS Kosel Family Agriculture Land Lab and other classroom arid laboratory activities. The Land Lab is a 90-acre demonstration farm operated by the Agriculture Department. students, and industry partners.

Spring semester concludes mid-April each year to allow students to begin their internship experience. Students enrolled in this option will complete a 400-hour paid internship al a career related training facility during the summer between their first and second year of instruction.

Students graduating in Agronomy are prepared to find employment in seed sales, fertilizer sales, plant protection, crop consulting or other agronomic careers. The regional employment outlook continues to be very positive for graduates.

Our philosophy statement is: 'The Agriculture Department provides education for the present and future by incorporating leadership and career development, best management practices in crop and livestock production. technology, natural resources. problem solving, internships. and communication through a diverse program.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications.

Admission Requirements*

The applicants must be high school graduates or equivalent Helpful courses to prepare for this program are mathematics, physical science. biology, agricultural education. computer science, and English. Courses that develop communication skills are important.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests Please see WWW. NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Precision Agronomy.

Required Courses

Course Code	Title	Credits
AGEC 142	Agribusiness Internship Orientation I	1
AGEC 143	Agribusiness Internship Orientation II	1
AGEC 242	Introduction to Agricultural Management	3
AGEC 250	Agribusiness Sales	3
AGRI 197	Internship (Agriculture Department)	3
PAG 115	Introduction to Precision Agriculture	3
PAG 276	Data Collection and Management	3
PAG 215	Mapping of Precision Ag Data	3
PAG 286	Advanced Mapping	3
PLSC 115	Crop Technologies	2
PLSC 224	Introduction to Crop Protection	3
PLSC 225	Principles of Crop Production	3
PLSC 235	Field Scouting Techniques	3
PLSC 235L	Field Scouting Techniques Lab	1
SOIL 222	Soil Fertility and Fertilizers	3
	Agriculture Electives (Precision Agronomy) (8 credits)	8

Related/General Education Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
HPER 210	First Aid & CPR (Professional/ Community)	2
PLSC 110	World Food Crops	3
SOIL 210	Introduction to Soil Science	3
CSCI 101	Software Apps and Digital Literacy	3
PSYC 100	Human Relations in Organizations	2
	Total Required Credits	67

Agriculture (Meat Processing)

Degree Type Certificate

Contact Information

Dr. Jerry Migler, Interim Program Coordinator
jerome.migler@ndscs.edu
Tech Center

Delivery Methods

Face-to-Face: Wahpeton

Students who enroll in the Meat Processing certificate program at NDSCS will have the opportunity to gain skills in a high demand career field. This program will be taught through both North Dakota State College of Science and North Dakota State University in Fargo, ND.

Students will get the chance to develop skills through hands-on training at the NDSU meats lab in Fargo.

Whether a student is adding credentials to a culinary arts degree, has a desire to start their own business or work for an established business the internship program for the meat cutting certificate will help polish the skills learned in classes through training in a paid work setting.

Our philosophy statement is: “The Agriculture Department provides education for the present and future by incorporating leadership and career development, best management practices in crop and livestock production, technology, natural resources, problem solving, internships, and communication through a diverse program.”

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are mathematics, physical science, biology, agricultural education, computer science, and English. Courses that develop communication skills are important.

Applicants not meeting the above requirements are encouraged to visit with the academic counselor at 701-671-2263 or the Agriculture program director at 701-671-2249 for strategies to meet the admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded a Certificate in Agriculture with an emphasis in Meat Processing.

First Semester - Courses will be at NDSCS

Course Code	Title	Credits
	English/Communication Elective (3 credits)	3
	General Education Elective (2 credits)	2
	Technical Electives (Meat) (9 credits)	9

Second Semester - Courses will be at NDSU

Course Code	Title	Credits
ANSC 241	Survey of Meat Science	2
ANSC 243	Slaughter and Processing of Domestic Livestock	4
ANSC 244	Value-added Meats Processing	2
ANSC 245	Hazard Analysis and Critical Control Points (HACCP)	2
	AGRI 197 Internship (Meat) (5 credits)	5
	Total Required Credits	29

Agriculture Applicator and Operations

Degree Type Certificate

Contact Information
Dr. Jerry Migler, Interim Program Coordinator
jerome.migler@ndscs.edu
Tech Center

Delivery Methods
Face-to-Face: Wahpeton

Students who enroll in Precision Agronomy will seek employment m the areas of farm equipment operators. Typically, these jobs could be farm labor or applicators and operators for agronomy centers. Upon completion students will be prepared for their CDL testing, have their commercial applicator license and be ready to operate large agriculture equipment.

This program will begin in the spring semester and conclude in the middle of April. Lasting about 3 months. Several of the classes can be take on campus or online The CDL behind the wheel will be done in person.

Our philosophy statement is: "The Agriculture Department provides education for the present and future by incorporating leadership and career development, best management practices in crop and livestock production, technology, natural resources, problem solving, internships, and communication through a diverse program."

Admission Requirements
The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are mathematics, physical science, biology, agricultural education, computer science, and English. Courses that develop communication skills are important.

Award
Upon successful completion of the required courses, students will be awarded an certificate in Agriculture applicator and operator.

Core Courses

Course Code	Title	Credits
PAG 105	Precision Agriculture Operations	2
PLSC 105	Applied Agronomy	3
DTEC 192	Experimental Course	1-9
DTEC 110	Diesel Equipment Maintenance	3

General Education Cour Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
HPER 210	First Aid & CPR (Professional/ Community)	2
	Total Required Credits	19

Architectural Modeling & Design Technology

Architectural Modeling and Design Technology

Degree Type Associate in Applied Science

Contact Information

Lara Lekang, Associate Professor/Program Coordinator
lara.lekang@ndscs.edu
701-671-2592
Horton Hall 239

Delivery Methods

Face-to-Face: Wahpeton
Some Classes Available
Online

The Architectural Modeling and Design Technology program is designed to prepare students for work as technicians in construction-related industries, allowing graduates to work in a broad range of jobs, such as drafting, revit modeling, estimating, sales, construction management and project coordination. General contractors, subcontractors, home builders, architectural and engineering firms, material suppliers, steel fabricators, manufacturers and building centers all have specific areas of employment for graduates of this program.

Students are provided with classroom and laboratory experiences emphasizing computer-aided drafting (CAD) and Building Information Modeling (BIM) utilizing AutoDesk Revit software for residential and commercial buildings, estimating, structural design, mechanical and electrical systems for buildings, presentation techniques and remodeling. Students will take courses in communications, technical mathematics and business, which will provide them with career-advancing skills.

While students are fully employable upon completion of this program, some may wish to return for an additional year and earn a second major in Construction Management Technology. This program also provides transfer options to four-year colleges and universities in related fields.

Green and/or sustainable construction is specifically covered in multiple courses. Leadership in Energy and Environmental Design (LEED) certification is covered extensively. Green/sustainable construction is also discussed across the rest of the curriculum.

NOTE: This program requires a ZBOOK Laptop or equivalent. Please refer to the NDSCS website for specifications. if purchased through NDSCS. For further information, call Lara Lekang, program director, at 701-671-2592.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English and math courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.ndscs.edu/academics/english-and-math-placement-course-placement for the NDSCS Course Placement Procedure and testing information.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Architectural Modeling and Design Technology.

Required Courses

Course Code	Title	Credits
ARCT 101	Architectural Modeling I	3
ARCT 102	Architectural Modeling II	4
ARCT 110	Graphic Communications	2
ARCT 121	Revit Architecture	2
ARCT 122	Structural Modeling	2
ARCT 131	Construction Methods and Materials I	3
ARCT 152	MEP Modeling	2
ARCT 162	Construction Experience	2
ARCT 201	Architectural Modeling III	4
ARCT 202	Architectural Modeling IV	4
ARCT 212	Architectural Presentations	2
ARCT 214	Architectural Portfolio	1
ARCT 221	Structural Detailing	3
ARCT 223	Renovation and Design	3
ARCT 231	Construction Methods and Materials II	3
	ARCT 120 or CAD 120	2
ARCT 297	Internship	4
ARCT 225	Mechanical and Electrical Systems	2
BCT 140	Intro to Print Reading	2
CMT 144	Construction Estimating I	3

Business/Technical Elective (choose one/2 credit minimum)

Course Code	Title	Credits
BADM 240	Sales	3
BUSN 120	Fundamentals of Business	3
CMT 165	Residential Project Experience	1
CMT 251	Construction Documents and Specifications	3
CMT 253	Construction Scheduling	3
CMT 265	Residential Project Experience	1
UAS 111	Introduction to UAS	2
UAS 112	Unmanned Aircraft Systems Certification	2

Related/General Education Courses

Course Code	Title	Credits
	ENGL 105 or ENGL 110 or COMM 110	3
MATH 131	Technical Mathematics and Algebra	3
MATH 136	Technical Trigonometry	2
	Wellness Elective(s) (2 credits)	2
CMT 101	Science of Success	1
CSCI 101	Software Apps and Digital Literacy	3
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	71

Building Construction Technology

Building Construction Technology

Degree Type Associate in Applied Science

Contact Information

Jeremy Hoesel - Associate Professor/Program Coordinator
jeremy.hoesel@ndscs.edu
701-671-2139
Horton Hall 236 / Build Const Tech 110

Bryan Wolfgram - Associate Professor
bryan.wolgram@ndscs.edu
701-671-2140
Horton Hall 238 / Build Const 109

Delivery Methods

Face-to-Face: Wahpeton

The Building Construction Technology curriculum prepares students with skills to work in many areas of the construction industry. The program educates and trains the future leaders of the construction industry with a unique blend of education and hands-on training. Graduates can work for builders, general contractors and subcontractors in commercial, industrial and residential construction. Students develop the skills, knowledge and attitudes necessary to function on the construction site with the potential to advance into supervisory positions within the construction industry.

The program provides students with realistic classroom and laboratory experiences emphasizing rough carpentry, exterior finishes, finish carpentry, interior finishes, concrete construction, steel erection, assembly of pre-engineered metal building systems, equipment operation, construction safety, print reading and project supervision. In addition, students take courses in communications, human relations, technical mathematics, and business use of computers to help provide them with career-advancing skills.

Green and/or sustainable construction is specifically covered in multiple courses with an emphasis on energy efficient buildings and sustainable building materials.

While students are fully employable upon completion of this program, some may wish to continue their education by returning for an additional year and earn a second major in Construction Management Technology.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications For further information, contact Randy Stach, program director, at 701-671-2116.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Building Construction Technology.

Required Courses

Course Code	Title	Credits
CMT 144	Construction Estimating I	3
BCT 110	Concrete and Sitework	4
BCT 111	Concrete Theory	2
BCT 115	Intro to Light Commercial Construction	3
BCT 131	Rough Carpentry	3
BCT 132	Exterior Finish Construction	3
BCT 133	Carpentry Fundamentals	2
BCT 140	Intro to Print Reading	2
BCT 201	Internship I	6
BCT 202	Construction Seminar	2
BCT 203	Internship II	3
BCT 212	Steel Frame Construction	3
BCT 220	Project Supervision	3
BCT 222	OSHA 30 Hour for Construction	2
BCT 224	Building Layout	2
BCT 231	Interior Finishes	3
BCT 232	Finish Carpentry	3
BCT 233	Commercial Finishes	3
BCT 240	Commercial Print Reading	3
MFGT 120	Basic Welding I	1

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (3 credits)	3
COMM 110	Fundamentals of Public Speaking	3
HPER 210	First Aid & CPR (Professional/ Community)	2
MATH 131	Technical Mathematics and Algebra	3
MATH 136	Technical Trigonometry	2
CSCI 101	Software Apps and Digital Literacy	3
CMT 101	Science of Success	1
	Total Required Credits	73

Carpentry

Degree Type Certificate

Contact Information:
Randy Stach
Randy.Stach@ndscs.edu
701-671-2116

Delivery Methods:
Face to Face in Wahpeton

Program Information:

The Building Construction Technology curriculum prepares students with skills to work in many areas of the construction industry. The program educates and trains the future leaders of the construction industry with a unique blend of education and hands-on training. Graduates can work for builders, general contractors and subcontractors in commercial, industrial and residential construction. Students develop the skills, knowledge and attitudes necessary to function on the construction site with the potential to advance into supervisory positions within the construction industry.

The certificate provides students with realistic classroom and laboratory experiences emphasizing rough carpentry, exterior finishes, finish carpentry, and interior finishes. In addition, students take their choice or courses in communications, technical mathematics, computer science, or English to help provide them with career advancing skills.

While students are fully employable upon completion of the certificate, some may wish to continue their education by returning for additional semesters to earn an Associate of Applied Science in Building Construction Technology.

Award:

Students will earn a Certificate in Carpentry.

Course Courses

Course Code	Title	Credits
BCT 131	Rough Carpentry	3
BCT 132	Exterior Finish Construction	3
BCT 231	Interior Finishes	3
BCT 232	Finish Carpentry	3

Caprpentry Elective (2 credits Required)

BCT 133 **OR** CMT 144

Course Code	Title	Credits
BCT 133	Carpentry Fundamentals	2
CMT 144	Construction Estimating I	3

General Education Course Electives (3 credits Required)

Choose one of the courses below. 3 credits required.

Course Code	Title	Credits
ENGL 105	Technical Communications	3
ENGL 110	College Composition I	3
COMM 110	Fundamentals of Public Speaking	3
HPER 210	First Aid & CPR (Professional/ Community)	2
MATH 130	Technical Math	2
MATH 132	Technical Algebra I	2
CSCI 101	Software Apps and Digital Literacy	3
	Total Required Credits	17

Construction Management Technology

Construction Management Technology

Degree Type Associate in Applied Science

Contact Information

Randy Stach, associate professor/program director
Randy.Stach@ndscs.edu
701-671-2116
Horton Hall 240

Delivery Methods

Face-to-Face: Wahpeton
Some Classes
Available Online

This program is designed to provide individuals with the knowledge and skills needed to start a career in the construction management field. Classroom and laboratory experiences emphasize commercial, residential and civil related construction.

Students will take classes in the areas of construction materials and methods, print reading, safety, construction specifications, project management and supervision as well as hands-on classes for estimating, scheduling, surveying, material testing and quality control. In addition, students take courses in communications, human relations, technical mathematics, and business use of computers to help provide them with career-advancing skills.

The construction industry has a high demand for individuals with an education in construction management both regionally and nationally. The Construction Management Technology program prepares students for a career in construction as a construction manager, project manager, project engineer, field engineer, job site superintendent, estimator, scheduler, quality control and many other managerial positions whose duties and responsibilities ensure that construction projects are completed on-time, within budget, to the desired quality, and safely.

Green and/or sustainable construction is specifically covered in multiple courses with an emphasis on energy efficient buildings and sustainable building materials.

While students are fully employable upon completion of this program, the Associate in Applied Science degree in Construction Management Technology also provides transfer options to four-year colleges and universities in construction management related fields.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. The cost will be approximately $1065.00 for the EliteBook 850 and $2100.00 for the ZBOOK 15, if purchased through NDSCS. For further information, contact Randy Stach, program director, at 701-671-2116.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Construction Management Technology.

Curriculum Core

Course Code	Title	Credits
ARCT 131	Construction Methods and Materials I	3
BCT 140	Intro to Print Reading	2
BCT 220	Project Supervision	3
BCT 222	OSHA 30 Hour for Construction	2
BCT 240	Commercial Print Reading	3
CMT 144	Construction Estimating I	3
CMT 150	Construction Document Management	2
CMT 162	Construction Management Seminar	1
CMT 297	Internship	4
ARCT 231	Construction Methods and Materials II	3
CMT 241	Construction Estimating II	3
CMT 251	Construction Documents and Specifications	3
CT 120	Surveying Fundamentals	2
ARCT 225	Mechanical and Electrical Systems	2
CMT 242	Construction Estimating III	3
CMT 252	Project Management	3
CMT 253	Construction Scheduling	3

Business/Technical Elective

(5 credit minimum)

Course Code	Title	Credits
ACCT 102	Fundamentals of Accounting	3
ACCT 118	Applied Accounting	3
BADM 202	Principles of Management	3
BADM 240	Sales	3
BADM 281	Organizational Behavior	3
BADM 282	Human Resource Management	3
BUSN 120	Fundamentals of Business	3
CAD 120	Introduction to AutoCAD	3
CMT 165	Residential Project Experience	1
CMT 265	Residential Project Experience	1
CT 111	Civil Plans and Specifications	3
UAS 111	Introduction to UAS	2
UAS 112	Unmanned Aircraft Systems Certification	2
CT 121	Surveying I	2

Related/General Education Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
	English/Communication Elective (choose one)	3
CMT 101	Science of Success	1
HPER 210	First Aid & CPR (Professional/ Community)	2
MATH 131	Technical Mathematics and Algebra	3
MATH 136	Technical Trigonometry	2
CSCI 101	Software Apps and Digital Literacy	3
PSYC 100	Human Relations in Organizations	2
	Total Required Credits	69

Commercial Construction

Degree Type Certificate

Contact Information:
Randy Stach, program director
Randy.Stach@ndscs.edu
701-671-2116
Horton Hall 240

Delivery Methods:
Face-to-Face: Wahpeton

Program Information:

The Commercial Construction certificate prepares students with skills to work in related areas of the commercial construction industry. The program educates and trains the future workforce for the commercial construction industry with a unique blend of education and hands-on training. Graduates can work for builders, general contractors and subcontractors in commercial and industrial construction areas. Students develop the skills, knowledge and attitudes necessary to function on the construction site with the potential to advance into supervisory positions within the construction industry.

The certificate provides students with realistic classroom and laboratory experiences emphasizing concrete, metal stud construction, and steel frame construction. Students would take courses on print reading, construction safety, welding, and commercial finishes. In addition, students take their choice of courses in communications, technical mathematics, computer science. or English to help provide them with career-advancing skills.

While students are fully employable upon completion of the certificate, some may wish to continue their education by returning for additional semesters to earn an Associate of Applied Science In Building Construction Technology and/or Construction Management Technology.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Randy Stach, program director, at 701-671-2116.

Admission Requirements*:

The applicants must be high school graduates or equivalent. Students considered for acceplance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see
www .NOSCS.eduicurrent-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award:
Upon successful completion of the required courses, students will be awarded a certificate in Commercial Construction.

Core Curriculum

Course Code	Title	Credits
BCT 110	Concrete and Sitework	4
BCT 111	Concrete Theory	2
BCT 115	Intro to Light Commercial Construction	3
BCT 140	Intro to Print Reading	2
BCT 201	Internship I	6
BCT 202	Construction Seminar	2
BCT 203	Internship II	3
BCT 212	Steel Frame Construction	3
BCT 222	OSHA 30 Hour for Construction	2
BCT 224	Building Layout	2
BCT 233	Commercial Finishes	3
BCT 240	Commercial Print Reading	3
MFGT 120	Basic Welding I	1
HPER 210	First Aid & CPR (Professional/ Community)	2

Commercial Construction Certificate Electives (3 credits)

Choose one (3 credits):

Course Code	Title	Credits
CMT 144	Construction Estimating I	3
BCT 220	Project Supervision	3

General Education Core (3 credits)

Choose one (3 credits):

Course Code	Title	Credits
CSCI 101	Software Apps and Digital Literacy	3
ENGL 105	Technical Communications	3
ENGL 110	College Composition I	3
COMM 110	Fundamentals of Public Speaking	3
MATH 131	Technical Mathematics and Algebra	3
	Total Required Credits	44

Culinary Arts

Baking and Pastry Arts

Degree Type Associate in Applied Science

Contact Information:

BJ Whitmore program coordinator
Benjamin.Whitmore@ndscs.edu
701-671-2842
Student Center 129

Delivery Methods:
Face-to-Face: Wahpeton

Program Information:

This program teaches students the techniques of producing artisan breads, pastries, cakes, confections, international desserts, and many other bakeshop items. Not only do students learn the essential bake shop skills, but they will also study the business and marketing skills to succeed in various occupations in the baking industry. Students will also learn and become certified in professional sanitation and safety practices.

This degree will allow us to meet the needs of our industry, student interests, and the community's desire to have open culinary classes that focus on specific areas of the culinary industry.

Our business and industry partners have been requesting opportunities for concise learning opportunities for their current employees as well as for their future employees. According to the US Bureau of Labor Statistics, the baking and pastry industry is expected to grow 5% between 2022 to 2032 and there will be about 33,800 openings for bakers on average each year during that period.

Employment opportunities:

Employment potential in the hospitality food preparation industry remains high. According to the United States Bureau of Labor Statistics, the North Dakota Hospitality Association, and our Culinary Arts Advisory Committee, there is an extreme shortage for trained individuals throughout the entire industry as chefs, cooks. bakers, and managers. Graduates commonly take employment in hotel restaurants, franchise restaurants, clubs, bakeries, catering operations, delis, retirement communities, and institutional food service facilities such as hospitals, nursing homes, public schools, and colleges.

Admission Requirements*:

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are food preparation courses, accounting, business math, economics, and computer literacy.

Please Note: Students are placed into English. math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award:

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science in Baking and Pastry Arts.

Core Curriculum

Course Code	Title	Credits
CULA 104	Classic Culinary Fundamentals	2
CULA 110	Sanitation and Safety	2
CULA 120	Menu Planning	2
CULA 121	Culinary Mathematics	2
CULA 220	Dining Room Service	1
CULA 221	Principles of Restaurant Management	2
CULA 220	Dining Room Service	1
CULA 221	Principles of Restaurant Management	2
BEVM 102	Coffee and Tea	2
BAKE 130	Baking Fundamentals	2
BAKE 131	Pastry Fundamentals	2
BAKE 132	Foundations of Yeast Bread	2
BAKE 133	Cakes and Cake Decorating	2
BAKE 200	Nutritional Baking	2
BAKE 230	Advanced Breads	2
BAKE 231	Viennoiserie	2
BAKE 232	Confections	2
BAKE 233	Baking and Pastry Capstone	2
BAKE 240	Quantity Baking	2
CULA 297	Internship	4
	Culinary Electives (9 credits)	9

General Education Core

Course Code	Title	Credits
	English Elective (choose one)	3
	MATH Elective	3
	General Education Electives (4 credits)	4
	Wellness Elective(s) (2 credits)	2
CIS 101	Digital Literacy	2
FYE 101	Science of Success	1
	Total Required Credits	64

Culinary Arts

Degree Type Associate in Applied Science

Contact Information

BJ Whitmore, associate professor/program coordinator
benjamin.whitmore@ndscs.edu
701-671-2842
Student Center 129

Delivery Methods

Face-to-Face: Wahpeton

The Culinary Arts curriculum provides students with a broad range of study that enables them to be employed in a large variety of occupations within the food service and hospitality industry. Students learn quality food preparation, service techniques, organizational skills, and are exposed to all aspects of the industry. A significant portion of the program is devoted to laboratory work where students spend time preparing standardized recipes for entrees, soups, garde manger/pantry items, meat, poultry, seafood, bakery, and dessert items. An emphasis is placed on classical cuisine and production of cuisine for formal dining rooms, as well as items for less formal establishments.

In addition to preparation courses, the core program provides training in sanitation, nutrition, menu planning, cost control, purchasing and inventory control, management, and supervision. General education and related courses that develop human relation skills, communication skills, business skills, and mathematics are offered to provide a well-rounded educational experience. A cooperative work experience must be completed successfully by all students prior to graduation.

The chef performs many functions in the food service industry, including food preparation, planning, control, supervision, and a variety of other tasks that coincide with the total control of the kitchen in the commercial food world. The industry and program require professional attitudes, actions, appearance, and dress along with the ability to work as part of a team and communicate well with others. Tact, courtesy, and a pleasant personality are important, as are keen senses of taste and smell.

Employment opportunities

Employment potential in the hospitality food preparation industry remains high. According to the United States Bureau of Labor Statistics, the North Dakota Hospitality Association, and our Culinary Arts Advisory Committee, there is an extreme shortage for trained individuals throughout the entire industry as chefs, cooks, bakers, and managers. Graduates commonly take employment in hotel restaurants, franchise restaurants, clubs, bakeries, catering operations, delis, retirement communities, and institutional food service facilities such as hospitals, nursing homes, public schools, and colleges.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are food preparation courses, accounting, business math, economics, and computer literacy.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Culinary Arts with an emphasis in Chef Training and Management Technology.

Required Courses

Course Code	Title	Credits
CULA 101	Science of Success: Career and Technical Education Student Organizations	1
CULA 104	Classic Culinary Fundamentals	2
CULA 110	Sanitation and Safety	2
CULA 120	Menu Planning	2
CULA 125	Vegetables, Potatoes, Grains, and Pasta	2
CULA 130	Soups, Stocks, and Sauces	2
CULA 131	Garde Manager	2
CULA 141	Intro to Restaurant Operation	1
CULA 151	Meat Fabrication	2
CULA 152	Meat and Poultry Cookery	2
CULA 153	Fish and Shellfish Cookery	2
CULA 220	Dining Room Service	1
CULA 202	Short Order Cookery	2
CULA 221	Principles of Restaurant Management	2
CULA 222	Restaurant Service & Production Management	6
CULA 297	Internship	4
BAKE 130	Baking Fundamentals	2
BAKE 131	Pastry Fundamentals	2
BAKE 132	Foundations of Yeast Bread	2
BAKE 133	Cakes and Cake Decorating	2
BAKE 231	Viennoiserie	2
BANQ 150	Principles of Catering and Banquets	3

Related/General Education Courses for Associate Degree

Course Code	Title	Credits
	General Education Electives (6 credits)	6
CIS 101	Digital Literacy	2
ENGL 105	Technical Communications	3
CULA 119	Culinary Nutrition	2
CULA 121	Culinary Mathematics	2

CULA 297 to take place at an approved job site during the summer following the first year.

NOTE: The hospitality industry utilizes items that contain alcohol to flavor and flame food products that will be served to customers. These items include wine, flavored liquors, and spirits. The Culinary Arts Department, to offer experiences and products that are as close to the work environment as possible, utilize the same type of products in the preparation and service of food items prepared in the laboratory.

	Total Required Credits	63

Culinary Management

Degree Type Associate in Applied Science

Contact Information:

BJ Whitmore, program coordinator
Benjamin.Whitmore@ndscs.edu
701-671-2842
Student Center 129

Program Information:

A program that prepares individuals to plan, supervise, and manage food and beverage preparation and service operations, restaurant facilities, and catering services. Includes instruction in food/beverage industry operations, cost control, purchasing and storage, business administration, logistics, personnel management, culinary arts, restaurant and menu planning, executive chef functions, event planning and management, health and safety, insurance, and applicable law and regulations.

Despite limited employment growth, about 39,600 openings for food service managers are projected each year, on average, over the decade. Most of those openings are expected to result from the need to replace workers who transfer to different occupations or exit the labor force, such as to retire.

Employment Opportunities:

Employment potential in the hospitality food preparation industry remains high. According to the United States Bureau of Labor Statistics, the North Dakota Hospitality Association, and our Culinary Arts Advisory Committee, there is an extreme shortage for trained individuals throughout the entire industry as chefs, cooks, bakers, and managers. Graduates commonly take employment in hotel restaurants. franchise restaurants, clubs, bakeries, catering operations, delis, retirement communities, and institutional food service facilities such as hospitals, nursing homes. public schools, and colleges.

Admission Requirements:

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are food preparation courses, accounting, business math, economics. and computer literacy.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award:

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science in Culinary Management.

Core Curriculum

In addition to the below core courses, students are required to to **complete the Beverage Management Certificate or the Catering and Banqueting Certificate**. Consult with advisor or department before enrolling to ensure you are enrolled in the right sequence of courses. Total credits needed for AAS: 60 credits

Course Code	Title	Credits
CULA 104	Classic Culinary Fundamentals	2
CULA 130	Soups, Stocks, and Sauces	2
CULA 151	Meat Fabrication	2
CULA 152	Meat and Poultry Cookery	2
CULA 119	Culinary Nutrition	2
CULA 120	Menu Planning	2
CULA 121	Culinary Mathematics	2
CULA 221	Principles of Restaurant Management	2
CULA 140	Restaurant Service	4
BAKE 130	Baking Fundamentals	2
BAKE 131	Pastry Fundamentals	2
BAKE 132	Foundations of Yeast Bread	2
CULA 297	Cooperative Education (Management Application)	3
	Culinary Electives (5 credits)	5

General Education Core

Course Code	Title	Credits
PSYC 100	Human Relations in Organizations	2
FYE 101	Science of Success	1
CIS 101	Digital Literacy	2
	Wellness Elective(s) (2 credits)	2
	English Elective (choose one)	3
	Math Elective (Culinary)	2
	General Education Electives (4 credits)	4
	Total Required Credits	60

Baking and Pastry Arts

Degree Type Certificate

Contact Information:

BJ Whitmore program coordinator
Benjamin.Whitmore@ndscs.edu
701-671-2842
Student Center 129

Delivery Methods:
Face-to-Face: Wahpeton

Program Information:

This program teaches students the techniques of producing artisan breads, pastries, cakes, confections, international desserts, and many other bakeshop items. Not only do students learn the essential bake shop skills, but they will also study the business and marketing skills to succeed in various occupations in the baking industry. Students will also learn and become certified in professional sanitation and safety practices.

This degree will allow us to meet the needs of our industry, student interests, and the community's desire to have open culinary classes that focus on specific areas of the culinary industry.

Our business and industry partners have been requesting opportunities for concise learning opportunities for their current employees as well as for their future employees. According to the US Bureau of Labor Statistics, the baking and pastry industry is expected to grow 5% between 2022 to 2032 and there will be about 33,800 openings for bakers on average each year during that period.

Employment opportunities:

Employment potential in the hospitality food preparation industry remains high. According to the United States Bureau of Labor Statistics, the North Dakota Hospitality Association, and our Culinary Arts Advisory Committee, there is an extreme shortage for trained individuals throughout the entire industry as chefs, cooks. bakers, and managers. Graduates commonly take employment in hotel restaurants, franchise restaurants, clubs, bakeries, catering operations, delis, retirement communities, and institutional food service facilities such as hospitals, nursing homes, public schools, and colleges.

Admission Requirements*:

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are food preparation courses, accounting, business math, economics, and computer literacy.

Please Note: Students are placed into English. math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award:

Upon successful completion of the required courses, students will be awarded a certificate in Baking and Pastry Arts.

Core Curriculum

Course Code	Title	Credits
CULA 110	Sanitation and Safety	2
CULA 121	Culinary Mathematics	2
BAKE 130	Baking Fundamentals	2
BAKE 131	Pastry Fundamentals	2
BAKE 132	Foundations of Yeast Bread	2
BAKE 133	Cakes and Cake Decorating	2
BAKE 230	Advanced Breads	2
BAKE 231	Viennoiserie	2
BAKE 232	Confections	2
BAKE 233	Baking and Pastry Capstone	2

General Education Core

Course Code	Title	Credits
	General Education Electives (3 credits)	3
	Total Required Credits	23

Catering and Banqueting

Degree Type Certificate

Contact Information:

BJ Whitmore, Program Coordinator
Benjamin.whitmore@ndscs.edu
701-671-2842
Student Center 129

Delivery Methods:

Face-to-Face: Wahpeton

Program Overview:
A program that prepares individuals to plan, supervise, and manage food and beverage preparation and service operations in on and off site locations, restaurant facilities, and catering services. Includes instruction in food/beverage industry operations, cost control, purchasing and storage, business administration, logistics, personnel management, culinary arts, restaurant and menu planning, executive chef functions, event planning and
management, health and safety, insurance, and applicable law and regulations.

Catering is a part of the food and beverage industry that provides food service for events and functions, both public and private. People, businesses and organizations holding events or parties might choose to hire a caterer for special occasions, such as weddings,conferences, birthdays or promotional celebrations. Caterers can offer limited and full service options, including food preparation, linens and tableware provisions, dining set-up and post-event cleaning.

Much like the restaurant business, a wide variety of positions are available in the catering industry based on your interests and areas of expertise. If you have solid skills in food preparation and presentation, you could choose to become a line cook, sous chef or executive chef. If you are personable and efficient, you might enjoy working as a server or bartender. You could qualify for a management position with some business training or launch your own catering business.

Employment opportunities
Employment potential in the hospitality food preparation industry remains high. According to the United States Bureau of Labor Statistics, the North Dakota
Hospitality Association, and our Culinary Arts Advisory Committee, there is an extreme shortage for trained individuals throughout the entire industry as chefs, cooks, bakers, and managers. Graduates commonly take employment in hotel restaurants, franchise restaurants, clubs, bakeries, catering operations, delis. retirement communities. and institutional food service facilities such as hospitals, nursing homes, public schools, and colleges.

Admission Requirements•
The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are food preparation courses, accounting, business math, economics, and computer literacy. Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Award
Upon successful completion of the required courses, students will be awarded a certificate in Catering and Banqueting.

*Program admission requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Core Curriculum

*Some courses may take place at an approved job site during the summer following the first year. Please consult with department or advisor prior to enrolling.

Course Code	Title	Credits
CULA 110	Sanitation and Safety	2
CULA 120	Menu Planning	2
CULA 121	Culinary Mathematics	2
BANQ 125	Quantity Food Preparation	2
BANQ 126	Banquet Service	2
BAKE 240	Quantity Baking	2
CULA 297	Internship	4
BANQ 150	Principles of Catering and Banquets	3

General Education Core

Course Code	Title	Credits
ACCT 102	Fundamentals of Accounting	3
BUSN 170	Entrepreneurship	3
	General Education Electives (3 credits)	3
	Total Required Credits	28

Culinary Management

Degree Type Certificate

Contact Information:

BJ Whitmore, program coordinator
Benjamin.Whitmore@ndscs.edu
701-671-2842
Student Center 129

Program Information:

A program that prepares individuals to plan, supervise, and manage food and beverage preparation and service operations, restaurant facilities, and catering services. Includes instruction in food/beverage industry operations, cost control, purchasing and storage, business administration, logistics, personnel management, culinary arts, restaurant and menu planning, executive chef functions, event planning and management, health and safety, insurance, and applicable law and regulations.

Despite limited employment growth, about 39,600 openings for food service managers are projected each year, on average, over the decade. Most of those openings are expected to result from the need to replace workers who transfer to different occupations or exit the labor force, such as to retire.

Employment Opportunities:

Employment potential in the hospitality food preparation industry remains high. According to the United States Bureau of Labor Statistics, the North Dakota Hospitality Association, and our Culinary Arts Advisory Committee, there is an extreme shortage for trained individuals throughout the entire industry as chefs, cooks, bakers, and managers. Graduates commonly take employment in hotel restaurants. franchise restaurants, clubs, bakeries, catering operations, delis, retirement communities, and institutional food service facilities such as hospitals, nursing homes. public schools, and colleges.

Admission Requirements:

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are food preparation courses, accounting, business math, economics. and computer literacy.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award:

Upon successful completion of the required courses, students will be awarded a Certificate in Culinary Management.

Core Curriculum

In addition to the below core courses, students are required to to **complete the Beverage Management Certificate or the Catering and Banqueting Certificate**. Consult with advisor or department before enrolling to ensure you are enrolled in the right sequence of courses.

Course Code	Title	Credits
CULA 104	Classic Culinary Fundamentals	2
CULA 119	Culinary Nutrition	2
CULA 120	Menu Planning	2
CULA 121	Culinary Mathematics	2
CULA 221	Principles of Restaurant Management	2
BAKE 130	Baking Fundamentals	2
BAKE 131	Pastry Fundamentals	2
CULA 297	Internship	4

General Education Core

Course Code	Title	Credits
PSYC 100	Human Relations in Organizations	2
	General Education Electives (3 credits)	3
	Total Required Credits	32

Culinary and Food Truck Entrepreneur

Degree Type Certificate

Contact Information:

BJ Whitmore, Program Coordinator
Benjamin.Whitmore@ndscs.edu
701-671-2842
Student Center 129

Delivery Methods:
Face-to-Face: Wahpeton

Program Information:

This program is looking to train students to join the almost 3-billion-dollar food truck industry. Students will learn professional culinary skills and related business skills needed to become a food truck entrepreneur.

The students apply those skills in our simulated food truck lab space by building the business plan, developing the menu. and serving actual customers.
Students will also learn and become certified in professional sanitation and safety practices.

Employment opportunities:

Employment potential in the hospitality food preparation industry remains high. According to the United States Bureau of Labor Statistics, the North Dakota Hospitality Association, and our Culinary Arts Advisory Committee, there is an extreme shortage for trained individuals throughout the entire industry as chefs, cooks, bakers, and managers. Graduates commonly take employment in hotel restaurants. franchise restaurants, clubs. bakeries, catering operations. delis. retirement communities, and institutional food service facilities such as hospitals, nursing homes, public schools, and colleges.

Admission Requirements*:

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are food preparation courses, accounting, business math, economics, and computer literacy.

Please Note: Students are placed into English, math and reading courses based on ACT. ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award:

Upon successful completion of the required courses, students will be awarded a certificate in Culinary and Food Truck Entrepreneur.

Core Curriculum

*Please note that CULA 297 Cooperative Education will take place at an approved job site during the summer following the first year. Please consult with the department and advisor on job site approval.

Course Code	Title	Credits
FTRC 110	Food Truck Foundations	3
FTRC 120	Advanced Food Truck Operations	3
CULA 110	Sanitation and Safety	2
CULA 119	Culinary Nutrition	2
CULA 120	Menu Planning	2
CULA 121	Culinary Mathematics	2
CULA 297	Cooperative Education (Management Application)	3

General Education Core

Course Code	Title	Credits
ACCT 102	Fundamentals of Accounting	3
BUSN 170	Entrepreneurship	3
BADM 217	Promotion and Advertising	3
PSYC 100	Human Relations in Organizations	2
BUSN 120	Fundamentals of Business	3
	Total Required Credits	31

Italian Cuisine

Degree Type Certificate

Contact Information:

BJ Whitmore, program coordinator
benjamin.whitmore@ndscs.edu
701-671-2842
Student Center 129

The Italian cuisine certificate is a deep dive into the foods of Italy and how they are produced. This program incorporates the areas of pasta, risotto, Italian bread, pastries, and pizzas, along with the chance to stack credentials and work experience opportunities to fully immerse and educate students in Italian culture and cuisine. Students will also learn and become certified in professional sanitation and safety practices.

The Italian Cuisine curriculum provides students with a broad range of study that enables them to be employed in a large variety of occupations within the food service and hospitality industry.

This program addresses the student and industry need to obtain a rapid but highly focused skill set. Each of the classes can be taken singly or as a group. With the addition of extra cooperative work experience, students can earn a certificate (vs. certificate of completion).

The chef performs many functions in the food service industry, including food preparation, planning, control, supervision, and a variety of other tasks that coincide with the total control of the kitchen in the commercial food world. The industry and program require professional attitudes, actions, appearance, and dress along with the ability to work as part of a team and communicate well with others. Tact, courtesy, and a pleasant personality are important, as are keen senses of taste and smell.

Employment Opportunities

Employment potential in the hospitality food preparation industry remains high. According to the United States Bureau of Labor Statistics, the North Dakota Hospitality Association, and our Culinary Arts Advisory Committee, there is an extreme shortage for trained individuals throughout the entire industry as chefs, cooks, bakers, and managers. Graduates commonly take employment in hotel restaurants, franchise restaurants, clubs, bakeries, catering operations, delis, retirement communities, and institutional food service facilities such as hospitals, nursing homes, public schools, and colleges.

Admission Requirements*:

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are food preparation courses, accounting, business math, economics, and computer literacy.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-successltest-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject revision. Please check the department or program website under program admission requirements for current information.

Award:
Upon successful completion of the required courses, students will be awarded a Certificate in Italian Cuisine.

Core Courses

Course Code	Title	Credits
ITLY 105	Pasta, Risotto, and Gnocchi	2
ITLY 106	Italian Breads and Pastries	2
ITLY 107	Pizza	2
CULA 110	Sanitation and Safety	2
	General Education Electives (3 credits)	3

Optional Course

Course Code	Title	Credits
	Optional: CULA 297 Cooperative Education (Italian Restaurant Operations)	8
	Total Required Credits	11-19

Italian Cuisine

Degree Type Certificate of Completion

This Certificate of Completion is not eligible for Federal Financial Aid and/or VA/Military Education Benefits

Contact Information:

BJ Whitmore, program coordinator
benjamin.whitmore@ndscs.edu
701-671-2842
Student Center 129

The Italian cuisine certificate is a deep dive into the foods of Italy and how they are produced. This program incorporates the areas of pasta, risotto, Italian bread, pastries, and pizzas, along with the chance to stack credentials and work experience opportunities to fully immerse and educate students in Italian culture and cuisine. Students will also learn and become certified in professional sanitation and safety practices.

The Italian Cuisine curriculum provides students with a broad range of study that enables them to be employed in a large variety of occupations within the food service and hospitality industry.

This program addresses the student and industry need to obtain a rapid but highly focused skill set. Each of the classes can be taken singly or as a group. With the addition of extra cooperative work experience, students can earn a certificate (vs. certificate of completion).

The chef performs many functions in the food service industry, including food preparation, planning, control, supervision, and a variety of other tasks that coincide with the total control of the kitchen in the commercial food world. The industry and program require professional attitudes, actions, appearance, and dress along with the ability to work as part of a team and communicate well with others. Tact, courtesy, and a pleasant personality are important, as are keen senses of taste and smell.

Employment Opportunities

Employment potential in the hospitality food preparation industry remains high. According to the United States Bureau of Labor Statistics, the North Dakota Hospitality Association, and our Culinary Arts Advisory Committee, there is an extreme shortage for trained individuals throughout the entire industry as chefs, cooks, bakers, and managers. Graduates commonly take employment in hotel restaurants, franchise restaurants, clubs, bakeries, catering operations, delis, retirement communities, and institutional food service facilities such as hospitals, nursing homes, public schools, and colleges.

Admission Requirements*:

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are food preparation courses, accounting, business math, economics, and computer literacy.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-successltest-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject revision. Please check the department or program website under program admission requirements for current information.

Award:
Upon successful completion of the required courses, students will be awarded a Certificate of Completion in Italian Cuisine.

Core Courses

Course Code	Title	Credits
ITLY 105	Pasta, Risotto, and Gnocchi	2
ITLY 106	Italian Breads and Pastries	2
ITLY 107	Pizza	2
CULA 110	Sanitation and Safety	2

Optional Course

Course Code	Title	Credits
	Optional: CULA 297 Cooperative Education (Italian Restaurant Operations)	8
	Total Required Credits	8-16

Electrical Technology

Electrical Technology (Electrical Construction)

Degree Type Associate in Applied Science

Contact Information

Ivan Maas, associate professor/program coordinator
Ivan.Maas@ndscs.edu
701-671-2662
Barnard Hall 118

Zachary Sheeley, assistant professor/program coordinator
Zachary.Sheeley@ndscs.edu
701-671-2715
Barnard Hall 115

Delivery Methods

Face-to-Face: Wahpeton

The Electrical Construction option of the Electrical Technology program is designed to give students the skills necessary for successful employment in the electrical construction industry. The core curriculum of the Electrical Technology program includes an in-depth study of electrical theory, applied math, code study and residential wiring. A substantial amount of hands-on experience is provided in our seven dedicated laboratories, which contain AutoCAD drawing, advanced electrical test equipment, electric motors, magnetic motor starters, programmable controllers, electronic devices, and instrumentation. Green technology is applied in areas of lighting and design class, efficiency of motors, controlling of loads (lighting, AC, etc.) in building operation through programmable controllers (PLCs).

The Electrical Construction option adds skills in the area of commercial and industrial wiring systems, advanced code study and planning and estimating. Graduates of this option are well prepared to meet the challenges of today's modern equipment and wiring systems thanks, in part, to the faculty who collectively have over 200 years of industry and training experience.

Graduates of this option are also exempt from the mandatory classroom training required by North Dakota law (ND Century Code 43-09-11).

While students are fully employable upon completion of this associate-granting program, some elect to return for another year of training, earning the Electrical Master Technician degree (please refer to the Electrical Technology, Electrical Master Technician). Other students may wish to continue their education by returning for an additional year, combining Electrical Technology with Robotics, Automation and Mechatronics, HVAC/R, Plumbing, or business classes. Students may transfer to four-year colleges and universities for a bachelor's degree in programs such as Construction Management or Engineering Technology.

NOTE: This program requires an HP EliteBook Laptop or equivalent. Please refer to the NDSCS website for specifications. Contact the NDSCS ITS Department for more information and to reserve/purchase a laptop at 701-671-3333 option 5.

For further information regarding the Electrical Department, contact Ivan Maas, program coordinator at 701-671-2662 or Zachary Sheeley at 701-671-2715.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Electrical Technology, Electrical Construction. This is the only program/degree in the ND University System which also qualifies most graduates for the 2,000 hours of apprenticeship credit for North Dakota, South Dakota, and Minnesota.

Required Courses

Course Code	Title	Credits
ECAL 101	Direct Current (DC) Fundamentals	5
ECAL 102	Alternating Current (AC) Fundamentals	5
ECAL 103	Electrical Code Study	4
ECAL 105	Electrical Safety and NFPA 70E	1
ECAL 111	Electric Meters and Motors Lab	3
ECAL 133	Basic Wiring Lab	3
ECAL 137	Electrical Drafting	2
ECAL 161	Building Automation and Controls	1
ECAL 163	Renewable Energy Systems and Storage	1
ECAL 201	3-Phase Electrical Systems	5
ECAL 205	Electrical Design and Lighting	3
ECAL 211	AC Measurements	4
ECAL 222	Solid State Systems Lab	2
ECAL 223	Structured Cabling and Alarms Lab	2
ECAL 241	Basic Motor Controls Lab	3
ECAL 243	Programmable Logic Controllers Lab	3

Electrical Construction Courses

Course Code	Title	Credits
ECAL 203	Advanced Electrical Code Study	3
ECAL 204	Electrical Planning and Estimating	4
ECAL 233	Commercial Wiring Laboratory	3

Related/General Education Courses

Course Code	Title	Credits
MSYS 101	Science of Success	1
	English/Communication Elective (choose one)	3
MATH 132	Technical Algebra I	2
MATH 134	Technical Algebra II	2
MATH 136	Technical Trigonometry	2
CIS 101	Digital Literacy	2
	Wellness Elective(s) (2 credits)	2
	Social and Behavioral Sciences, Humanities, History and/or Computer Electives (ECAL)	2
	Total Required Credits	73

Electrical Technology (Electrical Master Technician)

Degree Type Associate in Applied Science

Contact Information

Ivan Maas, associate professor/program coordinator
Ivan.Maas@ndscs.edu
701-671-2662
Barnard Hall 118

Zachary Sheeley, assistant professor/program coordinator
Zachary.Sheeley@ndscs.edu
701-671-2715
Barnard Hall 115

Delivery Methods

Face-to-Face: Wahpeton

The Electrical Master Technician curriculum is designed to meet the diverse needs of the construction and industrial sectors of the electrical field. This curriculum broadens the student's perspective on the industry with training in alternative energy sources, building control systems, predictive maintenance and automation.

The Electrical Master Technician curriculum builds on the strengths of a two-year degree in Electrical Construction or Industrial Electrical in a 3rd year. It adds cutting-edge technology in medium and high voltage, instrumentation, fiber optics, structured wiring, HVAC/R and other building controls.

The successful completion of the Master Technician program exceeds the number of classroom hours required by the Electrical Boards of North Dakota, Minnesota and South Dakota, thus qualifying graduates for a full year (2,000 hours) work exemption as typically granted by those boards. The NDSCS Electrical Technology program is the only program in the North Dakota University System qualified to receive this credit for hours.

This program also exempts graduates from the mandatory classroom training required by North Dakota law (ND Century Code Section 43-09-11) for all registered electrical apprentices.

Other links of interest:

www.ndseb.com
www.bls.gov/

NOTE: This program requires an HP EliteBook Laptop or equivalent. Please refer to the NDSCS website for specifications. Contact the NDSCS ITS Department for more information and to reserve/purchase a laptop at 701-671-3333 option 5.

For further information regarding the Electrical Department, contact Ivan Maas, program coordinator at 701-671-2662 or Zachary Sheeley at 701-671-2715.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Electrical Technology.

Required Courses

Course Code	Title	Credits
ECAL 101	Direct Current (DC) Fundamentals	5
ECAL 102	Alternating Current (AC) Fundamentals	5
ECAL 103	Electrical Code Study	4
ECAL 105	Electrical Safety and NFPA 70E	1
ECAL 111	Electric Meters and Motors Lab	3
ECAL 133	Basic Wiring Lab	3
ECAL 137	Electrical Drafting	2
ECAL 161	Building Automation and Controls	1
ECAL 163	Renewable Energy Systems and Storage	1
ECAL 201	3-Phase Electrical Systems	5
ECAL 205	Electrical Design and Lighting	3
ECAL 211	AC Measurements	4
ECAL 222	Solid State Systems Lab	2
ECAL 223	Structured Cabling and Alarms Lab	2
ECAL 241	Basic Motor Controls Lab	3
ECAL 243	Programmable Logic Controllers Lab	3

Electrical Construction Courses

Course Code	Title	Credits
ECAL 203	Advanced Electrical Code Study	3
ECAL 204	Electrical Planning and Estimating	4
ECAL 233	Commercial Wiring Laboratory	3

Industrial Electrical Courses

Course Code	Title	Credits
ECAL 224	Automated Industrial Controls Lab	5
ECAL 242	Advanced Drives/Lab	2
ECAL 253	Introduction to Instrumentation Lab	3

Additional Master Technician Courses

Course Code	Title	Credits
ECAL 237	House Wiring Rough-In	1
ECAL 238	House Wiring Trim-Out	1
ECAL 245	Medium & High Voltage	1
ECAL 246	Alarm, Communications and Data Systems	3
ECAL 254	Instrumentation and Control Systems	4
ECAL 255	Process Measurement and Control Valves	4
ECAL 261	HVAC and Building Systems	2
ECAL 263	Distributed Electrical Systems	3
RAMT 107	Mechanical Drives and Maintenance I	2
RAMT 109	Mechanical Drives and Maintenance II	2
RAMT 244	Capstone Project	2

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
MATH 132	Technical Algebra I	2
MATH 134	Technical Algebra II	2
MATH 136	Technical Trigonometry	2
	Wellness Elective(s) (2 credits)	2
CIS 101	Digital Literacy	2
MSYS 101	Science of Success	1
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	108

Electrical Technology (Industrial Electrical)

Degree Type Associate in Applied Science

Contact Information

Ivan Maas, associate professor/program coordinator
Ivan.Maas@ndscs.edu
701-671-2662
Barnard Hall 118

Zachary Sheeley, assistant professor/program coordinator
Zachary.Sheeley@ndscs.edu
701-671-2715
Barnard Hall 115

Delivery Methods

Face-to-Face: Wahpeton

The Industrial Electrical option of the Electrical Technology program is designed to give students the skills necessary for successful employment in the industrial sector of the electrical industry. The core curriculum of the Electrical Technology programs includes in-depth study of electrical theory, applied math, code study and residential wiring. A substantial amount of hands-on experience is provided in our seven dedicated laboratories, which contain AutoCAD drawing, advanced electrical test equipment, electric motors, magnetic motor starters, programmable controllers, electronic devices and instrumentation. Green technology is applied in areas of lighting and design class, efficiency of motors, controlling of loads (lighting, AC, etc.) in building operation through programmable controllers (PLCs).

The Industrial Electrical option adds skills in the area of automated industrial controls (robotics, pneumatics and digital electronics) as well as large motors and the electronic drives that control those motors. Graduates of this option find employment as maintenance technicians for manufacturing firms, power companies and processing plants. They also have opportunities to work as engineering technicians in the design, manufacturing and sales of electrical equipment. This flexibility in employment is made possible by the department's faculty members who collectively have over 200 years of industry and training experience.

Graduates of this option are also exempt from the mandatory classroom training required by North Dakota law (ND Century Code 43-09-11).

While students are fully employable upon completion of this associate-granting program, some elect to return for another year of training, earning the Electrical Master Technician degree (please refer to the Electrical Technology, Electrical Master Technician). Other students may wish to continue their education by returning for an additional year, combining Electrical Technology with Robotics, Automation and Mechatronics, HVAC/R, Plumbing, or business classes. Students may transfer to four-year colleges and universities for a bachelor's degree in programs such as Construction Management or Engineering Technology.

NOTE: This program requires an HP EliteBook Laptop or equivalent. Please refer to the NDSCS website for specifications. Contact the NDSCS ITS Department for more information and to reserve/purchase a laptop at 701-671-3333 option 5.

For further information regarding the Electrical Department, contact Ivan Maas, program coordinator at 701-671-2662 or Zach Sheeley, program coordinator at 701-671-2715.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Electrical Technology, Industrial Electrical. This is the only program/degree in the ND University System which also qualifies most graduates for the 2,000 hours of apprenticeship credit for North Dakota and South Dakota.

Required Courses

Course Code	Title	Credits
ECAL 101	Direct Current (DC) Fundamentals	5
ECAL 102	Alternating Current (AC) Fundamentals	5
ECAL 103	Electrical Code Study	4
ECAL 105	Electrical Safety and NFPA 70E	1
ECAL 111	Electric Meters and Motors Lab	3
ECAL 133	Basic Wiring Lab	3
ECAL 137	Electrical Drafting	2
ECAL 161	Building Automation and Controls	1
ECAL 163	Renewable Energy Systems and Storage	1
ECAL 201	3-Phase Electrical Systems	5
ECAL 205	Electrical Design and Lighting	3
ECAL 211	AC Measurements	4
ECAL 222	Solid State Systems Lab	2
ECAL 223	Structured Cabling and Alarms Lab	2
ECAL 241	Basic Motor Controls Lab	3
ECAL 243	Programmable Logic Controllers Lab	3

Industrial Courses

Course Code	Title	Credits
ECAL 224	Automated Industrial Controls Lab	5
ECAL 242	Advanced Drives/Lab	2
ECAL 253	Introduction to Instrumentation Lab	3

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
MATH 132	Technical Algebra I	2
MATH 134	Technical Algebra II	2
MATH 136	Technical Trigonometry	2
	Wellness Elective(s) (2 credits)	2
CIS 101	Digital Literacy	2
MSYS 101	Science of Success	1
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	73

Fire Science

Fire Science

Degree Type Associate in Applied Science

Contact Information:

Clint Gilbertson, professor
NDSCS Fire Science program coordinator
701-671-2329.

The Fire Science Degree is designed to educate students for a career in the fire service and individuals employed in the Fire Rescue field. A combination of Fire Science and general education prepares graduates for advanced career opportunities and professional development.

We aim to focus on technical skills to develop educational experiences in fire protection and firefighter safety.

This Fire Science Degree includes training for state certification.

Regulations governing this program require all applicants to meet specific functional abilities – some are without accommodations – for admission and/or successful program completion.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Fire Science.

Fire Science Core Courses

Course Code	Title	Credits
FIRE 101	Fire Fighter I	5
FIRE 102	Firefighter Safety and Survival	1
FIRE 103	Incident Command	3
FIRE 104	Hazardous Materials Operations	3
FIRE 105	Structure-Based Live Fire	2
FIRE 201	Fire Fighter II	4
FIRE 202	Auto Extrication	4

Fire Electives (Select 23 credits)

Select 23 credits worth of electives

Course Code	Title	Credits
FIRE 106	Interior Fire Attack	2
FIRE 197	Internship (Fire)	6
FIRE 204	Responding to Flammable Gas Emergencies	2
FIRE 205	Fire Department Emergency Vehicle Operations Course (EVOC)	2
FIRE 206	Heavy Vehicle Extrication	2
FIRE 207	Grain Bin Extraction & Rescue	2
FIRE 208	Technical Rescue	1-8
FIRE 209	Fire Instructor I	2
EMS 100	Emergency Medical Responder (EMR)	2
EMS 101	Introduction into EMS	2
EMS 110	EMT Fundamentals	3
EMS 110L	EMT Fundamentals Lab	1
EMS 110P	EMT Practicum	1
FIRE 299	Special Topics	1-8

General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
	Mathematics and/or Science Electives (2 credits)	2
CIS 101	Digital Literacy	2
	Wellness Elective(s) (2 credits)	2
	General Education Electives (6 credits)	6
	Total Required Credits	60

Firefighter I

Degree Type Certificate

Contact Information:
Clint Gilbertson
clinton.gilbertson@ndscs.edu
701-671-2329
Trade Tech II - 158

Delivery Methods:
Combination
Online and Face-To-Face
Location TBD

Program Information:

The Fire Science Certificate is designed to educate students for a career in the fire service and individuals employed in the Fire Rescue field. A combination of Fire Science and general education prepares graduates for advanced career opportunities and professional development.

We aim to focus on technical skills to develop educational experiences in fire protection and firefighter safety.

This Fire Science Certificate includes training for state certification. Regulations governing this program require all applicants to meet specific functional abilities - some are without accommodations - for admission and/or successful program completion.

For further information, contact Clint Gilbertson, N0SCS Fire Science program coordinator at 701-671-2832.

Admission Requirements:

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Award:

Upon successful completion of the required courses, students will be awarded a Certificate in Firefighter I.

Core Curriculum

Course Code	Title	Credits
FIRE 101	Fire Fighter I	5
FIRE 102	Firefighter Safety and Survival	1
FIRE 103	Incident Command	3
FIRE 104	Hazardous Materials Operations	3
FIRE 105	Structure-Based Live Fire	2

General Education Core

General Education Course Matrix

Course Code	Title	Credits
	General Education Electives (3 credits)	3
	Total Required Credits	17

Firefighter II

Degree Type Certificate

Contact Information:
Clint Gilbertson
clinton.gilbertson@ndscs.edu
701-671-2329
Trade Tech II - 158

Delivery Methods:
Combination
Online and Face-To-Face
Location TBD

Program Information:

The Fire Science Certificate is designed to educate students for a career in the fire service and individuals employed in the Fire Rescue field. A combination of Fire Science and general education prepares graduates for advanced career opportunities and professional development.

We aim to focus on technical skills to develop educational experiences in fire protection and firefighter safety.

This Fire Science Certificate includes training for state certification. Regulations governing this program require all applicants to meet specific functional abilities - some are without accommodations - for admission and/or successful program completion.

For further information, contact Clint Gilbertson, NDSCS Fire Science program coordinator at 701-671-2832.

Admission Requirements:

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Award:

Upon successful completion of the required courses, students will be awarded a Certificate in Firefighter II.

Core Curriculum

Course Code	Title	Credits
FIRE 106	Interior Fire Attack	2
FIRE 201	Fire Fighter II	4
FIRE 202	Auto Extrication	4
FIRE 204	Responding to Flammable Gas Emergencies	2

General Education Core

General Education Course Matrix

Course Code	Title	Credits
	General Education Electives (4 credits)	4
	Total Required Credits	16

Heating, Ventilation, Air Conditioning and Refrigeration Technology

Heating, Ventilating, Air Conditioning and Refrigeration Technology

Degree Type Associate in Applied Science

Contact Information

Daryl Johnson, instructor/program coordinator
daryl.johnson.1@ndscs.edu
701-671-2515
Barnard Hall 122

Delivery Methods

Face-to-Face: Wahpeton

The Heating, Ventilating, Air Conditioning, and Refrigeration (HVAC/R) Technology program provides a balance of theory and application, in keeping with the philosophy of the North Dakota State College of Science. This includes a solid foundation of the principles of heating, ventilation, air conditioning, and refrigeration combined with extensive laboratory experience.

While in the lab, students learn to test, systematically troubleshoot, repair, and maintain electrical and mechanical HVAC/R systems and components. Residential and light commercial heating, ventilating, and air conditioning along with food preservation refrigeration are the focus of the program.

Because of the continuing demand for technicians, an HVAC/R graduate can easily find employment in any state or country. The average age of an HVAC/R technician in the US according to the US Department of Labor is 55 years old. In fact, an NDSCS HVAC/R graduate statistically has multiple jobs to choose from at graduation with starting salaries averaging $37,000 per year (although most students have already found employment prior to graduation). Experienced veteran technicians command salaries averaging between $70,000 and $100,000 per year.

Career opportunities for technicians are multiplying with technological advances in the use of microcomputers for data processing and system control. The demand is also spurred by expansion in the production, storage, and marketing of food and other perishables.

The growing emphasis on energy cost and utilization also is creating a need for technicians to renovate, convert, and service existing heating and air conditioning systems. Graduates may work as service technicians, installation technicians, manufacturers, laboratory technicians, sales representatives, or designers.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded a certificate or an Associate in Applied Science degree in HVAC/R Technology.

Required Courses

Course Code	Title	Credits
REFG 101	Science of Success: Intro to HVAC/R	1
REFG 102	Refrigeration Technology	3
REFG 110	Blueprint Reading and Estimating	2
REFG 111	HVAC/R Trade Skills	3
REFG 112	Domestic and Residential Systems	3
REFG 113	Intro to Refrigeration	3
REFG 121	Electrical Fundamentals	3
REFG 122	Motors for HVAC/R I	3
REFG 123	Basic Electrical Controls	3
REFG 124	Motors for HVAC/R II	3
REFG 253	Gas Heating	3
REFG 255	Electric and Oil Heating	3

Associate in Applied Science

Course Code	Title	Credits
REFG 211	Commercial Refrigeration I	3
REFG 212	Commercial Refrigeration II	3
REFG 226	Building System Controls	3
REFG 231	Comfort Cooling	3
REFG 232	Advanced Residential Systems	3
REFG 254	Heat Pump Technology	3
REFG 256	Hydronic Heating Systems	3

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2
	Wellness Elective(s) (2 credits)	2
CIS 101	Digital Literacy	2
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	69

Heating, Ventilating, Air Conditioning and Refrigeration Technology

Degree Type Certificate

Contact Information

Daryl Johnson, instructor/program coordinator
daryl.johnson.1@ndscs.edu
701-671-2515
Barnard Hall 122

Delivery Methods

Face-to-Face: Wahpeton

The Heating, Ventilating, Air Conditioning, and Refrigeration (HVAC/R) Technology program provides a balance of theory and application, in keeping with the philosophy of the North Dakota State College of Science. This includes a solid foundation of the principles of heating, ventilation, air conditioning, and refrigeration combined with extensive laboratory experience.

While in the lab, students learn to test, systematically troubleshoot, repair, and maintain electrical and mechanical HVAC/R systems and components. Residential and light commercial heating, ventilating, and air conditioning along with food preservation refrigeration are the focus of the program.

Because of the continuing demand for technicians, an HVAC/R graduate can easily find employment in any state or country. The average age of an HVAC/R technician in the US according to the US Department of Labor is 55 years old. In fact, an NDSCS HVAC/R graduate statistically has multiple jobs to choose from at graduation with starting salaries averaging $37,000 per year (although most students have already found employment prior to graduation). Experienced veteran technicians command salaries averaging between $70,000 and $100,000 per year.

Career opportunities for technicians are multiplying with technological advances in the use of microcomputers for data processing and system control. The demand is also spurred by expansion in the production, storage, and marketing of food and other perishables.

The growing emphasis on energy cost and utilization also is creating a need for technicians to renovate, convert, and service existing heating and air conditioning systems. Graduates may work as service technicians, installation technicians, manufacturers, laboratory technicians, sales representatives, or designers.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded a certificate or an Associate in Applied Science degree in HVAC/R Technology.

Required Courses

Course Code	Title	Credits
REFG 101	Science of Success: Intro to HVAC/R	1
REFG 102	Refrigeration Technology	3
REFG 110	Blueprint Reading and Estimating	2
REFG 111	HVAC/R Trade Skills	3
REFG 112	Domestic and Residential Systems	3
REFG 113	Intro to Refrigeration	3
REFG 121	Electrical Fundamentals	3
REFG 122	Motors for HVAC/R I	3
REFG 123	Basic Electrical Controls	3
REFG 253	Gas Heating	3
REFG 255	Electric and Oil Heating	3

Related/General Education Courses

Course Code	Title	Credits
ENGL 105	Technical Communications	3
CIS 101	Digital Literacy	2
	Total Required Credits	35

Land Surveying and Civil Engineering Technology

Land Surveying and Civil Engineering Technology

Degree Type Associate in Applied Science

Contact Information

Jeff Jelinek, associate professor/program coordinator
Jeff.Jelinek@ndscs.edu
701-671-2268
Horton Hall 242

Delivery Methods

Face-to-Face: Wahpeton
Online: Some classes

The Land Surveying and Civil Engineering Technology program is designed to prepare students for work as engineering and surveying technicians in construction-related industries, allowing graduates to pursue a broad range of careers related to surveying, civil drafting, and material testing. Upon graduation, students can be employed with state, county, and city engineering offices as well as private agencies such as consulting engineers, land surveyors and construction contractors.

Students are provided with experiences emphasizing surveying, civil drafting, and material testing. Surveying courses give students the opportunity to learn how to operate the latest technology used in distance and angle measurement. Surveying drawings and maps are developed using enhanced computer-aided drafting programs (CAD). In addition, students take courses in communications, human relations, computers and technical mathematics, which will help provide them with the skills to advance in their careers.

Green and/or sustainable construction is covered at an awareness level in the materials testing classes and the design classes.

While students are fully employable upon completion of this program, students interested in pursuing an advanced degree will find the Associate in Applied Science degree in Land Surveying and Civil Engineering Technology provides transfer options to four-year colleges and universities in related fields such as land surveying and construction management.

NOTE: This program requires a ZBOOK Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, call Randy Stach, program director, at 701-671-2116.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Land Surveying and Civil Engineering Technology.

Required Courses

Course Code	Title	Credits
CAD 120	Introduction to AutoCAD	3
CT 111	Civil Plans and Specifications	3
CT 113	Introduction to Civil Design Applications	3
CT 120	Surveying Fundamentals	2
CT 121	Surveying I	2
CT 122	Surveying II	4
CT 142	OSHA 10 Hour for Construction	1
CT 211	Introduction to Geographic Information Systems	3
CT 212	GIS Applications	3
CT 214	Highway and Street Design	3
CT 215	Land Use Planning and Development	3
CT 216	Utility and Drainage Design	3
CT 221	Surveying III	4
CT 222	Surveying IV	4
CT 223	Boundary Controls & Legal Principles	3
CT 224	Research and Analysis	3
CT 261	Machine Control and Project Layout	2
UAS 111	Introduction to UAS	2
UAS 121	Data Collection I	2

Related/General Education Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
CSCI 101	Software Apps and Digital Literacy	3
	English/Communication Elective (choose one)	3
MATH 136	Technical Trigonometry	2
CMT 101	Science of Success	1
HPER 210	First Aid & CPR (Professional/ Community)	2
MATH 131	Technical Mathematics and Algebra	3
	Total Required Credits	70

Mechanical Systems

Mechanical Systems

Degree Type Associate in Applied Science

Contact Information

Tanner Oliphant, instructor/program coordinator
Tanner.Oliphant@ndscs.edu
701-671-2585
Mechanical Systems 111

Daryl Johnson, instructor/program coordinator
daryl.johnson.1@ndscs.edu
701-671-2515
Barnard Hall 122

Delivery Methods

Face-to-Face: Wahpeton

The Mechanical Systems program is designed to provide the student with the basic knowledge of the plumbing code, trade skills and good work habits, and to credit the student with hours toward apprenticeship training time. The program also will offer the fundamentals of service and installation of residential and light commercial heating and air conditioning equipment. Qualified graduates will have a variety of occupational opportunities available in the HVAC/R and plumbing industries. General education and related instruction are provided so the student will have the opportunity to grow within the occupational field.

Smaller mechanical contractors may struggle to keep their employees doing just plumbing or just heating and air conditioning work. They require technicians with skills in both areas. The Associate in Applied Science in Mechanical Systems provides the training in both programs over two, nine-month periods on campus.

This curriculum involves state codes, various aspects of materials, equipment and fixtures, service, and installation procedures. This requires a working knowledge of the state code, layout of water and sanitation systems in the buildings in accordance with the code. This curriculum also involves doing take-off work from blueprints; working with a variety of materials used in piping such as cast iron, plastic, copper, and steel; the setting of various fixtures and proper hookups; and the service of various valves, controls, fixture items and domestic water systems. It will involve the operation, service, and repair or change-out of various mechanical equipment, controls, and accessories of residential and light commercial systems.

The service of mechanical equipment for heating using fossil fuels requires a knowledge of fuels, fuel-air mixtures, combustion testing, and control systems. The mechanical equipment for cooling requires knowledge of refrigerants and their systems, compressor change-out, refrigerant recovery and recycling, and system clean up. The equipment studied includes gas, oil, and electric heating equipment along with conventional cooling equipment and heat pumps.

Students are encouraged to take the bulk of their plumbing coursework first and then return the second year for their HVAC/R Technology coursework. Students who fail to complete all the required general education courses will be granted certificates in each respective program (Plumbing and HVAC/R Technology). Both the Plumbing and HVAC/R certificate course work offer students study in “Green” technologies, which are in increasing demand as skills in this career choice.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. The cost will be approximately $1065.00 for the EliteBook 850 and $2100.00 for the ZBOOK 15, if purchased through NDSCS. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5. **The laptop is only required in the 2nd year of the Mechanical Systems program.**

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Mechanical Systems.

Required Courses

Course Code	Title	Credits
MSYS 151	Drafting and Sketching	2
PLMB 101	Core Curriculum for Plumbers	2
PLMB 102	Plumbing Theory	2
PLMB 103	Plumbing Code I	2
PLMB 104	Plumbing Code II	2
PLMB 105	Plumbing Code III	2
PLMB 106	Plumbing Code IV	2
PLMB 111	Plumbing Lab I	3
PLMB 112	Plumbing Lab II	3
PLMB 113	Plumbing Lab III	3
PLMB 114	Plumbing Lab IV	3
PLMB 115	Residential Plumbing Application	1
PLMB 132	Blueprint Reading I	2
PLMB 133	Blueprint Reading II	2
REFG 102	Refrigeration Technology	3
REFG 112	Domestic and Residential Systems	3
REFG 113	Intro to Refrigeration	3
REFG 121	Electrical Fundamentals	3
REFG 122	Motors for HVAC/R I	3
REFG 123	Basic Electrical Controls	3
REFG 253	Gas Heating	3
REFG 255	Electric and Oil Heating	3

Related/General Education

Course Code	Title	Credits
ENGL 105	Technical Communications	3
REFG 101	Science of Success: Intro to HVAC/R	1
CIS 101	Digital Literacy	2
	Math Elective(s) (6 credits)	6
	Wellness Elective(s) (2 credits)	2
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	71

Plumbing

Plumbing

Degree Type Certificate

Contact Information

Tanner Oliphant, instructor/program coordinator
Tanner.Oliphant@ndscs.edu
701-671-2585
Mechanical Systems 111

Delivery Methods

Face-to-Face: Wahpeton

The Plumbing program at NDSCS provides both lecture and lab opportunities for the student. While approximately 55% of the semester time is in lab, it is felt the remainder of the time (when they are immersed in theory, plumbing code and drafting/design classes) will benefit them in career advancement as well as increase their success on the Journeyman's exam which they will eventually take. The hands-on training in labs helps to prepare students for work in both the residential and commercial plumbing fields. The lab classes require students to learn to work with copper, plastic and PEX piping methods and also learn the proper procedures for installing fixtures. Along with good, safe plumbing practices, the lab courses also help to create good work habits and to further develop students' interpersonal skills.

The theory and design classes arm students with the knowledge of pipe sizing and proper placement of piping and fixtures within the structure. All aspects of installation and design are performed with the Uniform Plumbing Code as a reference. Code-specific classes each semester raise awareness and preparation for state licensure in the future. Upon successful completion of the NDSCS Plumbing program, up to 2,040 schooling hours may be credited by the ND State Plumbing Board, 1,750 hours by the Minnesota Plumbing Board and 1,900 by the South Dakota Plumbing Board toward their plumbing apprenticeship.

The program's transition to more commercial plumbing materials and practices will offer employers a more well-rounded employee in the future. During the print reading class, students will gain valuable experience in construction/project management utilizing Procore software and will receive a certification for their knowledge of that program. To enhance students' residential experience, the plumbing students will provide the plumbing services (piping and fixture installation) for the house which the Building Construction Technology students build on campus each year. For the more competitive students NDSCS offers the opportunity to compete at the college level in the ND Skills USA competition in the spring. Students also will write an industry competency exam at the end of the year to measure their learning against other students nation-wide. Lastly, all aspects of the plumbing instruction provide students with the knowledge of and exposure to up-to-date materials and practices which lead to more efficient uses of our natural "greener" resources within the plumbing industry.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award

Upon successful completion of the required courses, students will be awarded a certificate in Plumbing.

Required Courses

Course Code	Title	Credits
MSYS 151	Drafting and Sketching	2
PLMB 101	Core Curriculum for Plumbers	2
PLMB 102	Plumbing Theory	2
PLMB 103	Plumbing Code I	2
PLMB 104	Plumbing Code II	2
PLMB 105	Plumbing Code III	2
PLMB 106	Plumbing Code IV	2
PLMB 111	Plumbing Lab I	3
PLMB 112	Plumbing Lab II	3
PLMB 113	Plumbing Lab III	3
PLMB 114	Plumbing Lab IV	3
PLMB 115	Residential Plumbing Application	1
PLMB 132	Blueprint Reading I	2
PLMB 133	Blueprint Reading II	2

A student will earn a certificate in Plumbing after completing the above courses and the appropriate credits of general education courses as listed below. An Associate in Applied Science degree in Mechanical Systems may be earned by taking the additional classes listed from the HVAC/R Technology curriculum.

Related/General Education Courses

Course Code	Title	Credits
ENGL 105	Technical Communications	3
CIS 101	Digital Literacy	2

A student will earn a certificate in Plumbing after completing all the above courses. An Associate in Applied Science degree in Mechanical Systems may be earned by taking the additional REFG (HVAC/R) courses listed under the Mechanical Systems AAS Degree.

	Total Required Credits	36

Precision Machining Technology

Precision Machining Technology

Degree Type Associate in Applied Science

Contact Information

Steve Johnson, associate professor/program coordinator
Steve.Johnson@ndscs.edu
701-671-2478
Tech Center 29

Delivery Methods

Face-to-Face: Wahpeton

The Precision Machining Technology curriculum is designed to provide students experience in machining as it pertains to machining, toolmaking and mold making. This program provides education and training in CNC programming, CNC set-up and operation, production machining, mold making, die making, toolmaking, automated manufacturing, human relations, communications and other aspects of general education.

Career opportunities offer a wide range of employment possibilities in the manufacturing, machining, toolmaking, mold making and production areas. Recent placement has been 98 percent.

NOTE: This program requires an EliteBook Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Steve Johnson, program coordinator, at 701-671-2478.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Precision Machining Technology.

Associate in Applied Science

Course Code	Title	Credits
MATL 101	Machine Tool Theory I	3
MATL 102	Machine Tool Theory II	3
MATL 111	Machine Tool Lab I	9
MATL 112	Machine Tool Lab II	9
MATL 201	Toolmaking Theory I	3
MATL 202	Toolmaking Theory II	2
MATL 205	CNC Theory and CAD-CAM Operation	3
MATL 206	CNC and CAD-CAM Programming	3
MATL 213	Machinist Lab I	9
MATL 214	Machinist Lab II	9
MFGT 137	Print Reading I	2
MFGT 141	Print Reading II	2

Associate in Applied Science

Course Code	Title	Credits
	English/Communication Electives (PMT)	6
MATH 130	Technical Math	2
MATH 136	Technical Trigonometry	2
	Wellness Elective(s) (2 credits)	2
CTE 101	Science of Success: Manufacturing	1
CIS 101	Digital Literacy	2
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	74

Intermediate Precision Machining Technology

Degree Type Certificate

Contact Information:
Steve Johnson, associate professor/program coordinator
Steve.Johnson@ndscs.edu
701-671-2478
Tech Center 29

Delivery Methods:
Face-to-Face: Wahpeton

The Intermediate Precision Machining Technology curriculum is designed to provide students experience in machining as it pertains to machining, toolmaking and mold making.

This program provides education and training in CNC programming, CNC set-up and operation, production machining, mold making, die making, toolmaking, automated manufacturing, human relations, communications and other aspects of general education.

Career opportunities offer a wide range of employment possibilities in the manufacturing, machining, toolmaking, mold making and production areas. Recent placement has been 98 percent.

NOTE: This program requires an EliteBook 850 Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Steve Johnson, program coordinator, at 701-671-2478.

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded a certificate in Intermediate Precision Machining Technology.

Core Courses

Course Code	Title	Credits
MATL 102	Machine Tool Theory II	3
MATL 112	Machine Tool Lab II	9
MFGT 141	Print Reading II	2
MATH 136	Technical Trigonometry	2
MFGT 299	Special Topics	1
	Total Required Credits	17

Introduction to Precision Machining Technology

Degree Type Certificate

Contact Info:
Steve Johnson, associate professor/program coordinator
Steve.Johnson@ndscs.edu
701-671-2478
Tech Center 29

Delivery Methods:
Face-to-Face: Wahpeton

The Introduction to Precision Machining Technology curriculum is designed to provide students experience in machining as it pertains to machining, toolmaking and mold making.

This program provides education and training in CNC programming, CNC set-up and operation, production machining, mold making, die making, toolmaking, automated manufacturing, human relations, communications and other aspects of general education.

Career opportunities offer a wide range of employment possibilities in the manufacturing, machining, toolmaking, mold making and production areas. Recent placement has been 98 percent.

NOTE: This program requires an EliteBook 850 Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Steve Johnson, program coordinator, at 701-671-2478.

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded a certificate in Introduction to Precision Machining Technology.

Core Courses

Course Code	Title	Credits
CTE 101	Science of Success: Manufacturing	1
MATL 101	Machine Tool Theory I	3
MATL 111	Machine Tool Lab I	9
MFGT 137	Print Reading I	2
MATH 130	Technical Math	2
	Total Required Credits	17

Precision Machining Technology

Degree Type Certificate

Contact Information

Steve Johnson, associate professor/program coordinator
Steve.Johnson@ndscs.edu
701-671-2478
Tech Center 29

Delivery Methods

Face-to-Face: Wahpeton

The Precision Machining Technology curriculum is designed to provide students experience in machining as it pertains to machining, toolmaking and mold making. This program provides education and training in CNC programming, CNC set-up and operation, production machining, mold making, die making, toolmaking, automated manufacturing, human relations, communications and other aspects of general education.

Career opportunities offer a wide range of employment possibilities in the manufacturing, machining, toolmaking, mold making and production areas. Recent placement has been 98 percent.

NOTE: This program requires an EliteBook Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Steve Johnson, program coordinator, at 701-671-2478.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award

Upon successful completion of the required courses, students will be awarded a certificate in Precision Machining Technology.

Certificate Required Courses

Course Code	Title	Credits
MATL 101	Machine Tool Theory I	3
MATL 102	Machine Tool Theory II	3
MATL 111	Machine Tool Lab I	9
MATL 112	Machine Tool Lab II	9
MFGT 137	Print Reading I	2
MFGT 141	Print Reading II	2

Certificate Related/General Education Courses

Course Code	Title	Credits
MATH 130	Technical Math	2
MATH 136	Technical Trigonometry	2
CTE 101	Science of Success: Manufacturing	1
CIS 101	Digital Literacy	2
	Total Required Credits	35

Robotics, Automation and Mechatronics Technology

RAMT-General Technician

Degree Type Associate in Applied Science

Contact Information

LeAnne Jaenisch, associate professor/program coordinator
Leanne.jaenisch@ndscs.edu
701-671-2176
Barnard Hall 206

Delivery Methods

Face-to-Face: Wahpeton

The Robotics, Automation and Mechatronics Technology (RAMT) program is designed to provide students with the knowledge, skills, and abilities necessary to succeed in industries utilizing robotics and automated systems.

This program combines disciplines such as electronics, networking, computers, mechanics, and fluid power utilized in manufacturing and production facilities.

Industries that hire RAMT graduates with the skill sets learned in this program include; manufacturing, pharmaceutical, food production, energy, defense, and agriculture.

A RAMT technician graduating from this program may work performing installations, troubleshooting, repairing, and programming for automated systems.

A Robotics, Automation and Mechatronics Technology student will experience a combination of lecture and lab classes with knowledgeable instructors, using hands-on real-world applications and scenarios which will prepare the student for a lifelong career.

NOTE: This program requires an HP EliteBook Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact LeAnne Jaenisch, program coordinator, at 701-671-2176.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Robotics, Automation and Mechatronics Technology.

Required Courses

Course Code	Title	Credits
ECAL 241	Basic Motor Controls Lab	3
RAMT 103	Applied AC Theory	4
RAMT 107	Mechanical Drives and Maintenance I	2
RAMT 109	Mechanical Drives and Maintenance II	2
RAMT 120	3D Modeling and Design	3
RAMT 124	Robotics Systems I	3
RAMT 125	Digital and Pneumatic Systems	2
RAMT 137	Print Reading, Drafting and Safety	2
RAMT 143	PLC's I	3
RAMT 202	PLC's II	3
RAMT 203	Machine Safety and Panel Building	3
RAMT 208	Information Technology for Technicians	2
RAMT 221	Robotics II	3
RAMT 222	Solid State Systems I	2
RAMT 223	Solid State Systems II	2
RAMT 240	Principles of Project Management	2
RAMT 246	Quality Assurance Standards and Methods	3
RAMT 250	Drives and Servo Systems	2
RAMT 294	Capstone Project	2
RAMT 297	Internship	4

Related/General Education Courses

Course Code	Title	Credits
CIS 101	Digital Literacy	2
	English/Communication Elective (choose one)	3
RAMT 101	Science of Success	1
	Wellness Elective(s) (2 credits)	2
MATH 132	Technical Algebra I	2
MATH 134	Technical Algebra II	2
MATH 136	Technical Trigonometry	2
PSYC 100	Human Relations in Organizations	2
	Total Required Credits	72

RAMT-Mechatronics Engineering Technology

Degree Type Associate in Applied Science

Contact Information

LeAnne Jaenisch, associate professor/program coordinator
leanne.jaenisch@ndscs.edu
701-671-2176
Barnard Hall 206

Delivery Methods

Face-to-Face: Wahpeton

The Mechatronics Engineering Technology (MET) program is designed to provide students with the knowledge, skills and abilities necessary to succeed in industries utilizing robotics and automated systems while preparing them for transfer into four-year engineering and/or engineering technology programs.

The program combines disciplines such as robotics, computer networking, automated controls, mechanics, and fluid power utilized in manufacturing and production facilities.

Industries that hire MET graduates with the skill sets learned in this program include; manufacturing, pharmaceutical, food production, energy, defense, and agriculture.

A MET program graduate may work performing installations, troubleshooting, repairing, and programming for automated systems, or may fulfill the roles of an entry-level engineering technician.

A Mechatronics Engineering Technology student will experience a combination of lecture and lab classes with knowledgeable instructors, using hands-on real-world applications and scenarios which will prepare the student for a lifelong career while preparing for follow-on education of four-year institution, if desired.

NOTE: This program requires an HP EliteBook Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact LeAnne Jaenisch, program coordinator, at 701-671-2176.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Robotics, Automation and Mechatronics Technology – Mechatronics Engineering Technology.

Required Courses

Course Code	Title	Credits
ECAL 241	Basic Motor Controls Lab	3
RAMT 103	Applied AC Theory	4
RAMT 109	Mechanical Drives and Maintenance II	2
RAMT 120	3D Modeling and Design	3
RAMT 202	PLC's II	3
RAMT 203	Machine Safety and Panel Building	3
RAMT 208	Information Technology for Technicians	2
RAMT 221	Robotics II	3
RAMT 124	Robotics Systems I	3
RAMT 125	Digital and Pneumatic Systems	2
RAMT 137	Print Reading, Drafting and Safety	2
RAMT 143	PLC's I	3
RAMT 240	Principles of Project Management	2
RAMT 246	Quality Assurance Standards and Methods	3
RAMT 250	Drives and Servo Systems	2
RAMT 294	Capstone Project	2
RAMT 297	Internship	4

Related/General Education Courses

Course Code	Title	Credits
ENGL 110	College Composition I	3
	Wellness Elective(s) (2 credits)	2
MATH 103	College Algebra	3
MATH 105	Trigonometry	2
PHYS 211	College Physics I	3
PHYS 211L	College Physics I Lab	1
CIS 101	Digital Literacy	2
RAMT 101	Science of Success	1
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	69

Technical Studies

Journeyworker Track

Degree Type Associate in Applied Science

Contact Information

Academic Counselor
NDSCS-Wahpeton
701-671-2257

Academic Counselor
NDSCS-Fargo
701-231-6947

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo
Online: All classes
Combination

The Technical Studies – Journeyworker Track program is designed to allow advanced standing to individuals who have completed a USDOL or federally approved apprenticeship training program of at least 6,000 hours (including a minimum of 400 related study hours). It is a flexible program providing students the opportunity to earn an Associate in Applied Science degree by combining their previous apprenticeship training with college credit course work. Students will work with an advisor to design their own plan of study based on their personal career goals. The completion of this program will help students develop the skills and abilities needed for advancement in their current profession.

Green technology could be a large part of a student's customized program. In today's market that includes "smart" buildings, sustainable building materials, alternative fuels and changing technology, students may choose to customize plans that help them gain entry into a variety of new and emerging fields.

Individuals who are currently employed and are not able to relocate will find many of their courses are available in an online format. Availability of classes is limited by the student's own plan of study.

For more information, contact the academic counselor at 1-800-342-4325, ext. 3-2257 or NDSCS–Fargo at 701-231-6901, ext. 1-6947.

Students who wish to continue their education will find there are transfer options to four-year colleges and universities. For more information, see the academic counselor.

Admission Requirements*

The applicants must be high school graduates or equivalent. To receive advanced standing, they must provide official documentation of a completed USDOL or federally approved apprenticeship training program of at least 6000 hours (including a minimum of 400 related study hours). Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English and math courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.ndscs.edu/academics/english-and-math-placement-course-placement for the NDSCS Course Placement Procedure and testing information.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Technical Studies.

Required Courses for Journey-Level Certificate

32 credits required, but an additional 5 credits may be awarded based off additional related study hours.

Course Code	Title	Credits
PLA 202	Prior Learning Assessment	0-12
PLA 202	Prior Learning Assessment	0-12
PLA 202	Prior Learning Assessment	0-12

General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
	Mathematics and/or Science	3
PSYC 100	Human Relations in Organizations	2
	General Education Electives (3 credits)	3
	Wellness Elective(s) (2 credits)	2
	Technical, Business and/or General Education Electives (14 credits)	14
CIS 101	Digital Literacy	2

- Consult academic advisor in selecting electives that are most appropriate. An academic plan must be developed and be placed on file in the Records office.

- Internships and cooperative education credits will not be accepted in lieu of the technical, business and/or general education course credits.

PLA 202 credits will be transcripted after the successful completion of one NDSCS course.

Individuals seeking this degree will need to meet the NDSCS graduation requirement stating: At least 16 of the final 24 credits of the curriculum must be taken through NDSCS.

	Total Required Credits	61

Technical Studies

Degree Type Associate in Applied Science

Contact Information

Academic Counselor
NDSCS-Wahpeton
701-671-2257

Academic Counselor
NDSCS-Fargo
701-231-6947

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo
Online: Some classes
Combination

This custom-designed program allows individuals to combine elements of various disciplines in a meaningful and logical sequence that meets their career goals. The Technical Studies program addresses a recognized need for business and industry to attract highly trained workers with a variety of skills and to retain current workers. Individuals may pursue this program of study for career advancement or increase in job responsibility or salary. Students work with an advisor to identify career goals and plan a program of study.

For example, a Technical Studies program may be appropriate if a student wanted to combine certain elements of a Business Management curriculum with parts of an Information and Communications Technology program. Another illustration of a Technical Studies program might include a program of study that consists of parts of Electrical Technology, HVAC/R Technology and Plumbing.

Green technology could be a large part of a student's customized program. In today's market that includes "smart" buildings, sustainable building materials, alternative fuels and changing technology, students may choose to customize plans that help them gain entry into a variety of new and emerging fields.

Students enrolled in this program may earn Credit for Prior Learning for previous occupational experience.

Students may choose to build a program that will allow them to earn a certificate, a diploma, or an associate degree. The objective of the individual, the occupational experience, and the needs of the work place will be considered in selecting courses.

For more information, contact the academic counselor at 1-800-342-4325, ext. 3-2257 or NDSCS–Fargo at 701-231-6901, ext. 1-6947.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English and math courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.ndscs.edu/academics/english-and-math-placement-course-placement for the NDSCS Course Placement Procedure and testing information.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded a certificate or an Associate in Applied Science degree in Technical Studies.

Required Courses

Course Code	Title	Credits
	Technical Credits (19 credits)	19
	General Education Electives in at least two disciplines (5 credits)	5
FYE 101	Science of Success	1

Associate in Applied Science

Course Code	Title	Credits
	Technical Credits (46 credits)	46
	English/Communication Elective (choose one)	3
	Mathematics and/or Science	3
PSYC 100	Human Relations in Organizations	2
CIS 101	Digital Literacy	2
	General Education Electives (3 credits)	3
	Wellness Elective(s) (2 credits)	2
FYE 101	Science of Success	1

* Technical credits may be earned by a combination of college courses and/or Work-Based Learning Experiences.

Work-Based Learning Experience (internship, affiliation, directed practice, cooperative education, practicum or supervised occupational experience) is a structured experience, which allows the student to learn on the job while under the direction and supervision of the designated college department. Usually earned after matriculation in a custom designed program.

Credit for Prior Learning refers to learning that occurs before a student enrolls at NDSCS and may be applied to technical courses or work-based learning credits in the Technical Studies curriculum. It may be academic credit awarded for learning that does not occur in the classroom. The award of this type of credit must be based on college-level learning, not simply experiences or time elapsed. A key consideration in awarding Credit for Prior Learning in this form of learning must be described, demonstrated and documented before it can be awarded.

	Total Required Credits	25-62

Unmanned Aircraft Systems

Unmanned Aircraft Systems (Architectural Modeling Emphasis)

Degree Type Associate in Applied Science

Contact Information

Seth Simonson, associate professor/UAS lead
Unmanned Aircraft Systems
Seth.Simonson@ndscs.edu
701-671-2345
Horton Hall 235

Lara Lekang, associate professor/program coordinator
Architectural Modeling & Design Technology
Lara.G.Lekang@ndscs.edu
701-671-2592
Horton Hall 239

Delivery Methods

Face-to-Face: Wahpeton
Online: Some classes

The Unmanned Aircrafl Systems Associates of Applied Science (AAS) degree program is designed to prepare students with the knowledge and ability to use various types of unmanned aircraft systems, the legal guidelines for operating UAS in a commercial environment, preflight planning, how to pilot UAS and collect data using various types of sensors, process the data, analyze and understand the data related to a specific discipline. Students will utilize high resolution camaras, thermal imaging sensors, LiDAR, and other sensors for collecting various types of data and then learning to process and analyze that data.

With the Architectural Modeling Emphasis, in addition to the UAS courses, students will take multiple modeling courses using Autodesk Revit software. Construction methods and materials and print reading courses will also be included in the program for students to have a good knowledge of construction and ability to read prints.

Graduates will have a broad range of knowledge of the construction industry which will allow them to pursue a career working for contractors. architectural firms, engineering firms, or drone companies who will utilize their knowledge and skills of Architectural Modeling combined with UAS for visual verification, historical documentation, improved construction transparencies and much more!

While students are fully employable upon completion of this program, some may wish to return for an additional year and earn a second major in Construction Management Technology.

Green and/or sustainable construction ls covered at an awareness level in the methods and materials classes and the various modeling classes.

Admission Requirements

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Program Admission Requirements are subject to revision. P/ease check the department or program website under Program Admission Requirements for current Information.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Unmanned Aircraft Systems.

Required Courses

Course Code	Title	Credits
ARCT 101	Architectural Modeling I	3
ARCT 102	Architectural Modeling II	4
ARCT 110	Graphic Communications	2
ARCT 121	Revit Architecture	2
ARCT 122	Structural Modeling	2
ARCT 131	Construction Methods and Materials I	3
ARCT 201	Architectural Modeling III	4
ARCT 212	Architectural Presentations	2
ARCT 231	Construction Methods and Materials II	3
ARCT 225	Mechanical and Electrical Systems	2
UAS 111	Introduction to UAS	2
UAS 112	Unmanned Aircraft Systems Certification	2
UAS 121	Data Collection I	2
UAS 122	Photography and Videography	2
UAS 132	Advanced Flight I	2
UAS 221	Data Collection II	2
UAS 223	Capstone Project	2
UAS 232	Advanced Flight II	2
BCT 140	Intro to Print Reading	2
ARCT 214	Architectural Portfolio	1
UAS 222	Data Collection III	2
	Technical Electives (Check with academic advisor on courses)	6

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
MATH 136	Technical Trigonometry	2
CMT 101	Science of Success	1
HPER 210	First Aid & CPR (Professional/ Community)	2
MATH 131	Technical Mathematics and Algebra	3
CSCI 101	Software Apps and Digital Literacy	3
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	70

Unmanned Aircraft Systems (Business & Marketing Emphasis)

Degree Type Associate in Applied Science

Contact Information

Seth Simonson, associate professor/UAS lead
Unmanned Aircraft Systems
Seth.Simonson@ndscs.edu
701-671-2345
Horton Hall 235

Gregory Anderson, associate professor/program coodinator
Business Administration and Management
Greg.Anderson@ndscs.edu
701-671-2172
Horton Hall 233

Delivery Methods

Face-to-Face: Wahpeton
Online: Some classes

The Unmanned Aircraft Systems Associates of Applied Science (AAS) degree program is designed to prepare students with the knowledge and ability to use various types of unmanned aircraft systems, the legal guidelines for operating UAS in a commercial environment, preflight planning, how to pilot UAS and collect data using various types of sensors, process the data, analyze and understand the data related to a specific discipline. Students will utilize high resolution camaras, thermal imaging sensors, UDAR, and other sensors for collecting various types of data and then learning to process and analyze that data.

With the Business and Marketing Emphasis, students will take multiple courses, so they are knowledgeable of business and marketing practices. In the business courses professionalism will be emphasized and students should be willing to improve on their communication and presentation skills to be successful.

Graduates will have a broad range of opportunities to start their career related to business and marketing use of the drone technology. The UAS degree will enhance knowledge of the drone utilization by business and industry which will allow them to pursue a career working for marketing firms, realtors, contractors, drone service providers, or any corporate business requiring the utilization of drone technology.

NOTE: This program requires a ZBOOK Laptop or equivalent. Please refer to the NDSCS website for specifications. For further Information, call Seth Simonson, at 701-671-2345.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Unmanned Aircraft Systems.

Required Courses

Course Code	Title	Credits
ACCT 102	Fundamentals of Accounting	3
BADM 201	Principles of Marketing	3
BADM 240	Sales	3
BUSN 120	Fundamentals of Business	3
UAS 111	Introduction to UAS	2
UAS 112	Unmanned Aircraft Systems Certification	2
UAS 121	Data Collection I	2
UAS 122	Photography and Videography	2
UAS 132	Advanced Flight I	2
UAS 221	Data Collection II	2
UAS 222	Data Collection III	2
UAS 223	Capstone Project	2
UAS 232	Advanced Flight II	2
	Technical Electives (Check with academic advisor on courses)	6

Related/General Education Courses

Course Code	Title	Credits
	Business Electives (12 credits minimum)	12
COMM 110	Fundamentals of Public Speaking	3
	English/Communication Elective (choose one)	3
MATH 136	Technical Trigonometry	2
CMT 101	Science of Success	1
HPER 210	First Aid & CPR (Professional/ Community)	2
MATH 131	Technical Mathematics and Algebra	3
CSCI 101	Software Apps and Digital Literacy	3
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	67

Unmanned Aircraft Systems (Civil Engineering Technology Emphasis)

Degree Type Associate in Applied Science

Contact Information

Seth Simonson, associate professor/UAS lead
Unmanned Aircraft Systems
Seth.Simonson@ndscs.edu
701-671-2345
Horton Hall 235

Jeff Jelinek, associate professor/program coordinator
Land Surveying & Civil Engineering Technology
701-671-2268
Horton Hall 242

Delivery Methods

Face-to-Face: Wahpeton
Online: Some classes

The Unmanned Aircraft Systems Associates of Applied Science (AAS) degree program is designed to prepare students with the knowledge and ability to use various types of unmanned aircraft systems. the legal guidelines for operating UAS in a commercial environment, preflight planning, how to pilot UAS and collect data using various types of sensors, process the data, analyze, and understand the data related to a specific discipline. Students will utilize high resolution camaras, thermal imaging sensors, LiDAR, and other sensors for collecting various types of data and then learning to process and analyze that data.

The Civil Engineering Technology Emphasis will prepare students for work as civil technicians in construction related industries with the ability to utilize drone technology. Civil Engineering Technology courses give students the opportunity to learn how to develop civil/surveying drawings and maps using enhanced computer-aided drafting programs (CAD). In addition, students take courses in communications, human relations. computers and technical mathematics, which will help provide them with the skills to advance in their careers.

Upon graduation, students can be employed with state, county, and city engineering offices as well as private civil engineering firms and drone service providers.

NOTE: This program requires a ZBOOK Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, call Randy Stach, program director, at 701-671-2116.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test<enter for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Unmanned Aircraft Systems.

Required Courses

Course Code	Title	Credits
CAD 120	Introduction to AutoCAD	3
CT 111	Civil Plans and Specifications	3
CT 113	Introduction to Civil Design Applications	3
CT 211	Introduction to Geographic Information Systems	3
CT 212	GIS Applications	3
CT 214	Highway and Street Design	3
CT 215	Land Use Planning and Development	3
CT 216	Utility and Drainage Design	3
CT 261	Machine Control and Project Layout	2
UAS 111	Introduction to UAS	2
UAS 112	Unmanned Aircraft Systems Certification	2
UAS 121	Data Collection I	2
UAS 122	Photography and Videography	2
UAS 132	Advanced Flight I	2
UAS 221	Data Collection II	2
UAS 222	Data Collection III	2
UAS 223	Capstone Project	2
UAS 232	Advanced Flight II	2
	Technical Electives (Check with academic advisor on courses)	6

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
MATH 136	Technical Trigonometry	2
CMT 101	Science of Success	1
HPER 210	First Aid & CPR (Professional/Community)	2
CSCI 101	Software Apps and Digital Literacy	3
MATH 131	Technical Mathematics and Algebra	3
COMM 110	Fundamentals of Public Speaking	3
	Total Required Credits	67

Unmanned Aircraft Systems (Construction Inspection Emphasis)

Degree Type Associate in Applied Science

Contact Information

Seth Simonson, associate professor/UAS lead
Unmanned Aircraft Systems
Seth.Simonson@ndscs.edu
701-671-2345
Horton Hall 235

Randy Stach, associate professor/program director
Construction Management Technology
Randy.Stach@ndscs.edu
701-671-2116
Horton Hall 240

Delivery Methods

Face-to-Face: Wahpeton
Online: Some classes

The Unmanned Aircraft Systems Associates of Applied Science (AAS) degree program is designed to prepare students with the knowledge and ability to use various types of unmanned aircraft systems, the legal guidelines for operating UAS in a commercial environment, preflight planning, how to pilot UAS and collect data using various types of sensors. process the data, analyze and understand the data related to a specific discipline. Students will utilize high resolution camaras, thermal imaging sensors, LiDAR, and other sensors for collecting various types of data and then learning to process and analyze that data.

With the Construction Inspection Emphasis, students will take courses, so they are knowledgeable of construction practices. construction specifications, printing reading, construction document management, material testing, and quality control practices.

Graduates will have a broad range of knowledge of the construction industry which will allow them to pursue a career working for contractors, architectural firms, engineering firms, or drone service providers to conduct construction related inspections.

Green and/or sustainable construction is covered at an awareness level in the methods and materials classes.

NOTE: This program requires a ZBOOK Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, call Seth Simonson, at 701-671-2116.

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test--center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Unmanned Aircraft Systems.

Required Courses

Course Code	Title	Credits
ARCT 131	Construction Methods and Materials I	3
ARCT 231	Construction Methods and Materials II	3
BCT 140	Intro to Print Reading	2
BCT 240	Commercial Print Reading	3
CMT 150	Construction Document Management	2
ARCT 225	Mechanical and Electrical Systems	2
CMT 251	Construction Documents and Specifications	3
CMT 253	Construction Scheduling	3
UAS 111	Introduction to UAS	2
UAS 112	Unmanned Aircraft Systems Certification	2
UAS 121	Data Collection I	2
UAS 122	Photography and Videography	2
UAS 132	Advanced Flight I	2
UAS 221	Data Collection II	2
UAS 222	Data Collection III	2
UAS 223	Capstone Project	2
UAS 232	Advanced Flight II	2
CT 111	Civil Plans and Specifications	3
	Technical Electives (Check with academic advisor on courses)	6

Related/General Education Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
MATH 131	Technical Mathematics and Algebra	3
	English/Communication Elective (3 credits)	3
CSCI 101	Software Apps and Digital Literacy	3
MATH 136	Technical Trigonometry	2
CMT 101	Science of Success	1
HPER 210	First Aid & CPR (Professional/ Community)	2
PSYC 100	Human Relations in Organizations	2
	Total Required Credits	67

Unmanned Aircraft Systems (Land Surveying Emphasis)

Degree Type Associate in Applied Science

Contact Information

Seth Simonson, associate professor/UAS lead
Unmanned Aircraft Systems
Seth.Simonson@ndscs.edu
701-671-2345
Horton Hall 235

Jeff Jelinek, associate professor/program coordinator
Land Surveying & Civil Engineering Technology
701-671-2268
Horton Hall 242

Delivery Methods

Face-to-Face: Wahpeton
Online: Some classes

The Unmanned Aircraft Systems Associates of Applied Science (AAS) degree program is designed to prepare students with the knowledge and ability to use various types of unmanned aircraft systems, the legal guidelines for operating UAS in a commercial environment, preflight planning, how to pilot UAS and collect data using various types of sensors, process the data, analyze, and understand the data related to a specific discipline. Students will utilize high resolution camaras, thermal imaging sensors, LiDAR, and other sensors for collecting various types of data and then learning to process and analyze that data.

The Land Surveying Emphasis will prepare students for work as surveying technicians in construction related industries with the ability to utilize drone technology. The MS degree will broaden the students understanding of UAS as it applies to Land Surveying and will provide them with enough Land Surveying credits to pursue Professional Land Surveying Licensure in North Dakota or transfer on to a four-year college or university in related fields such as land surveying.

In addition. students take courses in communications, human relations, computers and technical mathematics, which will help provide them with the skills to advance in their careers.

Upon graduation, students can be employed with state, county, and city engineering offices as well as private engineering firms, land surveyors, contractors, and drone service providers.

NOTE: This program requires a ZBOOK Laptop or equivalent Please refer to the NDSCS website for specifications. For further information, call Seth Simonson, at 701- 671-2345.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English. math and reading courses based on ACT. ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-suocess/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Unmanned Aircraft Systems.

Required Courses

Course Code	Title	Credits
CAD 120	Introduction to AutoCAD	3
CT 111	Civil Plans and Specifications	3
CT 113	Introduction to Civil Design Applications	3
CT 120	Surveying Fundamentals	2
CT 121	Surveying I	2
CT 122	Surveying II	4
CT 221	Surveying III	4
CT 222	Surveying IV	4
CT 223	Boundary Controls & Legal Principles	3
CT 224	Research and Analysis	3
UAS 111	Introduction to UAS	2
UAS 112	Unmanned Aircraft Systems Certification	2
UAS 121	Data Collection I	2
UAS 122	Photography and Videography	2
UAS 132	Advanced Flight I	2
UAS 221	Data Collection II	2
UAS 222	Data Collection III	2
UAS 223	Capstone Project	2
UAS 232	Advanced Flight II	2
	Technical Electives (Check with academic advisor on courses)	6

Related/General Education Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
MATH 136	Technical Trigonometry	2
CMT 101	Science of Success	1
HPER 210	First Aid & CPR (Professional/ Community)	2
MATH 131	Technical Mathematics and Algebra	3
CSCI 101	Software Apps and Digital Literacy	3
	English Elective (choose one)	3
	Total Required Credits	72

Unmanned Aircraft Systems (Transfer Emphasis)

Degree Type Associate in Applied Science

Contact Information

Seth Simonson, associate professor/UAS lead
Unmanned Aircraft Systems
Seth.Simonson@ndscs.edu
701-671-2345
Horton Hall 235

Delivery Methods

Face-to-Face: Wahpeton
Online: Some classes

The Unmanned Aircraft Systems Associates of Applied Science (AAS) degree program is designed to prepare students with the knowledge and ability to use various types of unmanned aircraft systems, the legal guidelines for operating UAS In a commercial environment, preflight planning, how to pilot UAS and collect data using various types of sensors, process the data, analyze and understand the data related to a specific discipline. Students will utilize high resolution camaras, thermal Imaging sensors, LiDAR. and other sensors for collecting various types of data and then learning to process and analyze that data.

The Transfer Emphasis will provide students with a strong knowledge and skills for various applications of drone technology and compliment them with general education courses suited for transferring to a university for drone related studies.

NOTE: This program requires a ZBOOK Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, call Seth Simonson, at 701- 671-2345.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NOSCS.edu/current-studenls/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Unmanned Aircraft Systems.

Required Courses

Course Code	Title	Credits
UAS 111	Introduction to UAS	2
UAS 112	Unmanned Aircraft Systems Certification	2
UAS 121	Data Collection I	2
UAS 122	Photography and Videography	2
UAS 132	Advanced Flight I	2
UAS 221	Data Collection II	2
UAS 222	Data Collection III	2
UAS 223	Capstone Project	2
UAS 232	Advanced Flight II	2
	Technical Electives (Check with academic advisor on courses)	6

General Education Core

Course Code	Title	Credits
CMT 101	Science of Success	1
CSCI 160	Computer Science I	4
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
HPER 100	Concepts of Fitness and Wellness	2
MATH 103	College Algebra	3
MATH 105	Trigonometry	2
PSYC 111	Introduction to Psychology	3
SOC 110	Introduction to Sociology	3
	Humanities/History Electives (6 credits)	6
	General Education Electives (6 credits)	6
PHIL 215	Contemporary Moral Issues	3
CSCI 101	Software Apps and Digital Literacy	3
	Total Required Credits	66

Unmanned Aircraft Systems

Degree Type Certificate

Contact Information

Seth Simonson, associate professor/UAS lead
Seth.Simonson@ndscs.edu
701-671-2345
Horton Hall 235

Delivery Methods

Face-to-Face: Wahpeton

The Unmanned Aircraft Systems (UAS) certificate program is designed to provide a broad understanding of the use of UAS in a commercial environment to include, but not limited to: Unmanned aircraft types, various purposes for different UAS types, legal guidelines for operating UAS in a commercial environment, peripheral systems for operating UAS, preflight planning, piloting UAS, data collection with UAS, data processing, and data analyzation.

Students from a wide variety of majors will have the opportunity to earn a certificate by taking specialized courses specific for UAS. The courses required for the UAS certificate will enhance the students' knowledge and skill set regarding UAS and make them more marketable when entering the workforce.

This certificate program is structured to be taken in conjunction with another NDSCS academic program option.

NOTE: This program requires a ZBOOK Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Randy Stach, program coordinator, at 701-671-2116.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded a certificate in Unmanned Aircraft Systems (UAS).

Required Courses

Course Code	Title	Credits
UAS 111	Introduction to UAS	2
UAS 112	Unmanned Aircraft Systems Certification	2
UAS 121	Data Collection I	2
UAS 122	Photography and Videography	2
UAS 132	Advanced Flight I	2

Related/General Education Courses

Course Code	Title	Credits
	General Education Elective (3 credits)	3
	Free Elective (3 credits)	3
CMT 101	Science of Success	1
	Total Required Credits	17

Welding

Welding Technology

Degree Type Associate in Applied Science

Contact Information

Jessica Woods, instructor
NDSCS-Wahpeton program coordinator
Jessica.Woods@ndscs.edu
701-671-2430
Tech Center 147

Mitchell Van Vleet, associate professor
NDSCS-Fargo program coordinator
Mitchell.Vanvleet@ndscs.edu
701-231-6902
NDSCS-Fargo 145

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo
Combination

The Welding Technology curriculum is designed to provide students advanced experience in welding as it pertains to assembly, manufacturing, energy, and construction.

This program provides education and training in advanced welding and cutting processes, robotics, computer numerical control operations, inspection, print reading, fabrication, pipe and plate welding, math, communications, and other aspects of general education.

Career opportunities as a Welding technician offer a wide range of employment possibilities in the manufacturing, steel construction, mining, energy, and welding inspection. A diploma or Associate in Applied Science degree will provide higher level employment opportunities in the welding industry.

The NDSCS Welding program is an educational partner with Weld-Ed, the National Center for Welding Education and Training.

NOTE: This program requires an HP EliteBook Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Jessica Woods NDSCS-Wahpeton at 701-671-2430 or Mitchell Van Vleet, NDSCS-Fargo at 701-231-6902.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

****Additional Admission Requirements****

The Associate in Applied Science Degree 2nd year option in Welding Technology is a limited enrollment program. Applicants will be selected on a point system. The following criteria are used to rank students for selection.

1. Completion of the Welding certificate program or substantial progress toward completion of the certificate program.
2. Cumulative NDSCS GPA from fall semester plus midterm assessment of the spring semester in the certificate program.
3. Successful completion of all certificate program core welding and manufacturing courses with a “C” or higher.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Welding Technology.

Associate in Applied Science

Course Code	Title	Credits
MFGT 101	Robotics I	2
MFGT 123	Fabrication Methods I	2
MFGT 137	Print Reading I	2
MFGT 140	Fabrication Methods II	2
MFGT 141	Print Reading II	2
WELD 151	Welding Theory I	2
WELD 152	Welding Theory II	2
WELD 153	Welding Lab I	7
WELD 154	Welding Lab II	7
WELD 201	Welding Theory III	2
WELD 202	Welding Theory IV	2
WELD 211	Welding Lab III	10
WELD 212	Welding Lab IV	10

Associate in Applied Science

Course Code	Title	Credits
CTE 101	Science of Success: Manufacturing	1
CIS 101	Digital Literacy	2
MATH 130	Technical Math	2
MATH 136	Technical Trigonometry	2
	Wellness Elective(s) (2 credits)	2
	English/Communication Electives (Weld)	6
	Social and Behavioral Sciences, Humanities, History and/or Computer Electives (WELD)	2
	Total Required Credits	69

Welding Technology

Degree Type Certificate

Contact Information

Jessica Woods, instructor
NDSCS-Wahpeton program coordinator
Jessica.Woods@ndscs.edu
701-671-2430
Tech Center 147

Mitchell Van Vleet, associate professor
NDSCS-Fargo program coordinator
Mitchell.Vanvleet@ndscs.edu
701-231-6902
NDSCS-Fargo 145

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo
Combination

The Welding Technology curriculum is designed to provide students experience in welding as it pertains to assembly, manufacturing, energy and construction.

This program provides education and training in welding and cutting processes, robotics, print reading, metallurgy, and other aspects of general education.

Career opportunities offer a wide range of entry level employment possibilities in the manufacturing, steel construction, mining, energy and other areas of the welding industry.

The NDSCS Welding program is an educational partner with Weld-Ed, the National Center for Welding Education and Training.

NOTE: This program requires an HP EliteBook Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Jessica Woods, NDSCS-Wahpeton at 701-671-2430 or Mitchell Van Vleet, NDSCS-Fargo 701-231-6902.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded a certificate in Welding Technology.

Required Courses

Course Code	Title	Credits
MFGT 101	Robotics I	2
MFGT 123	Fabrication Methods I	2
MFGT 137	Print Reading I	2
WELD 151	Welding Theory I	2
WELD 152	Welding Theory II	2
WELD 153	Welding Lab I	7
WELD 154	Welding Lab II	7

Related/General Education Courses Certificate

Course Code	Title	Credits
MATH 130	Technical Math	2
CTE 101	Science of Success: Manufacturing	1
	Social and Behavioral Sciences, Humanities, History and/or Computer Electives (4 credits)	4
	Total Required Credits	31

Business Management

Business Management

Degree Type Associate in Applied Science

Contact Information:
Greg Anderson, associate professor/program coordinator
Greg.Anderson@ndscs.edu
701-671-2172
Horton Hall

Delivery Methods:
Face-to-Face: Wahpeton
Face-to-Face: Fargo / CIC
Online: Some Classes
Combination

Program Information:
The Business Management Certificate Options consists of three independent plans of study in the areas of Finance, Management, and Sales and Marketing. Students may choose to complete any of these individual plans of study to earn a certificate in Business Management with an emphasis in that respective area. If students' progress through all three plans of study satisfactorily, they will need only to complete wellness electives to be eligible to earn an Associate in Applied Science degree in Business Management.

Completion of Sales and Marketing Certificate: **19 credits**
Completion of Finance Certificate: **18 credits**
Completion of Management Certificate: **21 credits**
Wellness Elective(s): **3 credits**
Total Required Credits for AAS Degree: **61 credits**

Designed to meet the needs of an adult population, this program is delivered in a hybrid or blending of face-to-face and online learning.

As stand-alone certificates, these classes may provide learners with the opportunity to learn and/or enhance their selling and communication skills; to understand their role as a manager/supervisor; or to provide the knowledge needed to analyze the financial workings of an organization. These skills, combined with real-world experience and the numerous leadership opportunities that will be available, will enable the learner to develop into a valuable asset in the business community.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Greg Anderson, program coordinator, at 701-671-2172.

Admission Requirements:
The applicants must be high school graduates or equivalent. Work experience in marketing or general business courses is helpful.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Award
Upon successful completion of the required courses for the three plans of study and **thee credits of wellness electives**, students may be awarded an Associate in Applied Science degree in Business Management.

Finance Certificate

Course Code	Title	Credits
ACCT 200	Elements of Accounting I	3
ACCT 201	Elements of Accounting II	3
ACCT 118	Applied Accounting	3
BUSN 254	Financial Statement Analysis	3
	ECON 105 or ECON 201 or ECON 202	3
BOTE 108	Business Mathematics	3

Sales and Marketing Certificate

Course Code	Title	Credits
BADM 201	Principles of Marketing	3
BADM 234	Customer Service	1
BADM 240	Sales	3
BADM 217	Promotion and Advertising	3
BADM 230	Marketing Information Analysis	3
BUSN 170	Entrepreneurship	3
COMM 110	Fundamentals of Public Speaking	3

Management Certificate

Course Code	Title	Credits
ACCT 215	Business in the Legal Environment	3
BADM 202	Principles of Management	3
BADM 282	Human Resource Management	3
BUSN 120	Fundamentals of Business	3
BADM 281	Organizational Behavior	3
CSCI 101	Software Apps and Digital Literacy	3
ENGL 110	College Composition I	3

Wellness Elective(s)

Course Code	Title	Credits
	Wellness Electives (3 credits)	3
	Total Required Credits	61

Business Management (Administration and Finance)

Degree Type Associate in Applied Science

Contact Information

Kathy Marquette, associate professor
Kathy.Marquette@ndscs.edu
701-671-2595
Horton Hall 230

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo / CIC
Online: Some Classes
Combination

Students earning an Associate of Applied Science degree (AAS) in Business Management can expect to formulate the knowledge, skills, and attitudes needed for a successful transition to a career-sustaining position or further study in one of several business career pathways.

The Administration and Finance emphasis prepares students towards pathways of:

- Administrative Support
- Business Information
- General Management
- Human Resource Management
- Operations Management
- Accounting
- Banking Services
- Insurance

To be successful, students should be willing to improve on their communication and presentation skills to demonstrate and carry themselves with a sense of professionalism. Students develop and hone these skills through the Business Management student organization Collegiate DECA.

These careers continue to be some of the largest and highest-paying segments of the job market and job prospects continue to be good for workers who stay up-to-date on the latest developments in their field and are constantly looking for new ways to contribute to the success of their business. Faculty advisors can help assist students in the development of an appropriate program to meet the student's career goals.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Greg Anderson, program coordinator, at 701-671-2172.

Admission Requirements

The applicants must be high school graduates or equivalent. Work experience and marketing or general business courses are helpful.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Business Management with an emphasis in Administration and Finance.

Required Courses

Course Code	Title	Credits
BADM 103	Leadership Techniques	1
BADM 201	Principles of Marketing	3
BADM 202	Principles of Management	3
BADM 234	Customer Service	1
BADM 240	Sales	3
BADM 251	Personal Finance	3
BADM 281	Organizational Behavior	3
BADM 282	Human Resource Management	3
BADM 291	Career Seminar	3
BUSN 120	Fundamentals of Business	3
BUSN 170	Entrepreneurship	3
BUSN 254	Financial Statement Analysis	3
BUSN 282	Professional Development	1

Related/General Education Courses

Course Code	Title	Credits
ACCT 200	Elements of Accounting I	3
ACCT 201	Elements of Accounting II	3
ACCT 215	Business in the Legal Environment	3
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
BADM 101	Science of Success	1
	MATH Elective	3
	Electives	3
	Wellness Electives (3 credits)	3
CSCI 101	Software Apps and Digital Literacy	3

BADM 103, BUSN 282 includes membership in Collegiate DECA.

	Total Required Credits	61

Business Management (Business Technology Management)

Degree Type Associate in Applied Science

Contact Information

Greg Anderson, associate professor/program coordinator
Greg.Anderson@ndscs.edu
701-671-2172
Horton Hall 233

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo / CIC
Online: Some Classes
Combination

This option is designed as a third-year option for students who have previously completed a technical degree program (Auto Body, Precision Machining, Plumbing, Welding, etc.). It provides a range of business knowledge and experiences that will integrate well with the skills students have already achieved, preparing them to take on supervisory roles in their employment. Additionally, this option can develop skills needed to own, operate, and expand your own business. Students will learn to recognize and act on opportunities to develop an entrepreneurial mindset. The Business Management core taught at NDSCS focuses student learning in the following areas:

- Business Law
- Communication Skills
- Customer Relations
- Economics
- Emotional Intelligence
- Entrepreneurship
- Financial Analysis
- Human Resource Management
- Information Management
- Marketing
- Operations
- Professional Development
- Strategic Management

A faculty advisor will assist students in the development of an appropriate program to meet the student's career goals. Employment opportunities are unlimited, depending upon the individuals' strengths and interests.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Greg Anderson, program coordinator, at 701-671-2172.

Admission Requirements*

The student must have earned an Associate in Applied Science (A.A.S.) degree from an accredited institution.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Business Management with an emphasis in Business Technology Management.

Required Courses

In addition to having earned an Associate in Applied Science (A.A.S.) degree, the following courses are required:

Course Code	Title	Credits
ACCT 102	Fundamentals of Accounting	3
ACCT 118	Applied Accounting	3
ACCT 215	Business in the Legal Environment	3
BADM 201	Principles of Marketing	3
BADM 202	Principles of Management	3
BADM 240	Sales	3
BADM 281	Organizational Behavior	3
BADM 282	Human Resource Management	3
BUSN 120	Fundamentals of Business	3
BUSN 170	Entrepreneurship	3

Related/General Education Courses

Course Code	Title	Credits
BOTE 108	Business Mathematics	3
COMM 110	Fundamentals of Public Speaking	3
(in addition to previously earned A.A.S. degree)		
	Total Required Credits	36

Business Management (Marketing, Sales and Hospitality Services)

Degree Type Associate in Applied Science

Contact Information

Greg Anderson, associate professor/program coordinator
Greg.Anderson@ndscs.edu
701-671-2172
Horton Hall 233

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo / CIC
Online: Some Classes
Combination

Students earning an Associate of Applied Science degree (AAS) in Business Management can expect to formulate the knowledge, skills, and attitudes needed for a successful transition to a career-sustaining position or further study in one of several business career pathways.

The Marketing, Sales and Hospitality Services emphasis prepares students towards pathways in:

- Lodging
- Restaurant, Food, and Beverage Services
- Travel and Tourism
- Recreating, Amusements, and Attractions
- Marketing Research
- Marketing Communications
- Marketing Management
- Merchandising
- Professional Sales

To be successful, students should be willing to improve on their communication and presentation skills to demonstrate and carry themselves with a sense of professionalism. Students develop and hone these skills through the Business Management student organization Collegiate DECA.

These careers continue to be some of the largest and highest-paying segments of the job market and job prospects continue to be good for workers who stay up-to-date on the latest developments in their field and are constantly looking for new ways to contribute to the success of their business. Faculty advisors can help assist students in the development of an appropriate program to meet the student's career goals.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications.

For further information, contact Greg Anderson, program coordinator, at 701-671-2172.

Admission Requirements*

The applicants must be high school graduates or equivalent. Work experience and marketing or general business courses are helpful.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Business Management with an emphasis Marketing, Sales and Hospitality Services.

Required Courses

Course Code	Title	Credits
BADM 103	Leadership Techniques	1
BADM 201	Principles of Marketing	3
BADM 202	Principles of Management	3
BADM 217	Promotion and Advertising	3
BADM 230	Marketing Information Analysis	3
BADM 234	Customer Service	1
BADM 240	Sales	3
BADM 251	Personal Finance	3
BADM 281	Organizational Behavior	3
BADM 282	Human Resource Management	3
BADM 291	Career Seminar	3
BUSN 120	Fundamentals of Business	3
BUSN 170	Entrepreneurship	3
BUSN 282	Professional Development	1

RelatedGeneral Education Courses

Course Code	Title	Credits
ACCT 102	Fundamentals of Accounting	3
ACCT 118	Applied Accounting	3
ACCT 215	Business in the Legal Environment	3
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
BADM 101	Science of Success	1
	BOTE 108 or MATH 103	3
	Free Electives (2 credits)	2
CSCI 101	Software Apps and Digital Literacy	3
	Wellness Electives (3 credits)	3

BADM 103, BUSN 282 includes membership in Collegiate DECA.

Online completion may require modification of courses. Consult advisor for changes.

	Total Required Credits	63

Business Management (Restaurant Management)

Degree Type Associate in Applied Science

Contact Information

Greg Anderson, associate professor/program coordinator
Greg.Anderson@ndscs.edu
701-671-2172
Horton Hall 233

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo / CIC
Online: Some Classes
Combination

This option is designed as a third-year option for students completing the Culinary Arts program. It provides a range of business knowledge and experiences that will integrate well with the skills students have already achieved, preparing them to take on supervisory roles in their employment. Additionally, this option can develop skills needed to own, operate, and expand your own business. Students will learn to recognize and act on opportunities to develop an entrepreneurial mindset.

The Business Management core taught at NDSCS focuses student learning in the following areas:

- Business Law
- Communication Skills
- Customer Relations
- Economics
- Emotional Intelligence
- Entrepreneurship
- Financial Analysis
- Human Resource Management
- Information Management
- Marketing
- Operations
- Professional Development
- Strategic Management

Employment growth in this occupation will be as fast as the average of all occupations. Multiple job openings will also be created as a large number of managers reach their age of retirement or take transfers for other reasons. Since the food preparation industry is only slightly affected by the economy, the occupation offers good job security for candidates.

A faculty advisor will assist students in the development of an appropriate program to meet the student's career goals. Employment opportunities are unlimited, depending upon the individuals' strengths and interests.

NOTE: This program requires an HP EliteBook or ZBOOK Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Greg Anderson, program coordinator at 701-671-2172.

Admission Requirements*

This course of study is designed as a third-year option. Applicants for this program must have completed an Associate in Applied Science degree in Culinary Arts.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Business Management with an emphasis in Restaurant Management.

Required Courses

In addition to having earned an Associate in Applied Science (A.A.S.) degree in Culinary Arts, the following courses are required:

Course Code	Title	Credits
ACCT 215	Business in the Legal Environment	3
BADM 103	Leadership Techniques	1
BADM 201	Principles of Marketing	3
BADM 217	Promotion and Advertising	3
BADM 234	Customer Service	1
BADM 251	Personal Finance	3
BADM 282	Human Resource Management	3
BADM 291	Career Seminar	3
BUSN 120	Fundamentals of Business	3
BUSN 170	Entrepreneurship	3
BUSN 282	Professional Development	1
COMM 110	Fundamentals of Public Speaking	3
	ECON 105 or ECON 201 or ECON 202	3
	Electives (RM)	3

BADM 103, BUSN 282 includes membership in Collegiate DECA.

(in addition to previously earned A.A.S. degree in Culinary Arts)

	Total Required Credits	36

Finance

Degree Type Certificate

Contact Information:
Greg Anderson, associate professor/program coordinator
Greg.Anderson@ndscs.edu
701-671-2172
Horton Hall

Delivery Methods:
Face-to-Face: Wahpeton
Face-to-Face: Fargo / CIC
Online: Some Classes
Combination

Program Information:
The Business Management Certificate Options consists of three independent plans of study in the areas of Finance, Management, and Sales and Marketing. Students may choose to complete any of these individual plans of study to earn a certificate in Business Management with an emphasis in that respective area. If students' progress through all three plans of study satisfactorily, they will need only to complete wellness electives to be eligible to earn an Associate in Applied Science degree in Business Management.

Designed to meet the needs of an adult population, this program is delivered in a hybrid or blending of face-to-face and online learning.

As stand-alone certificates, these classes may provide learners with the opportunity to learn and/or enhance their selling and communication skills; to understand their role as a manager/ supervisor; or to provide the knowledge needed to analyze the financial workings of an organization. These skills, combined with real-world experience and the numerous leadership opportunities that will be available, will enable the learner to develop into a valuable asset in the business community.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Greg Anderson, program coordinator, at 701-671-2172.

Admission Requirements:
The applicants must be high school graduates or equivalent. Work experience in marketing or general business courses is helpful.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Award
Upon successful completion of the required courses for the Finance plan, students will be awarded a certificate in Finance. Upon successful completion of the required courses for the three plans of study and **thee credits of wellness electives**, students may be awarded an Associate in Applied Science degree in Business Management.

Core Curriculum

Course Code	Title	Credits
ACCT 200	Elements of Accounting I	3
ACCT 201	Elements of Accounting II	3
ACCT 118	Applied Accounting	3
BUSN 254	Financial Statement Analysis	3

General Education Core

Course Code	Title	Credits
BOTE 108	Business Mathematics	3
	ECON 105 or ECON 201 or ECON 202	3
	Total Required Credits	18

Management

Degree Type Certificate

Contact Information:
Greg Anderson, associate professor/program coordinator
Greg.Anderson@ndscs.edu
701-671-2172
Horton Hall

Delivery Methods:
Face-to-Face: Wahpeton
Face-to-Face: Fargo / CIC
Online: Some Classes
Combination

Program Information:
The Business Management Certificate Options consists of three independent plans of study in the areas of Finance, Management, and Sales and Marketing. Students may choose to complete any of these individual plans of study to earn a certificate in Business Management with an emphasis in that respective area. If students' progress through all three plans of study satisfactorily, they will need only to complete wellness electives to be eligible to earn an Associate in Applied Science degree in Business Management.

Designed to meet the needs of an adult population, this program is delivered in a hybrid or blending of face-to-face and online learning.

As stand-alone certificates, these classes may provide learners with the opportunity to learn and/or enhance their selling and communication skills; to understand their role as a manager/ supervisor; or to provide the knowledge needed to analyze the financial workings of an organization. These skills, combined with real-world experience and the numerous leadership opportunities that will be available, will enable the learner to develop into a valuable asset in the business community.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Greg Anderson, program coordinator, at 701-671-2172.

Admission Requirements:
The applicants must be high school graduates or equivalent. Work experience in marketing or general business courses is helpful.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Award
Upon successful completion of the required courses for the Management plan, students will be awarded a certificate in Management. Upon successful completion of the required courses for the three plans of study and **thee credits of wellness electives**, students may be awarded an Associate in Applied Science degree in Business Management.

Core Curriculum

Course Code	Title	Credits
ACCT 215	Business in the Legal Environment	3
BADM 202	Principles of Management	3
BADM 282	Human Resource Management	3
BUSN 120	Fundamentals of Business	3
BADM 281	Organizational Behavior	3

General Education Core

Course Code	Title	Credits
CSCI 101	Software Apps and Digital Literacy	3
ENGL 110	College Composition I	3
	Total Required Credits	21

Sales and Marketing

Degree Type Certificate

Contact Information:
Greg Anderson, associate professor/program coordinator
Greg.Anderson@ndscs.edu
701-671-2172
Horton Hall

Delivery Methods:
Face-to-Face: Wahpeton
Face-to-Face: Fargo / CIC
Online: Some Classes
Combination

Program Information:
The Business Management Certificate Options consists of three independent plans of study in the areas of Finance, Management, and Sales and Marketing. Students may choose to complete any of these individual plans of study to earn a certificate in Business Management with an emphasis in that respective area. If students' progress through all three plans of study satisfactorily, they will need only to complete wellness electives to be eligible to earn an Associate in Applied Science degree in Business Management.

Designed to meet the needs of an adult population, this program is delivered in a hybrid or blending of face-to-face and online learning.

As stand-alone certificates, these classes may provide learners with the opportunity to learn and/or enhance their selling and communication skills; to understand their role as a manager/ supervisor; or to provide the knowledge needed to analyze the financial workings of an organization. These skills, combined with real-world experience and the numerous leadership opportunities that will be available, will enable the learner to develop into a valuable asset in the business community.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Greg Anderson, program coordinator, at 701-671-2172.

Admission Requirements:
The applicants must be high school graduates or equivalent. Work experience in marketing or general business courses is helpful.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Award
Upon successful completion of the required courses for the Sales and Marketing plan, students will be awarded a certificate in Sales and Marketing. Upon successful completion of the required courses for the three plans of study and **thee credits of wellness electives**, students may be awarded an Associate in Applied Science degree in Business Management.

Core Curriculum

Course Code	Title	Credits
BADM 201	Principles of Marketing	3
BADM 234	Customer Service	1
BADM 240	Sales	3
BADM 217	Promotion and Advertising	3
BADM 230	Marketing Information Analysis	3
BUSN 170	Entrepreneurship	3

General Education Core

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
	Total Required Credits	19

Computer Science

Computer Science (Information Technology Support / Information Systems Administrator)

Degree Type Associate in Applied Science

Contact Information

John Kroshus, associate professor
John.Kroshus@ndscs.edu
701-671-2115
NDSCS-Fargo 138

Delivery Methods

Face-to-Face: Fargo
Online: Some Classes
Combination

Because we live in an IT oriented society, Information Systems Administrator offers a world-wide job market with a variety of locations and environments. Computers and networks are used in all types of businesses, banks, accounting firms, hospitals, manufacturing companies, insurance companies, sales companies, etc. The placement record in this program has been excellent.

For students wishing to pursue a bachelor's degree at a four-year college or university, please see the Computer Science or Management Information Systems Liberal Arts transfer curriculum plans listed in the Liberal Arts section of this catalog.

Program purposes

1. To provide students with the knowledge of computer and network training enabling them to configure and install systems.
2. To provide students with the knowledge and skills necessary to assist management in the selection of computer hardware and software.
3. To provide students with the knowledge of computer networks enabling them to configure and install them.
4. To prepare students to pursue a third-year option in Web Design or IT Forensics and Security (see additional program purposes listed under Web Design emphasis or IT Forensics and Security emphasis).

Facilities

NDSCS has hardware and networking labs. Each of these labs has current equipment and software.

All Information and Communications Technology students are required to purchase laptop computers. These laptops give students adequate computer access to complete projects and assignments given in class.

Instruction

The instructors for this program have formal educational training, industry training and certifications, and work experience in Information Technology. Laboratory time is scheduled into each student's program allowing them to receive individual attention and hands-on computer experience.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are mathematics, keyboarding, and any computer hardware classes.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Students interested in a third-year option in Web Design or IT Forensics and Security should refer to the Web Design/ Web Developer or IT Forensics and Security fact sheets.

Upon successful completion of the third-year option, students will also be awarded a certificate in Information and Communications Technology with an emphasis in Web Design or a certificate in Information and Communications Technology with an emphasis in IT Forensics and Security.

Award

Upon successful completion of the Information Technology Support and the Information Systems Administrator required courses, students will be awarded an Associate in Applied Science degree in Computer Science with an emphasis in Information Systems Administrator.

Information Technology Support

Course Code	Title	Credits
CIS 128	IT Essentials I	3
CIS 129	IT Essentials II	3
CIS 164	Networking Fundamentals I	4
CIS 165	Networking Fundamentals II	4
CIS 180	HTML and CSS	3
CIS 197	Internship	1
CIS 212	Microsoft Windows Operating System Client	3
ENGL 110	College Composition I	3
PHIL 215	Contemporary Moral Issues	3
ICT 101	Science of Success: Introduction to Information Technology	1

After certificate courses are completed, below are the required courses for the Information and Communications Technology A.A.S. with emphasis in Information Systems Administrator degree.

Required Courses

Course Code	Title	Credits
CIS 142	Cyber Security Operations	4
CIS 215	Implementing a Microsoft Windows Server Environment	4
CIS 216	Implementing a Microsoft Windows Network Infrastructure	4
CIS 267	Intermediate Networking I	4
CIS 268	Infrastructure Automation (DEVNET ASC)	4
CIS 279	Security Awareness and Policy	1
CSCI 160	Computer Science I	4
	Wellness Elective(s) (2 credits)	2
	ND: Math (3 credits)	3
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
CSCI 130	Introduction to Artificial Intelligence	2
	Total Required Credits	65

Computer Science (Software Engineering)

Degree Type Associate in Applied Science

Contact Information

Bonnie Schillinger, associate professor/program coordinator
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701-671-2496
Horton Hall 227/NDSCS-Fargo 138

Delivery Methods

Face-to-Face: Fargo
Online: All Classes
Combination

Software engineers have extensive knowledge of programming languages, software development, and computer operating systems as they apply engineering principles to software creation. They create or adapt applications for businesses and organizations by analyzing the end user's needs.

Formal education and real-world experience form a good basis for the development of a capable software engineer. This curriculum will enlarge student's skill sets and knowledge basis which will assist in the designing, building, installing, and maintaining of applications or programs.

For students wishing to pursue a bachelor's degree at a four-year college or university, please see the Computer Science or Management Information Systems Liberal Arts transfer curriculum plans listed in the Liberal Arts section of this catalog.

Facilities

NDSCS has hardware and networking labs. Each of these labs has current equipment and software.

All Information and Communications Technology students are required to purchase laptop computers. These laptops give students adequate computer access to complete projects and assignments given in class.

Instruction

The instructors for this program have formal educational training, industry training and certifications, and work experience in Information Technology. Laboratory time is scheduled into each student's program to enable them to receive individual attention and hands-on computer experience.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are keyboarding, Internet classes, and any publication type class.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses for the degree, students will be awarded an Associate in Applied Science degree in Computer Science with an emphasis in Software Engineering.

Required Courses

Course Code	Title	Credits
CIS 180	HTML and CSS	3
CIS 188	Application Design	3
CIS 279	Security Awareness and Policy	1
CSCI 102	Fundamentals of CyberLaw	3
CSCI 133	Database Concepts I (SQL)	3
CSCI 134	Database Design and Management	3
CSCI 135	Web Programming	3
CSCI 160	Computer Science I	4
CSCI 161	Computer Science II	4
CSCI 162	Web Application Programming	3
CSCI 230	Web Database I	3
CSCI 231	Web Database II	3
CSCI 263	Computer Science III	3
ENGL 110	College Composition I	3
	ENGL/COMM Elective (3 credits)	3
MATH 103	College Algebra	3
MATH 110	Mathematics in Society	3
PHIL 215	Contemporary Moral Issues	3
	Social and Behavioral Science, Political Science, Humanities and History Elective(s) (3 credits)	3
	Wellness Elective(s) (2 credits)	2
ICT 101	Science of Success: Introduction to Information Technology	1
CSCI 130	Introduction to Artificial Intelligence	2
	Total Required Credits	62

Computer Science (Web Design / Web Developer)

Degree Type Associate in Applied Science

Contact Information

Bonnie Schillinger, associate professor/program coordinator
Bonnie.Schillinger@ndscs.edu
701-671-2496
Horton Hall 227/NDSCS-Fargo 138

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo
Online: All Classes
Combination

Because we live in an IT oriented society, Web design offers a world-wide job market with unlimited locations and diverse environments. Websites are utilized for a variety of businesses. The World Wide Web has unveiled new opportunities for businesses creating a demand for web designers and web developers.

As the World Wide Web becomes a pervasive medium — just like TV, radio, film, and print — and as its influence grows beyond that of earlier media, the scope of essential designing skills for the web continues to expand. Because today's web involves more than HTML coding and graphic design, it is important to engage designers with a full range of skills, who can develop websites that bring benefits to their intended users.

Formal education and real-world experience form a good basis for the development of a capable designer. This curriculum will enlarge student's skill sets and knowledge basis which will assist in the ability to analyze, create, and revise websites.

For students wishing to pursue a bachelor's degree at a four-year college or university, please see the Computer Science or Management Information Systems Liberal Arts transfer curriculum plans listed in the Liberal Arts section of this catalog.

Facilities

NDSCS has hardware and networking labs. Each of these labs has current equipment and software.

All Information and Communications Technology students are required to purchase laptop computers. These laptops give students adequate computer access to complete projects and assignments given in class.

Instruction

The instructors for this program have formal educational training, industry training and certifications, and work experience in Information Technology. Laboratory time is scheduled into each student's program to enable them to receive individual attention and hands-on computer experience.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are keyboarding, Internet classes, and any publication type class.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses for the degree, students will be awarded an Associate in Applied Science degree in Computer Science with an emphasis in Web Developer.

Web Design

Course Code	Title	Credits
CIS 110	eCommerce Websites	3
BOTE 108	Business Mathematics	3
CSCI 162	Web Application Programming	3
CIS 180	HTML and CSS	3
CIS 181	Web Authoring Software	3
CIS 182	Image Editing Software	3
CIS 232	Graphics Design	3
CSCI 135	Web Programming	3
ENGL 110	College Composition I	3
ICT 101	Science of Success: Introduction to Information Technology	1

After certificate courses are completed, below are the required courses for the Information and Communications Technology A.A.S. with emphasis in Web Developer degree

Required Courses

Course Code	Title	Credits
CIS 183	Social Media Marketing	3
CIS 188	Application Design	3
CIS 279	Security Awareness and Policy	1
CSCI 102	Fundamentals of CyberLaw	3
CSCI 133	Database Concepts I (SQL)	3
CSCI 160	Computer Science I	4
CSCI 230	Web Database I	3
PHIL 215	Contemporary Moral Issues	3
	Social and Behavioral Science, Political Science, Humanities and History Elective(s) (3 credits)	3
	Wellness Elective(s) (2 credits)	2
CSCI 130	Introduction to Artificial Intelligence	2
	Total Required Credits	61

Cybersecurity Specialist

Degree Type Associate in Applied Science

Contact Information:

John Kroshus, Associate Professor
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701-671-2115
NDSCS-Fargo 138

Delivery Methods:

Online and some classes. Face-to-Face Combination

Program Information:

Most cybersecurity work happens behind the scenes, protecting people and organizations ��ho don't know ttiey're under threat and before an attack occurs. Cybersecurity is the practice of protecting programs, computer networks and digital information from threats. Cybersecurity might be a good career for you if you are a detail-oriented, analytical person with a collaborative mindset and the ability to improvise.

The Cybersecurity AAS provides a foundation for Cybersecurity essentials, defense, incident response, and penetration testing. This program will provide an immediate basis for professionals employed in the high-tech industry to improve their ability to counter threats to information systems, thereby increasing their value to organizations that employ them, and ensuring computer systems under their care are protected. A peripheral objective is to provide an opportunity for new or recent graduates to acquire advanced skills in Cybersecurity.

Specifically, it will meet the following objectives: Foster a high-quality, student centered education.

- Provide students with a broad overview of the field and introduce them to recent advances and current research problems.
- Emphasize ethical, economic, social, and legal impacts of Security technologies.
- Provide a foundation for the development of Security.
- Provide our students with the ability to counter threats to information systems and provide appropriate "after incident" responses.

After successfully completing the Cybersecurity AAS degree, students are prepared to take the CCST Cybersecurity (CISCO Certified support Technician), Cisco Cybersecurity Operations Fundamentals (CBROPS), Cisco Certified Network Associate (CCNA), Comp TIA Linux+, Comp TIA A+ Certification exams. The applicants must be high school graduates or equivalent.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award
Upon successful completion of the required courses in each certificate, students will be awarded an Associate in Applied Science degree in Cybersecurity Specialist.

#1 Cybersecurity Essentials

Course Code	Title	Credits
CIS 128	IT Essentials I	3
CIS 164	Networking Fundamentals I	4
CIS 279	Security Awareness and Policy	1
CIS 282	Computer System Security	4
CSCI 130	Introduction to Artificial Intelligence	2

#2 Cybersecurity Defense

Course Code	Title	Credits
CIS 165	Networking Fundamentals II	4
CIS 142	Cyber Security Operations	4
ICT 101	Science of Success: Introduction to Information Technology	1
CIS 280	Fundamentals of Network Security I	4

#3 Incident Response

Course Code	Title	Credits
CIS 241	IT Forensics I	4
CIS 267	Intermediate Networking I	4

#4 Penetration Testing

Course Code	Title	Credits
CIS 129	IT Essentials II	3
CIS 283	Cybersecurity Advanced (Penetration Testing)	4
CIS 284	Managing Network Security	4

General Education Core

Course Code	Title	Credits
PHIL 215	Contemporary Moral Issues	3
MATH 103	College Algebra	3
ENGL 110	College Composition I	3
	English/Communication Elective (3 credits)	3
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Wellness Elective(s) (2 credits)	2
	Total Required Credits	65

Computer Science (IT Forensics and CyberSecurity)

Degree Type Certificate

Contact Information

John Kroshus, associate professor
John.Kroshus@ndscs.edu
701-671-2115
NDSCS-Fargo 138

Delivery Methods

Face-to-Face: Fargo
Online: Some Classes
Combination

More and more crimes are committed with the aid of computers. Whether they are used in the commission of the crime, as in email harassment or stalking, or used for keeping records of illegal activities such as gambling and embezzlement, the computer must be seized and analyzed. This program will help you learn how to provide a secure computer environment and learn techniques for collecting and analyzing IT-related evidence.

This certificate provides a foundation for IT Forensics and Security. The certificate program will provide an immediate basis for professionals employed in the high-tech industry to improve their ability to counter threats to information systems, thereby increasing their value to organizations that employ them, and ensuring computer systems under their care are protected. A peripheral objective is to provide an opportunity for new or recent graduates to acquire advanced skills in IT Forensics and Security.

Specifically, it will meet the following objectives:

- Foster a high-quality, student-centered education.
- Provide students with a broad overview of the field and introduce them to recent advances and current research problems.
- Emphasize ethical, economic, social, and legal impacts of IT Forensics and Security technologies.
- Provide a foundation for the development of IT Forensics and Security.
- Provide our students with ability to counter threats to information systems and provide appropriate "after incident" responses.

A satisfactory criminal background check will be required prior to admission into this curriculum. The applicant must visit with the department chair regarding this issue.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Admission Requirements*

The applicants must be high school graduates or equivalent. Also, students must meet the prerequisites or obtain department approval for admission into the certificate program.

A satisfactory criminal background check will be required prior to admission into this curriculum.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award

Upon successful completion of the required courses, students will be awarded a certificate in Computer Science with an emphasis in IT Forensics and CyberSecurity.

Required Courses

Course Code	Title	Credits
CIS 128	IT Essentials I	3
CIS 129	IT Essentials II	3
CIS 164	Networking Fundamentals I	4
CIS 241	IT Forensics I	4
CIS 242	IT Forensics II	4
CIS 280	Fundamentals of Network Security I	4
CIS 282	Computer System Security	4
CIS 284	Managing Network Security	4
	ENGL/COMM Elective (3 credits)	3
ICT 101	Science of Success: Introduction to Information Technology	1
PHIL 215	Contemporary Moral Issues	3
	Total Required Credits	37

Computer Science (Information Technology Support / Information Systems Administrator)

Degree Type Certificate

Contact Information

John Kroshus, associate professor
John.Kroshus@ndscs.edu
701-671-2115
NDSCS-Fargo 138

Delivery Methods

Face-to-Face: Fargo
Online: Some Classes
Combination

Because we live in an IT oriented society, Information Systems Administrator offers a world-wide job market with a variety of locations and environments. Computers and networks are used in all types of businesses, banks, accounting firms, hospitals, manufacturing companies, insurance companies, sales companies, etc. The placement record in this program has been excellent.

For students wishing to pursue a bachelor's degree at a four-year college or university, please see the Computer Science or Management Information Systems Liberal Arts transfer curriculum plans listed in the Liberal Arts section of this catalog.

Program purposes

1. To provide students with the knowledge of computer and network training enabling them to configure and install systems.
2. To provide students with the knowledge and skills necessary to assist management in the selection of computer hardware and software.
3. To provide students with the knowledge of computer networks enabling them to configure and install them.
4. To prepare students to pursue a third-year option in Web Design or IT Forensics and Security (see additional program purposes listed under Web Design emphasis or IT Forensics and Security emphasis).

Facilities

NDSCS has hardware and networking labs. Each of these labs has current equipment and software.

All Information and Communications Technology students are required to purchase laptop computers. These laptops give students adequate computer access to complete projects and assignments given in class.

Instruction

The instructors for this program have formal educational training, industry training and certifications, and work experience in Information Technology. Laboratory time is scheduled into each student's program allowing them to receive individual attention and hands-on computer experience.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are mathematics, keyboarding, and any computer hardware classes.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Students interested in a third-year option in Web Design or IT Forensics and Security should refer to the Web Design/ Web Developer or IT Forensics and Security fact sheets.

Upon successful completion of the third-year option, students will also be awarded a certificate in Information and Communications Technology with an emphasis in Web Design or a certificate in Information and Communications Technology with an emphasis in IT Forensics and Security.

Award

Upon successful completion of the Information Technology Support required courses, students will be awarded a Certificate in Computer Science with an emphasis in Information Technology Support.

Information Technology Support

Course Code	Title	Credits
CIS 128	IT Essentials I	3
CIS 129	IT Essentials II	3
CIS 164	Networking Fundamentals I	4
CIS 165	Networking Fundamentals II	4
CIS 180	HTML and CSS	3
CIS 197	Internship	1
CIS 212	Microsoft Windows Operating System Client	3
ENGL 110	College Composition I	3
PHIL 215	Contemporary Moral Issues	3
CSCI 101	Software Apps and Digital Literacy	3
ICT 101	Science of Success: Introduction to Information Technology	1
	Total Required Credits	34

Computer Science (Software Coding)

Degree Type Certificate

Contact Information

Bonnie Schillinger, associate professor/program coordinator
Bonnie.Schillinger@ndscs.edu
701-671-2496
Horton Hall 227/NDSCS-Fargo 138

Delivery Methods

Face-to-Face: Fargo
Online: All Classes
Combination

Software coding requires knowledge of programming and database development. They assist in developing or adapting applications for businesses and organizations to meet the end user's needs.

Formal education and real-world experience form a good basis for the development of coding software. This curriculum will enhance student's skill sets and knowledge which will assist in the building and maintaining of applications or programs.

For students wishing to pursue a bachelor's degree at a four-year college or university, please see the Computer Science or Management Information Systems Liberal Arts transfer curriculum plans listed in the Liberal Arts section of this catalog.

Facilities

NDSCS has hardware and networking labs. Each of these labs has current equipment and software.

All Information and Communications Technology students are required to purchase laptop computers. These laptops give students adequate computer access to complete projects and assignments given in class.

Instruction

The instructors for this program have formal educational training, industry training and certifications, and work experience in Information Technology. Laboratory time is scheduled into each student's program to enable them to receive individual attention and hands-on computer experience.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are keyboarding, Internet classes, and any publication type class.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses for the degree, students will be awarded a Certificate in Computer Science with an emphasis in Software Coding.

Required Courses

Course Code	Title	Credits
CIS 180	HTML and CSS	3
CSCI 133	Database Concepts I (SQL)	3
CSCI 134	Database Design and Management	3
CSCI 162	Web Application Programming	3
CSCI 230	Web Database I	3
	General Education Electives (3 credits)	3
	Total Required Credits	18

Computer Science (Web Design / Web Developer)

Degree Type Certificate

Contact Information

Bonnie Schillinger, associate professor/program coordinator
Bonnie.Schillinger@ndscs.edu
701-671-2496
Horton Hall 227/NDSCS-Fargo 138

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo
Online: All Classes
Combination

Because we live in an IT oriented society, Web design offers a world-wide job market with unlimited locations and diverse environments. Websites are utilized for a variety of businesses. The World Wide Web has unveiled new opportunities for businesses creating a demand for web designers and web developers.

As the World Wide Web becomes a pervasive medium — just like TV, radio, film, and print — and as its influence grows beyond that of earlier media, the scope of essential designing skills for the web continues to expand. Because today's web involves more than HTML coding and graphic design, it is important to engage designers with a full range of skills, who can develop websites that bring benefits to their intended users.

Formal education and real-world experience form a good basis for the development of a capable designer. This curriculum will enlarge student's skill sets and knowledge basis which will assist in the ability to analyze, create, and revise websites.

For students wishing to pursue a bachelor's degree at a four-year college or university, please see the Computer Science or Management Information Systems Liberal Arts transfer curriculum plans listed in the Liberal Arts section of this catalog.

Facilities

NDSCS has hardware and networking labs. Each of these labs has current equipment and software.

All Information and Communications Technology students are required to purchase laptop computers. These laptops give students adequate computer access to complete projects and assignments given in class.

Instruction

The instructors for this program have formal educational training, industry training and certifications, and work experience in Information Technology. Laboratory time is scheduled into each student's program to enable them to receive individual attention and hands-on computer experience.

NOTE: This program requires either an HP EliteBook or ZBOOK laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Admission Requirements*

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are keyboarding, Internet classes, and any publication type class.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses for the certificate, students will be awarded a certificate in Computer Science with an emphasis in Web Design.

Web Design

Course Code	Title	Credits
CIS 110	eCommerce Websites	3
BOTE 108	Business Mathematics	3
CSCI 162	Web Application Programming	3
CIS 180	HTML and CSS	3
CIS 181	Web Authoring Software	3
CIS 182	Image Editing Software	3
CIS 232	Graphics Design	3
CSCI 135	Web Programming	3
ENGL 110	College Composition I	3
ENGL 125	Introduction to Professional Writing	3
ICT 101	Science of Success: Introduction to Information Technology	1
	Total Required Credits	31

Cybersecurity Defense

Degree Type Certificate

Contact Information:

John Kroshus, associate professor
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701-671-2115

Most cybersecurity work happens behind the scenes, protecting people and organizations who don't know they're under threat and before an attack occurs. Cybersecurity is the practice of protecting programs, computer networks and digital information from threats. Cybersecurity might be a good career for you if you are a detail-oriented, analytical person with a collaborative mindset and the ability to improvise.

This certificate will provide an immediate basis for professionals employed in the high-tech industry to improve their ability to counter threats to information systems, thereby increasing their value to organizations that employ them, and ensuring computer systems under their care are protected. A peripheral objective is to provide an opportunity for new or recent graduates to acquire advanced skills in Cybersecurity.

Specifically, it will meet the following objectives: Foster a high-quality, student centered education.

- Provide a foundation for the development of Security.
- Provide our students with the ability to counter threats to information systems and provide appropriate "after incident" responses.

Award
Upon successful completion of the required courses a student will be awarded a certificate in Cybersecurity Defense.

Core Courses

Course Code	Title	Credits
CIS 142	Cyber Security Operations	4
CIS 165	Networking Fundamentals II	4
ICT 101	Science of Success: Introduction to Information Technology	1
CIS 280	Fundamentals of Network Security I	4
CIS 220	Operating Systems	3
	Total Required Credits	16

Cybersecurity Essentials

Degree Type Certificate

Contact Information:

John Kroshus, associate professor
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701-671-2115

Most cybersecurity work happens behind the scenes, protecting people and organizations who don't know they're under threat and before an attack occurs.

Cybersecurity is the practice of protecting programs, computer networks and digital information from threats. Cybersecurity might be a good career for you if you are a detail-oriented, analytical person with a collaborative mindset and the ability to improvise.

This certificate provides a foundation for Cybersecurity Essentials. A peripheral objective is to provide an opportunity for new or recent graduates to acquire advanced skills in Cybersecurity.

Specifically, it will meet the following objectives: Foster a high-quality, student centered education.

- Provide students with a broad overview of the field and introduce them to recent advances and current research problems.
- Emphasize ethical, economic, social, and legal impacts of Security technologies.

After successfully completing the Cybersecurity Essentials certificate, students are prepared to take the CCST Cybersecurity (CISCO Certified support Technician) Certification exam. The applicants must be high school graduates or equivalent.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. The cost will be approximately $1065.00 for the Elite Book 850 and $2100.00 for the ZBOOK 15, if purchased through NDSCS. For further information, contact the NDSCS ITS department at 701-671-3333 option 5.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests.

Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Award

Upon successful completion of the required courses students will be awarded a certificate in Cybersecurity Essentials.

Core Courses

Course Code	Title	Credits
CIS 128	IT Essentials I	3
CIS 164	Networking Fundamentals I	4
CIS 279	Security Awareness and Policy	1
CIS 282	Computer System Security	4
PHIL 215	Contemporary Moral Issues	3
CSCI 130	Introduction to Artificial Intelligence	2
	Total Required Credits	17

Cybersecurity Incident Response

Degree Type Certificate

Contact Information:
John Kroshus
Associate Professor
John.Kroshus@ndscs.edu
701-671-2115
NDSCS-Fargo 138

Delivery Methods:
Online and Face-to-Face Combination

Program Information:

Most cybersecurity work happens behind the scenes, protecting people and organizations who don't know they're under threat and before an attack occurs. Cybersecurity is the practice of protecting programs, computer networks and digital information from threats. Cybersecurlty might be a good career for you if you are a detail-oriented, analytical person with a collaborative mindset and the ability to improvise.

This certificate is a stack-able certificate and is taken after the successful completion of Cybersecurity Essentials, Cybersecurity Defense, and Cybersecurity Incident Response Certificates. These certificates provide an immediate basis for professionals employed in the high-tech industry to improve their ability to counter threats to information systems, thereby increasing their value to organizations that employ them, and ensuring computer systems under their care are protected. A peripheral objective is to provide an opportunity for new or recent graduates to acquire advanced skills in Cybersecurity.

Specifically, it will meet the following objectives: Foster a high-quality, student centered education.

- Provide a foundation for the development of Security.
- Provide our students with the ability to counter threats to information systems and provide appropriate "after incident" responses.

After successfully completing the Cybersecurity Penetration Testing certificate, students are prepared to take the CompTIA A+ Certification exam. The applicants must be high school graduates or equivalent.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Award:
Upon successful completion of the required courses a student will be awarded a certificate in Cybersecurity Incident Response.

Core Curriculum

Course Code	Title	Credits
CIS 241	IT Forensics I	4
CIS 267	Intermediate Networking I	4
MATH 103	College Algebra	3
ENGL 110	College Composition I	3
	Wellness Elective(s) (2 credits)	2
	Total Required Credits	16

Cybersecurity Penetration Testing

Degree Type Certificate

Contact Information:
John Kroshus
Associate Professor
John.Kroshus@ndscs.edu
701-671-2115
NDSCS-Fargo 138

Delivery Methods:
Online and Face-to-Face Combination

Program Information:

Most cybersecurity work happens behind the scenes, protecting people and organizations who don't know they're under threat and before an attack occurs. Cybersecurity is the practice of protecting programs, computer networks and digital information from threats. Cybersecurlty might be a good career for you if you are a detail-oriented, analytical person with a collaborative mindset and the ability to improvise.

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Specifically, it will meet the following objectives: Foster a high-quality, student centered education.

- Provide a foundation for the development of Security.
- Provide our students with the ability to counter threats to information systems and provide appropriate "after incident" responses.

After successfully completing the Cybersecurity Penetration Testing certificate, students are prepared to take the CompTIA A+ Certification exam. The applicants must be high school graduates or equivalent.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Please Note: Students are placed into English, math and reading courses based on ACT, ACCUPLACER or other nationally recognized tests. Please see www.NDSCS.edu/current-students/student-success/test-center for the NDSCS Course Placement Policy and testing information. Students may be on an extended plan of study pending their course placement.

Award:
Upon successful completion of the required courses a student will be awarded a certificate in Cybersecurity Penetration Testing.

Core Curriculum

Course Code	Title	Credits
CIS 129	IT Essentials II	3
CIS 284	Managing Network Security	4
CIS 283	Cybersecurity Advanced (Penetration Testing)	4
	English/Communication Elective (3 credits)	3
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	16

Liberal Arts

General Liberal Arts Transfer

Degree Type Associate in Arts

Contact Information

Sybil Priebe, associate professor/program coordinator
Sybil.Priebe@ndscs.edu
701-671-2346
Haverty Hall 215

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo
Online: All Classes
Combination

This option is available to the student whose goal is a bachelor's degree, but who may be unsure of his or her major. It includes first and second year core courses in a variety of areas including English and humanities, math, natural and physical sciences, social and behavioral sciences, computer information systems, and physical education. Most four-year colleges and universities require these core courses. Upon completion of the program, the student is awarded an Associate in Arts degree or an Associate in Science degree, which allows transfer to most four-year colleges and universities as a junior.

The General Liberal Arts transfer curriculum plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

All instructors in the Liberal Arts area have graduate-level educational training in their field of expertise. The majority of the faculty in the Arts, Science and Business Division hold Master of Arts, Master of Science or doctorate degrees. The faculty also serves as student advisors to aid students in planning programs, setting up schedules, registering for classes, and ultimately deciding on a major. Career counseling is also available to help students make decisions.

Employment opportunities for the liberal arts student ultimately depend on the specialty or major the individual eventually pursues. Liberal arts provides maximum flexibility and transfer opportunities for a variety of programs and occupations. While the number of possibilities is far too numerous to list, counselors and faculty members are available to meet with students to discuss future plans, even if the student is not currently enrolled.

Admission Requirements

The applicants must be high school graduates or equivalent. Applicants may be required to complete a basic skills evaluation during the admissions process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Arts degree or an Associate in Science degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
CSCI 101	Software Apps and Digital Literacy	3
	Wellness Elective(s) (2 credits)	2
	Free Electives (3 credits)	3
	General Education Electives (19 credits)	19
	Humanities/History Electives (6 credits)	6
	Math, Science and Computer Information Systems Electives (10 credits)	10
	Social and Behavioral Science Electives (8 credits)	8

* Consult your advisor for course selection of free electives.

** Consult academic advisor in selecting electives that are most appropriate for the intended A.A. or A.S. degree for transfer to a bachelor's program.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

	Total Required Credits	61

Liberal Arts (Business Transfer)

Degree Type Associate in Arts

Contact Information

Curt Schreiber, associate professor
Curt.Schreiber@ndscs.edu
701-671-2601
Horton Hall 231

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo
Online: Some Classes
Combination

This Liberal Arts degree with an emphasis in Business Administration is for students intending to eventually earn a four-year degree. It is designed to provide a smooth transition into an accounting, business administration, finance, marketing, or international business baccalaureate program at a four-year college or university. The curriculum will include a blend of both general education and business courses.

A faculty advisor will assist students in the development of an appropriate program to meet the student's career goals. Employment opportunities are unlimited, depending upon the individuals' strengths and interests.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. The cost will be approximately $1065.00 for the EliteBook 850 and $2100.00 for the ZBOOK 15, if purchased through NDSCS. For further information, contact Greg Anderson, program coordinator, at 701-671-2172.

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are accounting and general business.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Arts degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
ACCT 200	Elements of Accounting I	3
ACCT 201	Elements of Accounting II	3
COMM 110	Fundamentals of Public Speaking	3
ECON 201	Principles of Microeconomics	3
ECON 202	Principles of Macroeconomics	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
BADM 101	Science of Success	1
	Wellness Elective(s) (2 credits)	2
	Humanities/History Electives (6 credits)	6
CSCI 101	Software Apps and Digital Literacy	3
MATH 103	College Algebra	3
MATH 210	Elementary Statistics	3
	Lab Science Elective(s)	4
ACCT 215	Business in the Legal Environment	3
BADM 201	Principles of Marketing	3
BADM 202	Principles of Management	3
BADM 251	Personal Finance	3
BUSN 120	Fundamentals of Business	3
	PSYC 111 or SOC 110	3
Total Required Credits		61

*Consult academic advisor in selecting electives that are most appropriate for the intended bachelor's program.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

Liberal Arts (Criminal Justice Transfer)

Degree Type Associate in Arts

Contact Information

Dr. Kelly Wolf, associate professor
Kelly.Wolf@ndscs.edu
701-671-2142
Old Main 436

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination
Fargo: IVN and Face-to-Face

This transfer curriculum plan is available to the student whose goal is a career in the justice system. This plan is for the student who wishes to complete the Associate in Arts degree at NDSCS, transfer directly to a four-year college or university to complete the bachelor's degree in criminal justice, and then complete the one semester Peace Officer Training (or other specific academy for their chosen area of criminal justice). The Criminal Justice transfer curriculum plan at NDSCS includes the freshman and sophomore core courses in English and humanities, math, physical sciences, social and behavioral sciences, and physical education. All colleges and universities require these core courses for students seeking a bachelor's degree. An Associate in Arts degree is awarded upon completion of the program.

Individuals interested in criminal justice have several career options available to them. Among the many options are: police, detectives, county and state patrol officers, parole, probation and corrections officers. Also, many jobs are available in the federal government such as: FBI, U.S. Marshals Service, ATF, Secret Service, and DEA.

The Criminal Justice transfer curriculum plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

NOTE: For those students interested in becoming license eligible as peace officers in the State of N.D., a collaboration agreement has been made between NDSCS and Lake Region State College (LRSC). LRSC offers Peace Officer Training (20 credits; NDSCS graduates take 17 of those credits) in Devils Lake, Minot, Grand Forks, and Fargo. Upon completion of Peace Officer Training, the student would be license eligible as a peace officer in the State of N.D. and may choose to continue their education towards a bachelor's degree at a four-year college.

Admission Requirements

The applicants must be high school graduates or equivalent. Applicants may be required to complete a basic skills evaluation during the admission process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Arts degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
	HIST 101 and 102 or HIST 103 and 104	6
	Wellness Elective(s) (2 credits)	2
PHIL 215	Contemporary Moral Issues	3
	Social and Behavioral Science Electives (27 credits)	27
FYE 101	Science of Success	1
CSCI 101	Software Apps and Digital Literacy	3
	Math, Science and Computer Information Systems Required Electives 10 CJ	10

Consult academic advisor in selecting electives that are most appropriate for the intended baccalaureate program.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

Total Required Credits	61

Liberal Arts (Early Childhood Education Transfer)

Degree Type Associate in Arts

Contact Information

Jennifer Krueger, assistant professor
Jennifer.A.Krueger@ndscs.edu
701-671-2433
Old Main 444

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

This transfer curriculum plan is available to the student whose goal is a career in early childhood education, child development, family science or related fields.

Employment opportunities include parent and family life educators, extension agents, child protection service professionals, financial counselors, nursing home activity directors, credit specialists, probation agents, directors of child care licensing, and hospital child life specialists.

The Early Childhood Education transfer curriculum plan at NDSCS includes the freshman and sophomore core courses in English, humanities, math, physical sciences, social and behavioral sciences, and wellness. All colleges and universities require these core courses for students seeking a bachelor's degree.

Upon completion of the program, the student is awarded an Associate in Arts degree, which allows transfer to most four-year colleges and universities as a junior.

This plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

Admission Requirements

The applicants must be high school graduates or equivalent. Applicants may be required to complete a basic skills evaluation during the admission process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Arts degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
PSYC 111	Introduction to Psychology	3
PSYC 255	Child and Adolescent Psychology	3
SOC 110	Introduction to Sociology	3
SOC 220	Family	3
CSCI 101	Software Apps and Digital Literacy	3
	Humanities/History Electives (6 credits)	6
	Wellness Elective(s) (2 credits)	2
	Math, Science and Computer Information Systems Electives (10 credits)	10
	General Education Electives (18 credits)	18

Recommended General Education Electives (18 credits)

Must complete 18 credits of general education electives. Below are a list of recommended courses to meet this requirement.

Course Code	Title	Credits
PHIL 215	Contemporary Moral Issues	3
PSYC 230	Educational Psychology	3
PSYC 250	Developmental Psychology	3
SOC 115	Social Problems	3
SOC 220	Family	3
SOC 221	Minority Relations	3
ENGL 238	Children's Literature	3
HPER 217	Personal & Community Health	3
HPER 210	First Aid & CPR (Professional/ Community)	2

Consult academic advisor in selecting electives that are most appropriate for the intended bachelor’s program.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

	Total Required Credits	61

Liberal Arts (Education Transfer)

Degree Type Associate in Arts

Contact Information

Sybil Priebe, associate professor/program coordinator
sybil.priebe@ndscs.edu
701-671-2346
Haverty Hall 215

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo
Online: Some Classes
Combination

Students entering the Education transfer curriculum plan at NDSCS are exposed to a wide range of courses and disciplines. Upon completion of the requirements, students are awarded the Associate in Arts degree. Students then transfer to other colleges or universities to take their education courses and to student teach.

Secondary school teaching requires a wide variety of skills and aptitudes, including a talent for working with children; organizational, administrative and recordkeeping abilities; research and communication skills; the power to influence, motivate and train others; patience; and creativity. Preparing students for the future workforce is the major stimulus generating the changes in education. To be prepared, students must be able to interact with others, adapt to new technology, and to think logically through problems. Teachers provide the tools and environment for their students to develop these skills.

This plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

Admission Requirements

The applicants must be high school graduates or equivalent. Applicants may be required to complete a basic skills evaluation during the admission process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Arts degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
CSCI 101	Software Apps and Digital Literacy	3
	Wellness Elective(s) (2 credits)	2
	Free Electives (3 credits)	3
	General Education Electives (19 credits)	19
	Humanities/History Electives (6 credits)	6
	Math, Science and Computer Information Systems Electives (10 credits)	10
	Social and Behavioral Sciences Electives (8 credits)	8

Suggested Courses

Math Education Majors

Course Code	Title	Credits
MATH 103	College Algebra	3
MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 265	Calculus III	4
MATH 266	Introduction To Differential Equations	3

HPER Education Majors

Please refer to the Health, Physical Education and Recreation transfer curriculum plan section.

Music Education Majors

Please refer to the Music transfer curriculum plan section.

Science Education Majors

Course Code	Title	Credits
BIOL 150	General Biology I	3
BIOL 150L	General Biology I Lab	1
BIOL 151	General Biology II	3
BIOL 151L	General Biology II Lab	1
PHYS 211	College Physics I	3
PHYS 211L	College Physics I Lab	1
PHYS 212	College Physics II	3
PHYS 212L	College Physics II Lab	1
MATH 165	Calculus I	4
MATH 166	Calculus II	4
PHYS 251	University Physics I	4
PHYS 252	University Physics II	4

Elementary Education Majors

Please refer to the Elementary Education transfer curriculum plan section.

Social Science Education Majors

Course Code	Title	Credits
ECON 201	Principles of Microeconomics	3
	HIST Elective(s) (3 credits)	3

Social Science Electives

Course Code	Title	Credits
ECON 202	Principles of Macroeconomics	3
	POLS/HIST Elective(s) (3 credits)	3
PSYC 250	Developmental Psychology	3
PSYC 270	Psychological Disorders and Treatment	3
SOC 220	Family	3
SOC 221	Minority Relations	3
COMM 112	Understanding Media and Social Change	3

All Majors

Course Code	Title	Credits
EDUC 250	Introduction to Education	3

*EDUC 250 is a collaborative online course introducing the student to working in education. It includes observation of a working teacher and is offered by Mayville State University or other NDUS institutions. It can be taken as a recommended free elective.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

	Total Required Credits	61

Liberal Arts (Elementary Education Transfer)

Degree Type Associate in Arts

Contact Information

Sybil Priebe, associate professor/program coordinator
Sybil.Priebe@ndscs.edu
701-671-2346
Haverty Hall 215

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

Students entering the Elementary Education transfer curriculum plan at NDSCS are exposed to a wide range of courses and disciplines. Upon completion of the requirements, students are awarded the Associate in Arts degree. Students then transfer to other colleges or universities to take their education courses and to student teach.

Kindergarten and elementary school teachers need a wide variety of skills and aptitudes, including a talent for working with children; organizational, administrative and recordkeeping abilities; research and communication skills; the power to influence, motivate and train others; patience; and creativity. Preparing students for the future workforce is the major stimulus generating the changes in education. To be prepared, students must be able to interact with others, adapt to new technology, and to think logically through problems. Teachers provide the tools and environment for their students to develop these skills.

This plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

Admission Requirements

The applicants must be high school graduates or equivalent. Applicants may be required to complete a basic skills evaluation during the admission process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Arts degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
CSCI 101	Software Apps and Digital Literacy	3
	Wellness Elective(s) (2 credits)	2
	Free Elective (3 credits)	3
	General Education Electives (19 credits)	19
	Humanities/History Electives (6 credits)	6
	Math, Science and Computer Information Systems Electives (10 credits)	10
	Social and Behavioral Sciences Electives (8 credits)	8

Suggested Courses

Course Code	Title	Credits
	BIOL 111/L or BIOL 124/L or CHEM 110/L	4
	MUSC 100 or MUSC 101	3
CSCI 101	Software Apps and Digital Literacy	3
COMM 112	Understanding Media and Social Change	3
EDUC 250	Introduction to Education	3

**EDUC 250 is a collaborative online course introducing the student to working in education. It includes observation of a working teacher and is offered by Mayville State University or other NDUS institutions. It can be taken as a recommended free elective.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

Total Required Credits	61

Liberal Arts (Health, Physical Education and Recreation Transfer)

Degree Type Associate in Arts

Contact Information

Jane Passa, assistant professor/program coordinator
Jane.Passa@ndscs.edu
701-671-2445

Blikre Activities Center 190

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

This curriculum is available to the student planning to eventually major in physical education, health/recreation and perhaps, engage in the teaching, coaching or recreation fields as a career pursuit.

The Health, Physical Education and Recreation transfer curriculum plan provides transferable courses, which will eventually result in a major, or minor in the HPER field of study. In addition, the HPER plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

The instructors in this department have a wide variety of backgrounds in the field with the majority of them holding at least a master's degree. The average class size is small enough to allow the development of comfortable staff-student relationships. Students are assigned faculty advisors to assist them in planning their programs and working out their semester schedules.

The physical education indoor and outdoor facilities are extensive and in excellent condition. These facilities are shared by the physical education, athletic and intramural programs. They are also open many hours for individual "free play" time.

The opportunities for employment in the HPER field are excellent. Students commonly take employment as physical education instructors in elementary, junior high or high schools, athletic coaches, recreational directorships (community, private, commercial, etc.), athletic trainers or health instructors.

Admission Requirements

The applicants must be high school graduates or equivalent. Applicants may be required to complete a basic skills evaluation during the admissions process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Arts degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
HPER 100	Concepts of Fitness and Wellness	2
HPER 200	Introduction to Parks and Recreation	2
HPER 207	Prevention and Care of Injuries	3
HPER 208	Introduction to Physical Education	2
HPER 210	First Aid & CPR (Professional/ Community)	2
HPER 217	Personal & Community Health	3
CSCI 101	Software Apps and Digital Literacy	3
	Wellness Elective(s) (2 credits)	2
	General Education Electives (8 credits)	8
	Humanities/History Electives (6 credits)	6
	Math, Science and Computer Information Systems Electives (10 credits)	10
	Social and Behavioral Science Electives (8 credits)	8

* Consult academic advisor in selecting electives that are most appropriate for the intended bachelor's program.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

	Total Required Credits	61

Liberal Arts (Law Transfer)

Degree Type Associate in Arts

Contact Information

Jeff Hart, associate professor
Jeffrey.Hart@ndscs.edu
701-671-2342
Old Main 435

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

This curriculum is available to the student whose goal is a juris doctor (J.D.) or bachelor of law (LL.B) degree. The Law transfer curriculum plan at NDSCS includes the freshman and sophomore core courses in English and humanities, math, physical sciences, social and behavioral sciences, and physical education. All colleges and universities require these core courses for students seeking a bachelor's degree. An Associate in Arts degree is awarded upon completion of the program, and the student can transfer to most four-year colleges and universities as a junior. To be accepted into law school, the student must obtain a bachelor's degree from a four-year college or university.

The Law transfer curriculum plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

Admission Requirements

The applicants must be high school graduates or equivalent. Applicants may be required to complete a basic skills evaluation during the admission process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Arts degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
CSCI 101	Software Apps and Digital Literacy	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
	Lab Science Elective(s)	4
MATH 103	College Algebra	3
MATH 210	Elementary Statistics	3
PHIL 215	Contemporary Moral Issues	3
	Wellness Elective(s) (2 credits)	2
	General Education Electives (6 credits)	6
	Social and Behavioral Science Electives (21 credits)	21
	Humanities/History Elective (3 credits)	3
POLS 115	American Government	3

Suggested Electives (Social and Behavioral Science Electives)

Choose 21 credits below. From any courses marked ND:SS — all law transfer curriculum plan students must complete one criminal justice, one politics and one psychology or one sociology course (in addition to the required courses). Please see below for courses under suggestive electives.

Course Code	Title	Credits
CJ 201	Introduction to Criminal Justice	3
CJ 232	Administration of Justice	3
CJ 297	Internship	1
ECON 105	Elements of Economics	3
ECON 201	Principles of Microeconomics	3
ECON 202	Principles of Macroeconomics	3
POLS 116	State and Local Government	3
POLS 225	Comparative Politics I	3
PSYC 111	Introduction to Psychology	3
PSYC 250	Developmental Psychology	3
PSYC 270	Psychological Disorders and Treatment	3
SOC 110	Introduction to Sociology	3
SOC 115	Social Problems	3
SOC 220	Family	3
SOC 221	Minority Relations	3

* Consult academic advisor in selecting electives that are most appropriate for the intended bachelor's program.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

	Total Required Credits	61

Liberal Arts (Music Transfer)

Degree Type Associate in Arts

Contact Information

Bryan Poyzer, associate professor/program coordinator
Bryan.Poyzer@ndscs.edu
701-671-2872
Stern Cultural Center 132

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

The NDSCS Performing Arts program has four purposes. It allows students to enjoy music and develop their skills by being in performing groups. It provides general education courses that transfer to colleges or universities. It provides a core curriculum for students planning a music major. Finally, it makes artistic contributions to the campus and community.

Performing groups open to most students include concert band and concert choir. From them, students can participate in jazz band and various vocal ensembles. Students are provided with state-of-the-art sound equipment for the touring Wildcat Singers and Wildcat Jazz Band. The Harry Stern and Ella Stern Cultural Center is one of the best auditoriums in the area. Students also may be in small performing groups or take private lessons.

Students of all abilities are welcome in the music program, whether they plan to major in music or plan to continue their enjoyment through classroom study or performance ensembles. Many school instruments are provided.

Career possibilities include instrumental and choral conductor, classroom or private teacher, studio technician, composer, and/or performer.

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are high school band and/or high school choir.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Arts degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
	Wellness Elective(s) (2 credits)	2
	MUSC 115 or MUSC 117	4
MUSC 122	Music Theory I	3
MUSC 123	Aural Skills I	2
MUSC 124	Music Theory II	3
MUSC 125	Aural Skills II	2
MUSC 138	Jazz Band	1
MUSC 157	Pop-Swing Choir	1
MUSC 182	Technology in Music	3
	MUSC 245 or MUSC 160 and MUSC 161	2
CSCI 101	Software Apps and Digital Literacy	3
	Voice or Instrumental Lessons (1 credit/term)	2
	Humanities/History Electives (6 credits)	6
	Math, Science and Computer Information Systems Electives (10 credits)	10
	Social and Behavioral Sciences Electives (8 credits)	8
	General Education Electives (6 credits)	6

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

	Total Required Credits	68

Liberal Arts (Psychology Transfer)

Degree Type Associate in Arts

Contact Information

Jennifer Krueger, assistant professor
Jennifer.A.Krueger@ndscs.edu
701-671-2433
Old Main 444

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

This transfer curriculum plan is available to the student, whose goal is a career in psychology or related fields, including medicine, neurosciences, business, industry, mental health, and applied psychology.

The Psychology transfer curriculum plan at NDSCS includes the freshman and sophomore core courses in English, humanities, math, physical sciences, social and behavioral sciences, and wellness. All colleges and universities require these core courses for students seeking a bachelor's degree.

Upon completion of the program, the student is awarded an Associate in Arts degree, which allows transfer to most four-year colleges and universities as a junior.

This plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

Admission Requirements

The applicants must be high school graduates or equivalent. Applicants may be required to complete a basic skills evaluation during the admission process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Arts degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
PSYC 111	Introduction to Psychology	3
PSYC 250	Developmental Psychology	3
PSYC 270	Psychological Disorders and Treatment	3
SOC 110	Introduction to Sociology	3
CSCI 101	Software Apps and Digital Literacy	3
	Humanities/History Electives (6 credits)	6
	Wellness Elective(s) (2 credits)	2
	Math, Science and Computer Information Systems Electives (10 credits)	10
	General Education Electives (18 credits) PSYC	18

Recommended General Education Electives (18 credits)

Must complete 18 credits of general education electives. Below are a list of recommended courses to meet this requirement.

Course Code	Title	Credits
PHIL 215	Contemporary Moral Issues	3
PSYC 230	Educational Psychology	3
PSYC 255	Child and Adolescent Psychology	3
SOC 115	Social Problems	3
SOC 220	Family	3
SOC 221	Minority Relations	3

*Consult academic advisor in selecting electives that are most appropriate for the intended bachelor's program.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

Total Required Credits	61

Liberal Arts (Social Work Transfer)

Degree Type Associate in Arts

Contact Information

Char Schuler, Associate Professor
charlotte.schuler@ndscs.edu
701-671-2364
Old Main 442

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

The Social Work transfer curriculum plan is designed to prepare students with the general education and introductory courses necessary to pursue a bachelor's degree in Social Work.

Social workers typically do the following:

- Identify people and communities in need of help
- Assess clients' needs, situations, strengths, and support networks to determine their goals
- Help clients adjust to changes and challenges in their lives, such as illness, divorce, or unemployment
- Research, refer, and advocate for community resources, such as food stamps, childcare, and healthcare, to assist and improve a client's well-being
- Respond to crisis situations such as child abuse and mental health emergencies
- Monitor clients' situations, and follow up to ensure that they have improved
- Maintain case files and records
- Provide psychotherapy services

The Bureau of Labor Statistics projects employment of social workers to grow 9 percent through 2031, which faster than the average for all occupations.

Source: United States Department of Labor. (n.d). *U.S Bureau of Labor Statistics.* Occupational Outlook Handbook. https://www.bls.gov/ooh/community-and-social-service/social-workers.htm

Transfer Options

Students interested in transferring to a four-year undergraduate program will find that completion of the Social Work transfer curriculum plan will provide them with a number of options. Students typically transfer into accredited Social Work programs at a number of colleges and universities.

Admission Requirements

The applicants must be high school graduates or equivalent. Applicants may be required to complete a basic skills evaluation during the admissions process. Applicants are invited to visit the program.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Arts degree in Liberal Arts.

Social Work Core Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
PSYC 111	Introduction to Psychology	3
PSYC 250	Developmental Psychology	3
PHIL 215	Contemporary Moral Issues	3
SOC 110	Introduction to Sociology	3
CSCI 101	Software Apps and Digital Literacy	3
	Math, Science and Computer Information Systems Electives (6 credits)	6
BIOL 115	Concepts of Anatomy and Physiology	3
BIOL 115L	Concepts of Anatomy and Physiology Lab	1
	Wellness Elective(s) (2 credits)	2
	Humanities/History Elective (3 credits)	3

General Education Electives (21 Credits)

Below are some suggested courses you can take. You would only need to take 21 credits. This list is just a recommended list.

Course Code	Title	Credits
ECON 201	Principles of Microeconomics	3
HPER 217	Personal & Community Health	3
POLS 115	American Government	3
PSYC 255	Child and Adolescent Psychology	3
PSYC 270	Psychological Disorders and Treatment	3
SOC 115	Social Problems	3
SOC 220	Family	3
SOC 221	Minority Relations	3
	Total Required Credits	61

Liberal Arts (Agriculture Transfer)

Degree Type Associate in Science

Contact Information

Dr. Anissa Hoffman, associate professor/program coordinator
Anissa.Hoffman@ndscs.edu
701-671-2252
Tech Center 46

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

The Agriculture transfer curriculum plan is designed for students who plan to continue their studies toward a bachelor's degree in agriculture from one of the area universities. Since degree requirements of various transfer institutions differ, students should consult an advisor and the catalog of the college to which they plan to transfer so they can determine specific course requirements and transfer policies. Their NDSCS agriculture advisor will assist them with the transfer process.

Students will take a mixture of agriculture and general education courses while at NDSCS that will assist them in meeting the requirements of their anticipated degree. Smaller class size enables a successful beginning towards completion of a bachelor's degree.

Our philosophy statement is: "The Agriculture Department provides education for the present and future by incorporating leadership and career development, best management practices in crop and livestock production, mechanics, technology, natural resources, problem solving, internships, and communication through a diverse program."

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are chemistry, algebra, advanced mathematics, biology, agricultural education, English, and computer science.

Applicants may be required to complete a basic skills evaluation during the admissions process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
	Wellness Elective(s) (2 credits)	2
PLSC 110	World Food Crops	3
PLSC 225	Principles of Crop Production	3
SOIL 210	Introduction to Soil Science	3
AGEC 242	Introduction to Agricultural Management	3
CSCI 101	Software Apps and Digital Literacy	3
	Humanities/History Electives (6 credits)	6
	Math, Science and Computer Information Systems Electives (6 credits)	6
	Social and Behavioral Science Electives (8 credits)	8
	Agriculture and General Education Electives (15 credits)	15
	Free Electives (4 credits)	4
	Total Required Credits	66

**Electives should be selected according to the needs of the student or requirements of the transfer college.*

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

Liberal Arts (Biological Science Transfer)

Degree Type Associate in Science

Contact Information
Shannon King, associate professor
Shannon.King@ndscs.edu
701-671-2296
Haverty Hall 223

Delivery Methods
Face-to-Face: Wahpeton
Online: Some Classes
Combination

The Biological Science transfer curriculum plan is designed for the individual who is considering a career in any of the biological sciences. All colleges and universities require core courses such as English, social sciences, humanities, and wellness, as well as a strong foundation in mathematics. chemistry, and biology for students seeking a bachelor's degree. The mathematics and science courses form the foundation for more advanced studies at the university.

To be successful in this field, you must be strongly motivated, possess high scholastic ability and have an interest in and an aptitude for mathematics and the sciences. Important skills include attention to details, a strongly developed sense of curiosity and imagination, self-discipline, patience, and ambition.

Students entering the Biological Science transfer curriculum plan who do not have the proper prerequisites may need additional preparatory classes.

The Biological Science plan provides preparation for the professional curriculum and meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

Careers in the Biological Sciences are many and varied. Possible areas of specialization include biology, botany, ecology, genetics, microbiology, natural resources management, and zoology. Many job opportunities exist in education, research, government agencies, and the private sector. Although some entry-level positions require only a bachelor's degree, most jobs require one or more advanced degrees such as a master's or Ph.D.

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are biology, computer science. chemistry, zoology, mathematics, physics, and English. Courses that develop reading and communications skills are also recommended. Applicants may be required to complete a basic skills evaluation during the admissions process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Core Courses

Course Code	Title	Credits
BIOL 150	General Biology I	3
BIOL 150L	General Biology I Lab	1
BIOL 151	General Biology II	3
BIOL 151L	General Biology II Lab	1
CHEM 121	General Chemistry I	4
CHEM 121L	General Chemistry I Laboratory	1
CHEM 122	General Chemistry II	4
CHEM 122L	General Chemistry II Laboratory	1
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
MATH 165	Calculus I	4
	Math Elective (LAT BIO)	3
	Organic Chemistry Lecture and Lab Series OR College Physics Lecture and Lab Series	8
CIS 101	Digital Literacy	2
	Humanities/History Electives (6 credits)	6
	Social and Behavioral Science Electives (8 credits)	8
	Wellness Elective(s) (2 credits)	2
	Total Required Credits	61

Liberal Arts (Biotechnology Transfer)

Degree Type Associate in Science

Contact Information

Dr. Bill Shay, professor/program coordinator
William.Shay@ndscs.edu
701-671-2341
Haverty Hall 228

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

The biotechnician has a diversified education in biology, chemistry, and physics. While a few entry-level jobs are available to biotechnicians with an A.S. or B.S. degree, most often the undergraduate Biotechnology curriculum is used as a stepping-stone to a M.D., M.S., or Ph.D. degree. A biotechnician with an A.S. or B.S. degree generally performs routine tasks and analytical procedures under the supervision of the research scientist.

Students choosing this plan should consult with the Mathematics and Science Department in selecting their courses since future plans of study at a four-year college may have specific requirements. In addition, a student should contact the college or university of their choice to confirm a list of recommended courses.

Students entering Biotechnology who do not have the proper prerequisites may need additional preparatory classes.

The Biotechnology transfer curriculum plan provides preparation for the professional curriculum and meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

In addition to the Biotechnology transfer curriculum plan, other programs a student may transfer into are biology, microbiology, chemistry, biochemistry, environmental science, wildlife biology, agriculture, natural science, and conservation.

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are biology, computer science, chemistry, mathematics, physics and English. Courses that develop reading and communications skills are also recommended. Applicants may be required to complete a basic skills evaluation during the admissions process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
BIOL 150	General Biology I	3
BIOL 150L	General Biology I Lab	1
CHEM 121	General Chemistry I	4
CHEM 121L	General Chemistry I Laboratory	1
CHEM 122	General Chemistry II	4
CHEM 122L	General Chemistry II Laboratory	1
BIOL 151	General Biology II	3
BIOL 151L	General Biology II Lab	1
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
MATH 165	Calculus I	4
	Humanities/History Electives (6 credits)	6
	Social and Behavioral Science Electives (8 credits)	8
	Wellness Elective(s) (2 credits)	2
CIS 101	Digital Literacy	2
	Organic Chemistry Lecture and Lab Series OR College Physics Lecture and Lab Series	8
	Science Electives (3 credits)	3

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

	Total Required Credits	61

Liberal Arts (Chemistry Transfer)

Degree Type Associate in Science

Contact Information

Dr. Bill Shay, professor/program coordinator
William.Shay@ndscs.edu
701-671-2341
Haverty Hall 228

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

The Chemistry transfer curriculum is designed for students planning a career in chemistry or a related field that would benefit from a strong background in the physical sciences and mathematics. Successful completion of the curriculum will allow the student to transfer to a four-year chemistry program or to four-year programs in the physical sciences or engineering.

This degree plan is designed to provide students with a more accurate representation of the course sequences taken during the first two years of a four-year degree program in either chemistry or mathematics.

Students choosing this plan should consult with the Mathematics and Science Department in selecting their courses since future plans of study at a four-year college may have specific requirements. In addition, a student should contact the college or university of their choice to confirm a list of recommended courses.

Upon completion of this program, the student is awarded an Associate in Science degree, which allows transfer to most four-year colleges and universities as a junior.

This plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful course to prepare for this program are biology, chemistry, computer science, English, mathematics and physics.

Courses that develop reading and communication skills and two years of a foreign language, if available, also are recommended. Applicants may be required to complete a basic skills evaluation during the admissions process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
CHEM 121	General Chemistry I	4
CHEM 121L	General Chemistry I Laboratory	1
CHEM 122	General Chemistry II	4
CHEM 122L	General Chemistry II Laboratory	1
CHEM 241	Organic Chemistry I	4
CHEM 241L	Organic Chemistry I Laboratory	1
CHEM 242	Organic Chemistry II	4
CHEM 242L	Organic Chemistry II Laboratory	1
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
FYE 101	Science of Success	1
MATH 165	Calculus I	4
	Humanities/History Electives (6 credits)	6
	Social and Behavioral Science Electives (8 credits)	8
	Wellness Elective(s) (2 credits)	2
ENGL 120	College Composition II	3
PHYS 211	College Physics I	3
PHYS 211L	College Physics I Lab	1
PHYS 212	College Physics II	3
PHYS 212L	College Physics II Lab	1
CIS 101	Digital Literacy	2
	General Education Elective (1 credit)	1

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading NDUS: General Education Transfer Agreement.

	Total Required Credits	61

Liberal Arts (Computer Science Transfer)

Degree Type Associate in Science

Contact Information

Bonnie Schillinger, associate professor/program coordinator
Bonnie.Schillinger@ndscs.edu
701-671-2496
Horton Hall 227/NDSCS-Fargo 138

Delivery Methods

Face-to-Face: Wahpeton
Face-to-Face: Fargo
Online: Some Classes
Combination

The Computer Science transfer curriculum plan provides articulation to professional programs in computer science. In addition, this plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

If you are creative, a logical thinker, pay attention to detail, are easily motivated, work well on your own and are capable of sound decision-making, you are an excellent candidate for working in the computer area.

Facilities

NDSCS has hardware and networking labs. Each of these labs has current equipment and software.

Information and Communications Technology students are required to purchase laptop computers. These laptops give students adequate computer access to complete projects and assignments given in class.

The software necessary for the CIS/CSCI classes in this curriculum are included with the textbooks.

Instruction and advising

The instructors for this program have formal educational training, industry training and certifications and work experience in Information Technology. The average class size is 25 students. Most of the computer information systems classes have a lab period which enables students to receive individualized attention when it is needed.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. The cost will be approximately $1065.00 for the EliteBook 850 and $2100.00 for the ZBOOK 15, if purchased through NDSCS. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are upper-level mathematics classes.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
CSCI 160	Computer Science I	4
CSCI 161	Computer Science II	4
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
	Wellness Elective(s) (2 credits)	2
MATH 165	Calculus I	4
MATH 166	Calculus II	4
	CIS/CSCI or General Electives (6 credits)	7
ICT 101	Science of Success: Introduction to Information Technology	1
	Humanities/History Electives (6 credits)	6
	Science Electives (8 credits)	8
	Social and Behavioral Science Electives (9 credits)	9

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

	Total Required Credits	61

Liberal Arts (Cybersecurity Transfer)

Degree Type Associate in Science

Contact Information

Bonnie Schillinger, department chair

Bonnie.Schillinger@ndscs.edu

701-671-2496

Horton Hall 227/NDSCS-Fargo 138

Delivery Methods

Face-to-Face: Wahpeton

Face-to-Face: Fargo

Online: Some Classes Combination

The Cybersecurity transfer curriculum plan provides articulation to professional programs in cybersecurity. In addition, this plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

Cybersecurity may be a good career for you if you are a detail-oriented, analytical person with a collaborative mindset and the ability to improvise.

Facilities

NDSCS has hardware and networking labs. Each of these labs has current equipment and software.

Information and Communications Technology students are required to purchase laptop computers. These laptops give students adequate computer access to complete projects and assignments given in class.

The software necessary for the CIS/CSCI classes in this curriculum are included with the textbooks.

Instruction and advising

The instructors for this program have formal educational training, industry training and certifications and work experience in Information Technology. The average class size is 25 students. Most of the computer information systems classes have a lab period which enables students to receive individualized attention when it is needed.

NOTE: This program requires either an HP EliteBook 850 or ZBOOK 15 laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact the NDSCS ITS Department at 701-671-3333 option 5.

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this curriculum are upper-level mathematics classes.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Core Curriculum

Course Code	Title	Credits
ICT 101	Science of Success: Introduction to Information Technology	1
CIS 180	HTML and CSS	3
CIS 282	Computer System Security	4
CSCI 130	Introduction to Artificial Intelligence	2
CSCI 160	Computer Science I	4
CSCI 161	Computer Science II	4
MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 210	Elementary Statistics	3
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
	Humanities/History Electives (6 credits)	6
	Lab Science Elective(s)	4
	Wellness Elective(s) (2 credits)	2
	Social and Behavioral Science Electives (8 credits)	8
	Total Required Credits	61

Liberal Arts (Engineering Transfer)

Degree Type Associate in Science

Contact Information

Dr. Bill Shay, professor/program coordinator
William.Shay@ndscs.edu
701-671-2341
Haverty Hall 228

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

Engineers are innovators who take a fresh look at science and technology in order to apply old knowledge to finding solutions to new problems. Fields in engineering are expanding rapidly to meet the needs of society and advances in sciences.

An engineering schedule is difficult due to the number of classes taken within a semester and to the problem-oriented nature of the course work. It is estimated that for an incoming freshman class at a major university, only one-fourth of those students will receive a degree in engineering. Anyone who feels intimidated by a large school definitely should consider NDSCS to start their studies. Successful completion of the curriculum will allow the student to transfer to a four-year engineering program.

Students entering the Engineering transfer curriculum plan who do not have the proper prerequisites may need additional preparatory classes.

The Engineering plan provides preparation for the professional curriculum and meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

In addition to engineering, other programs that a student may transfer into are chemistry, physics, astronomy, geology, and mathematics.

Admission Requirements

The applicants must be high school graduates or equivalent. Applicants may be required to complete a basic skills evaluation during the admissions process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
CHEM 121	General Chemistry I	4
CHEM 121L	General Chemistry I Laboratory	1
CHEM 122	General Chemistry II	4
CHEM 122L	General Chemistry II Laboratory	1
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 265	Calculus III	4
PHYS 251	University Physics I	4
PHYS 251L	University Physics I Lab	1
PHYS 252	University Physics II	4
PHYS 252L	University Physics II Lab	1
CIS 101	Digital Literacy	2
	Humanities/History Electives (6 credits)	6
	Social and Behavioral Science Electives (8 credits)	8
	Wellness Elective(s) (2 credits)	2
	General Education Elective (1 credit)	1

Engineering courses are offered by collaboration with University of North Dakota (UND) – Statics, Dynamics and Introduction to Engineering.

*MATH 227 Applied Linear Algebra (3 credits) is recommended by both UND and NDSU as a course suited for students entering their Engineering Department.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

ENGR 212 Offered even years.

**What mathematic route a student takes will depend on their ACT or Accuplacer math score.

Total Required Credits	61

Liberal Arts (Mathematics Transfer)

Degree Type Associate in Science

Contact Information

Brian Hagelstrom, associate professor
Brian.Hagelstrom@ndscs.edu
701-671-2419
Haverty Hall 213

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

The Mathematics transfer curriculum plan is specifically designed for those who are planning to obtain a bachelor's degree in mathematics at a four-year college or university. Students who choose this plan will not be limited to just mathematics, since it will lay the foundation for many other college majors that rely on mathematics, such as actuarial science, chemistry, computer science, engineering, or physics.

Students choosing this plan should consult with the Mathematics and Science Department in selecting their lab science sequence and electives since future plans of study at a four-year college may have specific requirements. In addition, a student should contact the college or university of their choice to confirm a list of recommended courses.

One career opportunity for a person who has a bachelor's degree in mathematics is an actuary. An actuary will assess risk using mathematical and statistical methods and is often employed by insurance and financial institutions. An actuary needs to pass a series of professional exams dealing with probability and statistics, finance and economics. Students interested in a future career as an actuary may find ACCT 200, ACCT 201, ECON 201, ECON 202, and other electives in business, economics, and statistics useful.

Upon completion of this program, the student is awarded the Associate in Science degree which allows transfer to most four-year colleges and universities as a junior.

This plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful course to prepare for this program are biology, chemistry, computer science, English, mathematics, and physics.

Courses that develop reading and communication skills and two years of a foreign language, if available, also are recommended. Applicants may be required to complete a basic skills evaluation during the admissions process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
CSCI 160	Computer Science I	4
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
ENGL 125	Introduction to Professional Writing	3
FYE 101	Science of Success	1
MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 265	Calculus III	4
MATH 266	Introduction To Differential Equations	3
	General Education Electives (3 credits)	3
	Humanities/History Electives (6 credits)	6
	Science Electives (8 credits)	8
	Social and Behavioral Science Electives (8 credits)	8
	Wellness Elective(s) (2 credits)	2
CIS 101	Digital Literacy	2

*Either ENGL 120 or ENGL 125, but not both, may be replaced with an alternative elective with the approval of the Mathematics and Science Department.

MATH 227 Applied Linear Algebra is recommended as a General Education Elective.

** Consult academic advisor in selecting electives that are most appropriate for the intended bachelor's program.

***It is recommended that students take PHYS 251/251L and PHYS 252/252L, University Physics I and II, as their science electives. It is also recommended that students choose a second Lab Science sequence for their general electives when the intended bachelor's program is not known or to choose appropriate electives with the prefix ECON and ACCT for those who may be interested in actuarial science.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading NDUS: General Education Transfer Agreement.

	Total Required Credits	61

Liberal Arts (Medical Laboratory Science Transfer)

Degree Type Associate in Science

Contact Information
Dr. William Shay, professor/program coordinator
william.shay@ndscs.edu
701-671-2341
Haverty Hall 228

Delivery Methods
Face-to-Face: Wahpeton
Online: Some Classes
Combination

Medical laboratory scientists are laboratory professionals who apply scientific skills and knowledge to a variety of complex diagnostic and therapeutic procedures. Medical laboratory Science has increased in scope and importance in recent years. Although they are trained in all areas of laboratory work. they often specialize in an area such as blood banking, hematology, microbiology, urinalysis or nuclear medicine technology.

Preparation for a career in Medical Laboratory Science involves three years of academic study in an undergraduate program and one year of clinical study in a professional program. Academic work will include chemistry, organic chemistry, biology, microbiology, zoology, English, physics, anatomy/physiology, statistics, psychology, social sciences, speech, mathematics, and humanities.

Students entering the Medical laboratory Science transfer curriculum plan who do not have the proper prerequisites may need additional preparatory classes. The Mathematics and Science Department highly recommends the completion of sequential series of courses.

The Medical laboratory Science transfer curriculum plan provides preparation for the professional curriculum and meets the liberal Arts Program Purposes listed in the NOSCS Catalog.

In addition to this plan, other programs a student may transfer into are biology, microbiology, chemistry, biochemistry, environmental science, wildlife biology, agriculture, natural science, and conservation.

Admission Requirements
The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are biology, computer science, chemistry, zoology, mathematics, physics and English. Courses that develop reading and communications skills also are recommended. Applicants may be required to complete a basic skills evaluation during the admissions process.

Award
Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Core Courses

Course Code	Title	Credits
BIOL 150	General Biology I	3
BIOL 150L	General Biology I Lab	1
BIOL 151	General Biology II	3
BIOL 151L	General Biology II Lab	1
CHEM 121	General Chemistry I	4
CHEM 121L	General Chemistry I Laboratory	1
CHEM 122	General Chemistry II	4
CHEM 122L	General Chemistry II Laboratory	1
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
MATH 103	College Algebra	3
	Organic Chemistry Lecture and Lab Series OR College Physics Lecture and Lab Series	8
	Science Electives (4 credits)	4
CIS 101	Digital Literacy	2
	Humanities/History Electives (6 credits)	6
	Social and Behavioral Science Electives (8 credits)	8
	Wellness Elective(s) (2 credits)	2
	Total Required Credits	61

Liberal Arts (Nursing Transfer)

Degree Type Associate in Science

Contact Information

Deb Smith, associate dean/director of nursing
Debra.Smith@ndscs.edu
701-671-2969
Mayme Green Allied Health Center 213E

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

The Nursing transfer curriculum plan at NDSCS includes the freshman and sophomore core courses in English, math, physical sciences, social sciences, humanities, and physical education. All colleges and universities require these core courses for students seeking a bachelor's degree. An Associate in Science degree is awarded upon completion of the program. This program provides articulation to four-year bachelors of nursing programs.

Nurses are employed in a rapidly changing environment. More than one million women and men are currently employed as registered nurses, and the number is growing. The nursing professional may work in a variety of settings. Almost two-thirds of all professional nurses work in hospitals, while another third work in a variety of community health agencies. Opportunities also exist in private duty, education and industry.

- Hospital nurses form the largest group of nurses. Most are staff nurses who provide bedside nursing care and carry out medical regimens.
- Office nurses assist the physicians in private practice, clinics, surgery centers, emergency medical centers and health maintenance organizations (HMOs).
- Home health nurses provide periodic services, prescribed by a physician, to patients at home.
- Long term care nurses manage nursing care for residents with conditions ranging from fractures to Alzheimer's disease.
- Public health nurses work in government, private agencies, clinics, schools, retirement communities, and other community settings.

Students entering the Nursing transfer curriculum plan, who do not have the proper prerequisites, may need additional preparatory classes.

This plan meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

Admission Requirements

The applicants must be high school graduates or equivalent.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
BIOL 220	Anatomy & Physiology I	3
BIOL 220L	Anatomy & Physiology I Lab	1
BIOL 221	Anatomy & Physiology II	3
BIOL 221L	Anatomy & Physiology II Lab	1
BIOL 213	General Pathology	3
CHEM 115	Introductory Chemistry	3
CHEM 115L	Introductory Chemistry Lab	1
CHEM 116	Introduction to Organic and Biochemistry	3
CHEM 116L	Introduction to Organic & Biochemistry Laboratory	1
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
	Wellness Elective(s) (2 credits)	2
	MATH 103 or MATH 104	3
MATH 210	Elementary Statistics	3
MICR 202	Introductory Microbiology	3
MICR 202L	Introductory Microbiology Lab	1
NUTR 240	Principles of Nutrition (and Diet Therapy)	3
PSYC 111	Introduction to Psychology	3
PSYC 250	Developmental Psychology	3
PSYC 270	Psychological Disorders and Treatment	3
SOC 110	Introduction to Sociology	3
	CIS/CSCI Elective (2 credits)	2
	Humanities/History Electives (6 credits)	6
	General Education Elective (1 credit)	1

*A placement test may be required if you have not met the English (ENGL 110) or Math (MATH 103 or higher) requirements.

*BIOL 213 not required by all nursing programs

**NDSU Transferees contact your advisor about CHEM courses.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

	Total Required Credits	65

Liberal Arts (Pharmacy Transfer)

Degree Type Associate in Science

Contact Information

Dr. William Shay, professor/program coordinator
william.shay@ndscs.edu
701-671-2341
Haverty Hall 228

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

Today's pharmacist is the most accessible health care professional, with the average American visiting a retail drug store every 13 days. The retail pharmacist is in a position to assist patients with a wide range of health issues regarding medications, disease states, treatments, preventive measures, and healthy lifestyles. Surveys show that people rely on their community pharmacists for health care information and admire them for it (pharmacists have been the most widely respected professionals in national surveys for several years). Hospital/institutional pharmacists interact with physicians and other professionals regarding patients' medication regimens and treatment plans, providing advice on drug usage, interactions, side effects, and patient education. These clinical pharmacists strive for rational, effective, economical drug choice and usage in their institutions.

Students entering the Pharmacy transfer curriculum plan, who do not have the proper prerequisites, may need additional preparatory classes.

The Pharmacy transfer curriculum plan provides preparation for the four-year professional curriculum and meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

The successful pharmacy student has good communication skills, is highly motivated, possesses scholastic ability and has an aptitude for the biological, physical and medical sciences.

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are biology, computer science, chemistry, zoology, mathematics, physics, and English. Courses that develop reading and communications skills and two years of a foreign language, if available, also are recommended. Applicants may be required to complete a basic skills evaluation during the admissions process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
BIOL 150	General Biology I	3
BIOL 150L	General Biology I Lab	1
BIOL 220	Anatomy & Physiology I	3
BIOL 220L	Anatomy & Physiology I Lab	1
BIOL 221	Anatomy & Physiology II	3
BIOL 221L	Anatomy & Physiology II Lab	1
CHEM 121	General Chemistry I	4
CHEM 121L	General Chemistry I Laboratory	1
CHEM 122	General Chemistry II	4
CHEM 122L	General Chemistry II Laboratory	1
COMM 110	Fundamentals of Public Speaking	3
ECON 201	Principles of Microeconomics	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
MATH 165	Calculus I	4
MATH 210	Elementary Statistics	3
CIS 101	Digital Literacy	2
	Humanities/History Electives (6 credits)	6
	Social and Behavioral Science Electives (5 credits)	5
	Wellness Elective(s) (2 credits)	2
BIOL 151	General Biology II	3
BIOL 151L	General Biology II Lab	1

This curriculum does not fully meet all the educational requirements for the North Dakota State University College of Pharmacy. Additional courses required at NDSU include microbiology, communications, and biochemistry. Students applying for other colleges of pharmacy will need to check for current entrance requirements.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

	Total Required Credits	61

Liberal Arts (Physical Science Transfer)

Degree Type Associate in Science

Contact Information

Dr. Bill Shay, professor/program coordinator
William.Shay@ndscs.edu
701-671-2341
Haverty Hall 228

Delivery Methods

Face-to-Face: Wahpeton
Online: Some Classes
Combination

The Physical Science transfer curriculum plan is not generally a college major in itself, but is a springboard into a variety of college majors. Possible university majors for the physical science student to consider include astronomy, chemistry, consumer food science, geology, meteorology, physics, and mathematics.

Students should consult with their academic advisor in selecting free electives, as their future area of study may have additional requirements. For example, some students may need to take organic chemistry during their second year.

Students entering the Physical Science transfer curriculum plan who do not have the proper prerequisites may need additional preparatory classes.

This plan provides preparation for the professional curriculum and meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

In addition to the Physical Science transfer curriculum plan, other programs a student may transfer into are chemistry, physics, engineering, geology, and environmental science.

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are chemistry, mathematics, physics, English, and computer science. Courses that develop reading and communications skills and two years of a foreign language, if available, also are recommended. Applicants may be required to complete a basic skills evaluation during the admissions process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Required Courses

Course Code	Title	Credits
CHEM 121	General Chemistry I	4
CHEM 121L	General Chemistry I Laboratory	1
CHEM 122	General Chemistry II	4
CHEM 122L	General Chemistry II Laboratory	1
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 265	Calculus III	4
PHYS 251	University Physics I	4
PHYS 251L	University Physics I Lab	1
PHYS 252	University Physics II	4
PHYS 252L	University Physics II Lab	1
	Humanities/History Electives (6 credits)	6
	Social and Behavioral Science Electives (8 credits)	8
	Wellness Elective(s) (2 credits)	2
CIS 101	Digital Literacy	2
	General Education Elective (1 credit)	1

**MATH 266 Introduction to Differential Equations is recommended.

This curriculum meets the North Dakota University System general education requirements as indicated in the NDSCS Catalog under the heading: NDUS General Education Transfer Agreement.

Total Required Credits	61

Liberal Arts (Pre-Health Professions Transfer)

Degree Type Associate in Science

Contact Information
Dr. William Shay, professor/program coordinator
william.shay@ndscs.edu
701-671-2341
Haverty Hall 228

Delivery Methods
Face-to-Face: Wahpeton
Online: Some Classes
Combination

The Pre-Health Professions Transfer plan is designed for students who intend to attend health professional schools, such as chiropractic, dentistry, medicine, optometry, podiatry, physician assistant or veterinary medicine. Most health professional schools require a bachelor's degree. While there is no specific major requirement, students often pursue degrees in the sciences, such as biology, chemistry, biochemistry, or microbiology. !n addition to academic preparedness, health professional schools prioritize individuals who exhibit a well-rounded profile through active participation in extracurricular activities. leadership roles, and clinical experiences.

Students entering the Pre-Health Professions Transfer curriculum plan who do not have the proper prerequisites may need additional preparatory classes.

This plan provides preparation for the professional curriculum and meets the Liberal Arts Program Purposes listed in the NDSCS Catalog.

Admission Requirements

The applicants must be high school graduates or equivalent. Helpful courses to prepare for this program are biology, computer science, chemistry, zoology, mathematics, physics. and English. Courses that develop reading and communications skills and two years of a foreign language, if available, are also recommended. Applicants may be required to complete a basic skills evaluation during the admissions process.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Science degree in Liberal Arts.

Core Courses

Course Code	Title	Credits
BIOL 150	General Biology I	3
BIOL 150L	General Biology I Lab	1
BIOL 151	General Biology II	3
BIOL 151L	General Biology II Lab	1
CHEM 121	General Chemistry I	4
CHEM 121L	General Chemistry I Laboratory	1
CHEM 122	General Chemistry II	4
CHEM 122L	General Chemistry II Laboratory	1
CHEM 241	Organic Chemistry I	4
CHEM 241L	Organic Chemistry I Laboratory	1
COMM 110	Fundamentals of Public Speaking	3
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
FYE 101	Science of Success	1
PHYS 211	College Physics I	3
PHYS 211L	College Physics I Lab	1
PHYS 212	College Physics II	3
PHYS 212L	College Physics II Lab	1
CIS 101	Digital Literacy	2
	Humanities/History Electives (6 credits)	6
	Social and Behavioral Science Electives (8 credits)	8
	Wellness Elective(s) (2 credits)	2
	MATH 105 or MATH 165	2-4
	Total Required Credits	61-63

Liberal Arts General Education

Wildcats Transfer Connection (Liberal Arts Gen Ed)

Degree Type Transfer Certificate

Dual Credit opportunity while in high school

Written & Oral Communications (9 credits)

*COMM 110 is required

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3

*Choose two English courses

Course Code	Title	Credits
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
ENGL 125	Introduction to Professional Writing	3

Humanities & History (6 credits)

*Choose two courses with two different prefixes

Course Code	Title	Credits
HIST 101	Western Civilization I	3
HIST 102	Western Civilization II	3
HIST 103	United States History to 1877	3
HIST 104	U.S. History Since 1877	3
HIST 207	United States and Current World Affairs	3
HIST 220	North Dakota History	3
HIST 260	Women in America	3
ENGL 211	Introduction to Creative Writing	3
ENGL 220	Introduction to Literature	3
ENGL 232	Mythology	3
ENGL 238	Children's Literature	3
ENGL 240	World Literature Masterpieces	3
HUM 211	Integrated Cultural Excursion: Regional & Cultural Studies	1
MUSC 100	Music Appreciation	3
MUSC 101	Fundamentals Of Music	3
MUSC 207	History of Rock and Roll Music	3
PHIL 210	Ethics	3

Social & Behavioral Sciences (8 credits)

*Choose three courses with three different prefixes

Course Code	Title	Credits
CJ 201	Introduction to Criminal Justice	3
COMM 112	Understanding Media and Social Change	3
ECON 105	Elements of Economics	3
ECON 201	Principles of Microeconomics	3
ECON 202	Principles of Macroeconomics	3
POLS 115	American Government	3
POLS 116	State and Local Government	3
POLS 225	Comparative Politics I	3
PSYC 100	Human Relations in Organizations	2
PSYC 111	Introduction to Psychology	3
PSYC 230	Educational Psychology	3
PSYC 240	Industrial/Organizational Psychology	3
PSYC 250	Developmental Psychology	3
PSYC 255	Child and Adolescent Psychology	3
PSYC 270	Psychological Disorders and Treatment	3
SOC 110	Introduction to Sociology	3
SOC 115	Social Problems	3
SOC 220	Family	3
SOC 221	Minority Relations	3

Math, Science, & Computer Information Systems (13 credits)

*Choose one math course

Course Code	Title	Credits
MATH 103	College Algebra	3
MATH 105	Trigonometry	2
MATH 107	Pre-Calculus	4
MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 210	Elementary Statistics	3
MATH 265	Calculus III	4
MATH 266	Introduction To Differential Equations	3

*Choose one science with a lab

Course Code	Title	Credits
BIOL 111	Concepts of Biology	3
BIOL 111L	Concepts of Biology Lab	1
BIOL 115	Concepts of Anatomy and Physiology	3
BIOL 115L	Concepts of Anatomy and Physiology Lab	1
BIOL 124	Environmental Science	3
BIOL 124L	Environmental Science Lab	1
BIOL 150	General Biology I	3
BIOL 150L	General Biology I Lab	1
BIOL 151	General Biology II	3
BIOL 151L	General Biology II Lab	1
BIOL 170	General Zoology	3
BIOL 170L	General Zoology Lab	1
BIOL 220	Anatomy & Physiology I	3
BIOL 220L	Anatomy & Physiology I Lab	1
BIOL 221	Anatomy & Physiology II	3
BIOL 221L	Anatomy & Physiology II Lab	1
CHEM 115	Introductory Chemistry	3
CHEM 115L	Introductory Chemistry Lab	1
CHEM 116	Introduction to Organic and Biochemistry	3
CHEM 116L	Introduction to Organic & Biochemistry Laboratory	1
CHEM 121	General Chemistry I	4
CHEM 121L	General Chemistry I Laboratory	1
CHEM 122	General Chemistry II	4
CHEM 122L	General Chemistry II Laboratory	1
CHEM 241	Organic Chemistry I	4
CHEM 241L	Organic Chemistry I Laboratory	1
CHEM 242	Organic Chemistry II	4
CHEM 242L	Organic Chemistry II Laboratory	1
MICR 202	Introductory Microbiology	3
MICR 202L	Introductory Microbiology Lab	1
PHYS 211	College Physics I	3
PHYS 211L	College Physics I Lab	1
PHYS 212	College Physics II	3
PHYS 212L	College Physics II Lab	1
PHYS 251	University Physics I	4
PHYS 251L	University Physics I Lab	1
PHYS 252	University Physics II	4
PHYS 252L	University Physics II Lab	1
PLSC 110	World Food Crops	3
SOIL 210	Introduction to Soil Science	3

*Choose one computer course

Course Code	Title	Credits
CIS 101	Digital Literacy	2
CSCI 101	Software Apps and Digital Literacy	3
CSCI 160	Computer Science I	4
CSCI 161	Computer Science II	4

NOTE: Each program at various colleges/universities will have different program requirements, which is different than general education requirements.

This certificate is based on all approved NDUS GERTA courses. For a current list of courses offered by your high school please contact the NDSCS Dual Credit Office: ndscs.dualcredit@ndscs.edu

	Total Required Credits	36

Technical General Education

Wildcats Transfer Connection (Tech Gen Ed)

Degree Type Transfer Certificate

Dual Credit opportunity while in high school

Written & Oral Communications (6 credits)

*ENGL 110 is required

Course Code	Title	Credits
ENGL 110	College Composition I	3

*Choose one English course

Course Code	Title	Credits
COMM 110	Fundamentals of Public Speaking	3
ENGL 105	Technical Communications	3
ENGL 120	College Composition II	3
ENGL 125	Introduction to Professional Writing	3

Humanities, History, Social, & Behavioral Sciences (4 credits)

*Choose one or two courses equaling 4 credits

Course Code	Title	Credits
HIST 101	Western Civilization I	3
HIST 102	Western Civilization II	3
HIST 103	United States History to 1877	3
HIST 104	U.S. History Since 1877	3
HIST 207	United States and Current World Affairs	3
HIST 220	North Dakota History	3
HIST 260	Women in America	3
ENGL 211	Introduction to Creative Writing	3
ENGL 220	Introduction to Literature	3
ENGL 232	Mythology	3
ENGL 238	Children's Literature	3
ENGL 240	World Literature Masterpieces	3
HUM 211	Integrated Cultural Excursion: Regional & Cultural Studies	1
MUSC 100	Music Appreciation	3
MUSC 101	Fundamentals Of Music	3
MUSC 207	History of Rock and Roll Music	3
PHIL 210	Ethics	3
CJ 201	Introduction to Criminal Justice	3
COMM 112	Understanding Media and Social Change	3
ECON 105	Elements of Economics	3
ECON 201	Principles of Microeconomics	3
ECON 202	Principles of Macroeconomics	3
POLS 115	American Government	3
POLS 116	State and Local Government	3
POLS 225	Comparative Politics I	3
PSYC 100	Human Relations in Organizations	2
PSYC 111	Introduction to Psychology	3
PSYC 230	Educational Psychology	3
PSYC 240	Industrial/Organizational Psychology	3
PSYC 250	Developmental Psychology	3
PSYC 255	Child and Adolescent Psychology	3
PSYC 270	Psychological Disorders and Treatment	3
SOC 110	Introduction to Sociology	3
SOC 115	Social Problems	3
SOC 220	Family	3
SOC 221	Minority Relations	3

Math Sequence (6 credits)

*Choose one math sequence

Course Code	Title	Credits
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2

OR

Course Code	Title	Credits
MATH 132	Technical Algebra I	2
MATH 134	Technical Algebra II	2
MATH 136	Technical Trigonometry	2

Wellness (2 credits)

Course Code	Title	Credits
EMS 100	Emergency Medical Responder (EMR)	2
HPER 100	Concepts of Fitness and Wellness	2
HPER 101	Activity: Intro Level	1
HPER 110	Sports Officiating	2
	HPER 150/250	2
HPER 200	Introduction to Parks and Recreation	2
HPER 201	Introduction to Coaching	2
HPER 207	Prevention and Care of Injuries	3
HPER 208	Introduction to Physical Education	2
HPER 210	First Aid & CPR (Professional/ Community)	2
	Total Required Credits	18

Auto Body Repair and Refinishing Technology

Auto Body Repair and Refinishing Technology

Degree Type Associate in Applied Science

This program is being phased out. Current second year auto body students will be permitted to complete the program. New students will be admitted (Fall 2025) under** Collision Engineering Technology. **Please contact department with questions.

Contact Information

James Erdahl, program coordinator
James.Erdahl@ndscs.edu
701-671-2163
Ballweber Hall 207

Delivery Methods

Face-to-Face: Wahpeton

The Auto Body Repair and Refinishing Technology curriculum is designed to provide students with the education and training to enter the collision repair industry. The comprehensive program enables students to gain entry-level employment and with additional field experience, they can enjoy lifetime employment in this lucrative industry. Most graduates start in collision repair shops; however, graduates find opportunities in related fields such as equipment and material representatives, insurance adjusters, industry technical trainers and shop managers.

I-CAR, an industry non-profit national training organization, estimates the collision industry is short 50,000 technicians in the United States at this time, providing a wonderful opportunity for graduates. There are usually four employers to each available graduate each year.

Students are trained hands-on with the latest equipment found in the industry. This includes computer estimating, computer measuring systems, computer paint mixing, wheel alignment, refinishing, spot repair and custom painting. All learning takes place primarily on live customer projects, with some classroom activities. Often students will bring their own vehicles to repair adding to their overall experience.

The program is NATEF Certified and accredited through PPG Partners in Education™, an exclusive partnership that assures high standards for curriculum and faculty training.

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Auto Body Repair and Refinishing Technology.

Required Courses

Course Code	Title	Credits
ABOD 101	Basic Auto Body Repair Techniques Lab	4
ABOD 102	Basic Auto Body Production Lab I	4
ABOD 103	Basic Auto Body Production Lab II	4
ABOD 104	Basic Auto Body Production Lab III	4
ABOD 113	Basic Auto Body Repair Techniques I	2
ABOD 115	Basic Auto Body Repair Techniques II	2
ABOD 116	Refinishing Equipment/Plastic Repair	2
ABOD 117	Refinishing Materials	2
ABOD 200	Mechanical/Electrical Components	3
ABOD 201	Structural Repair Equipment	2
ABOD 202	Structural Repair Techniques	2
ABOD 203	Advanced Damage Analysis Lab I	8
ABOD 204	Estimating and Job Costing	2
ABOD 205	Introduction to Advanced Driver Assistance Systems (ADAS)	3
ABOD 206	Advanced Damage Analysis Lab II	8
MFGT 110	Industrial Shop Practices	2
AUTO 101	Science of Success: Intro to Automotive	1

Related/General Education Courses for Associate in Applied Science

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
	Mathematics and/or Science	3
CIS 101	Digital Literacy	2
	Wellness Elective(s) (2 credits)	2
	General Education Electives (3 credits)	3
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2

A student must complete all required Auto Body courses and all general education courses as listed above.

	Total Required Credits	70

Collision Engineering Technology

Degree Type Associate in Applied Science

Contact Information:
James Erdahl, program coordinator
James.Erdahl@ndscs.edu
701-671-2163
Ballweber Hall 207

Delivery Methods:
Face-to-Face: Wahpeton

Program Information:
The Collision Engineering Technology program is designed to pioneer the future of collision repair through an innovative apprenticeship model, addressing the critical technician shortage in the industry. This program integrates classroom learning with real world experience, ensuring that students not only meet but exceed employer expectations and secure successful long-term careers.

The program combines academic studies with hands-on work experience in an industry sponsored repair facility. Paid apprenticeships allow students to earn while gaining invaluable industry experience. Courses and certifications are designed by industry leaders to meet current and future demands.
CET envisions a future where all aspiring collision repair technicians have access to top-tier education and training, fostering a community where industry and education are seamlessly integrated. Our ultimate goal is to elevate the standard of collision repair education nationwide, producing the most skilled professionals in the field.

Students are trained hands-on with the latest technologies and materials used in the collision industry.

Accredited through PPG Partners in Education(TM) and I-CAR"' Professional Development Program'M - Education Edition.

Admission Information:
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Core Curriculum

*Students must complete all required Collision Engineering Technology courses and all general education courses as listed below. In addition to the 100 level courses, students will be required to complete the second year CET courses (200 level). These courses are still being finalized.

CET 200 Mechanical/Electrical Components (3 credits) Pending
CET 201 Internship III (4 credits) Pending
CET 202 Refinishing III (4 credits) Pending
CET 203 Structural I (3 credits) Pending
CET 204 Internship IV (4 credits) Pending
CET 205 Structural II (5 credits) Pending
CET 206 Estimating and Job Costing (3 credits) Pending
CET 207 Introduction to ADAS, EV, and Hybrid (3 credits) Pending

Course Code	Title	Credits
AUTO 101	Science of Success: Intro to Automotive	1
MFGT 110	Industrial Shop Practices	2
CET 101	Introduction to Collision Repair	5
CET 102	Internship I	4
CET 103	Refinishing I	3
CET 104	Non-Structural I	3
CET 105	Internship II	4
CET 106	Non-Structural II	3
CET 107	Refinishing II	3

General Education Core

Course Code	Title	Credits
CIS 101	Digital Literacy	2
	English/Communication Elective (3 credits)	3
	Mathematics and/or Science	3
	Wellness Elective(s) (2 credits)	2
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	General Education Electives (3 credits)	3
	Total Required Credits	72

Automotive Technology

Automotive Technology

Degree Type Associate in Applied Science

Contact Information

Michael Bitz, instructor/program coordinator
Michael.J.Bitz@ndscs.edu
701-671-2254
Schuett Hall 119

Scott Ripplinger - Instructor / Program Coordinator
scott.ripplinger@ndscs.edu
701-671-3326
Schuett Hall 136

Delivery Methods

Face-to-Face: Wahpeton

The Automotive Technology curriculum prepares students for employment in the vast and broad automotive technology industry.

Students are provided with experiences emphasizing diagnostic and repair skills with extensive shop time. Students test, diagnose, adjust, and repair automotive systems including automatic transmissions, brakes, driveability, electrical and electronics, engine repair, heating and air conditioning, suspension and steering, and manual drivetrain and axles. Students' abilities in communications, human relations and other aspects of general education are also enhanced through coursework.

Graduates gain employment as automotive repair technicians in automotive dealerships, independent automotive shops, or automotive service centers. Graduates may choose to specialize in automatic transmissions, brakes, driveability, electrical and electronics, engine repair, heating and air conditioning, suspension and steering, or manual drivetrain and axles. Many graduates have advanced from automotive repair technicians to team leaders, service writers, service managers, owners, and automotive vocational teachers.

Students interested in pursuing additional education may return for advanced automotive classes or return for one additional year and earn a second major, Auto and Diesel Master Technician. Students interested in pursuing an advanced degree will find the Associate in Applied Science degree in Automotive Technology provides transfer options to four-year colleges and universities in related fields.

Going Green: With growing concern about environmental pollution, the automotive industry has responded by developing alternative drive and fuel systems such as electric, hybrid. Automotive Technicians will have to have knowledge of these systems to be a viable employee in this field.

This program is accredited by the National Automotive Technicians Education Foundation, Inc. (NATEF) at the Automotive Service Excellence (ASE) Master Automobile Service Technology level.

NOTE: This program requires an EliteBook 850 Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Michael Bitz, program coordinator, at 701-671-2254.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Automotive Technology.

Required Courses

Course Code	Title	Credits
AUTO 103	Power Trains/Brakes	3
AUTO 143	Steering, Suspension, and Wheel Alignment	3
AUTO 165	Automotive Electrical and Electronics	5
AUTO 168	Hybrid and Electrical Vehicle Systems	1
AUTO 188	Driveability Procedures I	5
AUTO 206	Chassis Repair/Body Electrical	7
AUTO 216	Engine Repair	7
AUTO 226	Automatic Transmissions/Transaxles	7
AUTO 286	Driveability Procedures	7
MFGT 110	Industrial Shop Practices	2
AUTO 109	Air Conditioning	2
AUTO 101	Science of Success: Intro to Automotive	1
AUTO 297	Internship	4

Associate in Applied Science

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2
	Wellness Elective(s) (2 credits)	2
CIS 101	Digital Literacy	2
PSYC 100	Human Relations in Organizations	2
	Total Required Credits	69

Automotive and Diesel Master Technician

Degree Type Associate in Applied Science

Contact Information

Contact your current advisor

Delivery Methods

Face-to-Face: Wahpeton

This is a third-year option developed for students who complete Automotive Technology or Diesel Technology and want to continue their education and increase their technical and mechanical skills. The dual major will strengthen the marketability of students for employment in automotive, diesel, and related fields of business and industry. This curriculum is for students who complete Automotive Technology and then go to Diesel Technology. Admission into the Automotive and Diesel Master Technician program is dependent on the availability of open seats in each program area. Please check with the Transportation Department Chair for current information.

The Automotive and Diesel Master Technician program prepares students for employment in the vast and broad automotive and diesel industry. Students are provided with experiences emphasizing diagnostic and repair skills with extensive shop time. Students test, diagnose, adjust, and repair all types of drivetrains, engines, hydraulic systems, steering and suspension systems. Students' abilities in communications, human relations, and other aspects of general education will be enhanced.

This practical education will allow graduates to work in dealerships, independent shops, or national service centers. Graduates work as automotive technicians, truck technicians, tractor technicians, heavy equipment technicians or in many related fields. Many graduates have advanced from technicians to team leaders, service writers, service managers, owners, and vocational teachers.

The Automotive Technology program is master certified by the National Institute for Automotive Service Excellence (ASE). The Diesel Technology program is accredited by the AED Foundation.

NOTE: This program requires an EliteBook Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Terry Marohl, associate dean, at 701-671-2308.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements. Or transfer equivalencies will apply as appropriate.

Students in this emphasis will complete the Automotive curriculum prior to taking Diesel Technology.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Automotive and Diesel Master Technician.

Required Courses

Course Code	Title	Credits
AUTO 103	Power Trains/Brakes	3
AUTO 143	Steering, Suspension, and Wheel Alignment	3
AUTO 165	Automotive Electrical and Electronics	5
AUTO 168	Hybrid and Electrical Vehicle Systems	1
AUTO 188	Driveability Procedures I	5
AUTO 206	Chassis Repair/Body Electrical	7
AUTO 216	Engine Repair	7
AUTO 226	Automatic Transmissions/Transaxles	7
AUTO 286	Driveability Procedures	7
AUTO 297	Internship	4
MFGT 110	Industrial Shop Practices	2
AUTO 109	Air Conditioning	2
AUTO 101	Science of Success: Intro to Automotive	1

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
	Wellness Elective(s) (2 credits)	2
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2
	Social and Behavioral Sciences, Humanities, History and/or Computer Electives (4 credits)	4

Diesel Technology (Minor) Courses

Course Code	Title	Credits
DTEC 110	Diesel Equipment Maintenance	3
DTEC 125	Intro to Heavy Duty Drive Systems	3
DTEC 135	Medium/Heavy Duty Brake Systems	2
DTEC 164	Introduction to Mobile Hydraulics	4
DTEC 215	Heavy Duty Diesel Engines	7
DTEC 225	Heavy Duty Drive Systems	7
DTEC 255	Heavy Duty Chassis Electrical Systems	7
DTEC 265	Mobile Hydraulic Systems Diagnostics and Repair	7

Throughout the course of the year, students will need to take DTEC 110 or DTEC 125 or DTEC 135, DTEC 164, DTEC 265 **and** two of the following 2nd year courses; DTEC 215, DTEC 225 or DTEC 255.

	Total Required Credits	96-97

Automotive Technology

Degree Type Certificate

Contact Information

Michael Bitz, instructor/program coordinator
Michael.J.Bitz@ndscs.edu
701-671-2254
Schuett Hall 119

Scott Ripplinger - Instructor / Program Coordinator
scott.ripplinger@ndscs.edu
701-671-3326
Schuett Hall 136

Delivery Methods

Face-to-Face: Wahpeton

The Automotive Technology curriculum prepares students for employment in the vast and broad automotive technology industry.

Students are provided with experiences emphasizing diagnostic and repair skills with extensive shop time. Students test, diagnose, adjust, and repair automotive systems including automatic transmissions, brakes, driveability, electrical and electronics, engine repair, heating and air conditioning, suspension and steering, and manual drivetrain and axles. Students' abilities in communications, human relations and other aspects of general education are also enhanced through coursework.

Graduates gain employment as automotive repair technicians in automotive dealerships, independent automotive shops, or automotive service centers. Graduates may choose to specialize in automatic transmissions, brakes, driveability, electrical and electronics, engine repair, heating and air conditioning, suspension and steering, or manual drivetrain and axles. Many graduates have advanced from automotive repair technicians to team leaders, service writers, service managers, owners, and automotive vocational teachers.

Students interested in pursuing additional education may return for advanced automotive classes or return for one additional year and earn a second major, Auto and Diesel Master Technician. Students interested in pursuing an advanced degree will find the Associate in Applied Science degree in Automotive Technology provides transfer options to four-year colleges and universities in related fields.

Going Green: With growing concern about environmental pollution, the automotive industry has responded by developing alternative drive and fuel systems such as electric, hybrid. Automotive Technicians will have to have knowledge of these systems to be a viable employee in this field.

This program is accredited by the National Automotive Technicians Education Foundation, Inc. (NATEF) at the Automotive Service Excellence (ASE) Master Automobile Service Technology level.

NOTE: This program requires an EliteBook 850 Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Michael Bitz, program coordinator, at 701-671-2254.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded a Certificate in Automotive Technology.

Required Courses

Course Code	Title	Credits
AUTO 103	Power Trains/Brakes	3
AUTO 143	Steering, Suspension, and Wheel Alignment	3
AUTO 165	Automotive Electrical and Electronics	5
AUTO 168	Hybrid and Electrical Vehicle Systems	1
AUTO 188	Driveability Procedures I	5
AUTO 206	Chassis Repair/Body Electrical	7
AUTO 216	Engine Repair	7
AUTO 226	Automatic Transmissions/Transaxles	7
AUTO 286	Driveability Procedures	7
MFGT 110	Industrial Shop Practices	2
AUTO 109	Air Conditioning	2
AUTO 101	Science of Success: Intro to Automotive	1
AUTO 297	Internship	4

General Education Core

Course Code	Title	Credits
ENGL 105	Technical Communications	3
MATH 120	Basic Mathematics I	2
	Total Required Credits	59

Automotive Technology (Electrical & Drivability)

Degree Type Certificate

Contact Information

Michael Bitz, instructor/program coordinator
Michael.J.Bitz@ndscs.edu
701-671-2254
Schuett Hall 119

Scott Ripplinger - Instructor / Program Coordinator
scott.ripplinger@ndscs.edu
701-671-3326
Schuett Hall 136

Delivery Methods

Face-to-Face: Wahpeton

The Automotive Technology program is designed to prepare students for the many employment opportunities in the automotive industry.

Students enrolled in Automotive Technology learn the theory of operation along with the latest repair and diagnostic procedures available in the automotive industry. Training facilities are in excellent condition and labs are very well-equipped.

Students graduating from Automotive Technology are fully employable upon completion of this program. Automotive Technology graduates are employed by manufacturers, dealerships, independent repair facilities, and private companies.

The Automotive Technology program is accredited by the National Automotive Technicians Education Foundation, Inc. (NATEF) ASE

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded a certificate in Electrical and Drivability. This certificate is one of four stackable certificates for the completion of an AAS degree in Automotive Technology.

NOTE: Students may enter this program at the beginning of any 8-week period. Please contact the Automotive Department for more information.

Electrical & Drivability

This Automotive Electrical & Drivability Certificate allows students to cover diagnosing and repairing automotive electrical and drivability faults across all makes and models. Students will troubleshoot, test, measure, and repair electrical faults relating to voltage, resistance, and amperage. Drivability concerns relating to fuel, air, spark, and compression will also be covered. Learning modules include measurement fundamentals, engine operation, ohms law, voltage tests, amperage tests, continuity checks, ignition systems, and fuel systems. Alternative fuels will also be covered.

Students gain knowledge in operation, troubleshooting, repairing, and tuning all types of vehicles. Work includes scan tool operation & use, multimeter operation & use, common electrical fault tests, ignition system tests, and fuel system tests. In addition, this certificate includes a theory and lab course covering automotive electrical systems and drivability service procedures performed on most automobiles. Hybrid & EV safety and service will be covered to prepare students for the growing hybrid & EV vehicle market. Proper use of shop tools, equipment, safety techniques and industry standards will be covered.

Course Code	Title	Credits
AUTO 165	Automotive Electrical and Electronics	5
AUTO 286	Driveability Procedures	7

Related/General Education Courses

Course Code	Title	Credits
PSYC 100	Human Relations in Organizations	2
	Wellness Elective(s) (2 credits)	2
	Total Required Credits	16

Automotive Technology (Engines)

Degree Type Certificate

Contact Information

Michael Bitz, instructor/program coordinator
Michael.J.Bitz@ndscs.edu
701-671-2254
Schuett Hall 119

Scott Ripplinger - Instructor / Program Coordinator
scott.ripplinger@ndscs.edu
701-671-3326
Schuett Hall 136

Delivery Methods

Face-to-Face: Wahpeton

The Automotive Technology program is designed to prepare students for the many employment opportunities in the automotive industry.

Students enrolled in Automotive Technology learn the theory of operation along with the latest repair and diagnostic procedures available in the automotive industry. Training facilities are in excellent condition and labs are very well-equipped.

Hybrid/EV technology is addressed through changes in emission standards and alternative fuels that will continue to advance changes in this industry.

Students graduating from Automotive Technology are fully employable upon completion of this program. Automotive Technology graduates are employed by manufacturers, dealerships, independent repair facilities, and private companies.

The Automotive Technology program is accredited by the National Automotive Technicians Education Foundation, Inc. (NATEF) ASE

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded a certificate in Automotive Engine Technology. This certificate is one of four stackable certificates for the completion of an AAS degree in Automotive Technology.

NOTE: Students may enter this program at the beginning of any 8-week period. Please contact the Automotive Department for more information.

Engine Certificate

This Automotive Engine certificate allows students to cover rebuilding and repair of engines used in automobiles. Students will troubleshoot, disassemble, rebuild, and assemble an engine during this class. Learning modules include measurement fundamentals, basic engine operating principals, cylinder and piston service, cylinder head rebuilding, crankshaft and bearing service, lubrication, and cooling systems.

Students gain knowledge in operation, troubleshooting, rebuilding, and tuning all types of automotive engines. Work includes disassembly, assembly, timing, and adjustments common to automotive engines used in the transportation industry. In addition, this certificate includes a class on the procedures and practices used to develop fundamental industrial shop skills. Students will learn to apply a variety of practical skills used to aid in any entry level industrial mechanical service occupation.

Course Code	Title	Credits
AUTO 188	Driveability Procedures I	5
MFGT 110	Industrial Shop Practices	2
AUTO 216	Engine Repair	7

Related/General Education Courses

Course Code	Title	Credits
MATH 120	Basic Mathematics I	2
	Total Required Credits	16

Automotive Technology (Powertrains)

Degree Type Certificate

Contact Information

Michael Bitz, instructor/program coordinator
Michael.J.Bitz@ndscs.edu
701-671-2254
Schuett Hall 119

Scott Ripplinger - Instructor / Program Coordinator
scott.ripplinger@ndscs.edu
701-671-3326
Schuett Hall 136

Delivery Methods

Face-to-Face: Wahpeton

The Automotive Technology program is designed to prepare students for the many employment opportunities in the automotive industry.

Students enrolled in Automotive Technology learn the theory of operation along with the latest repair and diagnostic procedures available in the automotive industry. Training facilities are in excellent condition and labs are very well-equipped.

Students graduating from Automotive Technology are fully employable upon completion of this program. Automotive Technology graduates are employed by manufacturers, dealerships, independent repair facilities, and private companies.

The Automotive Technology program is accredited by the National Automotive Technicians Education Foundation, Inc. (NATEF) ASE

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded a certificate in Steering Suspension Alignment. This certificate is one of four stackable certificates for the completion of an AAS degree in Automotive Technology.

NOTE: Students may enter this program at the beginning of any 8-week period. Please contact the Automotive Department for more information.

Powertrain Certificate

This Automotive Powertrain certificate allows students to cover brake systems, clutch systems, manual and automatic transmissions/ transaxles, and driveline components and systems. Students will troubleshoot, disassemble, repair, and assemble components related to the powertrain and driveline of a vehicle. Repairing drum and disc brake systems, rebuilding manual and automatic transmissions/ transaxles, rebuilding differentials, axles, and repairing clutch systems will take place. Diagnosis of noise, vibration, and harshness concerns related to the powertrains and driveline of a vehicle will also take place, along with discussions and diagnosis & repairs of hybrid/EV vehicles.

Students gain knowledge in operation, troubleshooting, rebuilding, and repairing of powertrain and driveline systems of vehicles. Work includes disassembly and assembly of powertrain and driveline components, measuring and adjusting components, diagnosing NVH concerns related to powertrain and driveline, and general maintenance and service procedures. In addition, this certificate includes a theory and lab course covering safety, service, troubleshooting, and repairing Hybrid/EV vehicles. This course includes instructions for safe operation of various types of Hybrid/EV vehicles for the technician to perform general service procedures required by the manufacturer. Proper use of shop tools, equipment, safety techniques and industry standards will be covered.

Course Code	Title	Credits
AUTO 103	Power Trains/Brakes	3
AUTO 168	Hybrid and Electrical Vehicle Systems	1
AUTO 226	Automatic Transmissions/Transaxles	7

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (3 credits)	3
CIS 101	Digital Literacy	2
	Total Required Credits	16

Automotive Technology (Steering, Suspension, and Alignment)

Degree Type Certificate

Contact Information

Michael Bitz, instructor/program coordinator
Michael.J.Bitz@ndscs.edu
701-671-2254
Schuett Hall 119

Scott Ripplinger - Instructor / Program Coordinator
scott.ripplinger@ndscs.edu
701-671-3326
Schuett Hall 136

Delivery Methods

Face-to-Face: Wahpeton

The Automotive Technology program is designed to prepare students for the many employment opportunities in the automotive industry.

Students enrolled in Automotive Technology learn the theory of operation along with the latest repair and diagnostic procedures available in the automotive industry. Training facilities are in excellent condition and labs are very well-equipped.

Students graduating from Automotive Technology are fully employable upon completion of this program. Automotive Technology graduates are employed by manufacturers, dealerships, independent repair facilities, and private companies.

The Automotive Technology program is accredited by the National Automotive Technicians Education Foundation, Inc. (NATEF) ASE

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded a certificate in Steering Suspension Alignment. This certificate is one of four stackable certificates for the completion of an AAS degree in Automotive Technology.

NOTE: Students may enter this program at the beginning of any 8-week period. Please contact the Automotive Department for more information.

Steering, Suspension, Alignment Certificate

This steering, suspension, and alignment certificate allows students to cover diagnosis, repair, and adjustments of automotive steering and suspension systems. Students will troubleshoot and repair steering and suspension systems, along with performing vehicle alignments during this class. Learning modules include vehicle angle measurements, steering and suspension principles, NVH diagnosis, power steering systems, air conditioning systems, heating & cooling systems, ventilation systems, and vehicle alignments. Hybrid & EV vehicle designs and systems will also be covered as industry demands.

Students gain knowledge in operation, troubleshooting, repairing, and aligning multiple makes and models of vehicles. Work includes diagnosing, servicing, repairing, and aligning vehicles in the automotive industry. In addition, this certificate includes a theory and lab course covering climate control diagnosis and service procedures performed on modern vehicles. This course includes instructions for safe operation of various types of alignment and climate control tools and equipment used by technicians required by the manufacturer. Proper use of shop tools, equipment, safety techniques and industry standards will be covered.

Course Code	Title	Credits
AUTO 143	Steering, Suspension, and Wheel Alignment	3
AUTO 109	Air Conditioning	2
AUTO 206	Chassis Repair/Body Electrical	7

Related/General Education Courses

Course Code	Title	Credits
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2
	Total Required Credits	16

Caterpillar Dealer Service Technician

Caterpillar Dealer Service Technician

Degree Type Associate in Applied Science

Contact Information

Michael Seedorf, associate professor/program coordinator
Michael.L.Seedorf@ndscs.edu
701-671-2101
Bisek Hall 1152

Delivery Methods

Face-to-Face: Wahpeton

The Caterpillar Dealer Service Technician program is designed to develop technically competent entry-level service technicians for Caterpillar dealerships regionally and throughout the world.

Students receive up-to-date technical training on Caterpillar equipment and systems through a combination of classroom instruction, hands-on laboratory instruction, and an internship at the participating Caterpillar dealer. Work experience at the dealership is structured to relate to the most recent classroom/lab subjects covered at NDSCS.

Green technology is addressed through changes in emission standards and alternative fuels that will continue to advance changes in this industry.

The Caterpillar Dealer Service Technician program takes five semesters, or approximately 20 months, to complete. The five semesters are divided into 9 terms, each approximately eight weeks in length. Students complete the first, third, fifth, seventh, and ninth terms on campus and the second, fourth, sixth, and eighth terms at a sponsoring Caterpillar dealership.

The Caterpillar Dealer Service Technician program is accredited by the AED Foundation.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements. Special requirements include securing a Caterpillar dealership sponsor.

Transfer equivalencies will apply as appropriate.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Caterpillar Dealer Service Technician.

Required Courses

Course Code	Title	Credits
DCAT 110	Caterpillar Engine Fundamentals	4
DCAT 111	Introduction to Caterpillar Service	2
DCAT 112	Fundamentals of Hydraulics	3
DCAT 113	Caterpillar Fuel Systems	3
DCAT 114	Fundamentals of Electricity	3
DCAT 115	Air Conditioning Fundamentals	3
DCAT 116	Fundamentals of Transmission/Torque Converters	3
DCAT 117	Machine Hydraulic Systems	3
DCAT 150	Internship I	4
DCAT 151	Internship II	4
DCAT 200	Undercarriage/Final Drives	3
DCAT 201	Machine Electronic Systems	3
DCAT 202	Engine Performance	2
DCAT 203	Diagnostic Testing	2
DCAT 204	Machine Specific Systems	3
DCAT 250	Internship III	4
DCAT 251	Internship IV	4
MFGT 110	Industrial Shop Practices	2
DTEC 101	Science of Success: Intro to Diesel	1

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
	Wellness Elective(s) (2 credits)	2
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2
CIS 101	Digital Literacy	2
PSYC 100	Human Relations in Organizations	2
	Total Required Credits	71

Diesel Technology

Automotive and Diesel Master Technician

Degree Type Associate in Applied Science

Contact Information

Contact your current advisor.

Delivery Methods

Face-to-Face: Wahpeton

This is a third-year option developed for students who complete Diesel Technology and want to continue their education and increase their technical and mechanical skills. The dual major will strengthen the marketability of students for employment in diesel, automotive and related fields of business and industry. This curriculum is for students who complete Diesel Technology and then go to Automotive Technology. Admission into the Automotive and Diesel Master Technician program is dependent on the availability of open seats in each program area. Please check with the Transportation Department Chair for current information.

The Automotive and Diesel Master Technician program prepares students for employment in the vast and broad diesel and automotive industry. Students are provided with experiences emphasizing diagnostic and repair skills with extensive shop time. Students test, diagnose, adjust and repair all types of drivetrains, engines, hydraulic systems, steering and suspension systems. Students' abilities in communications, human relations, and other aspects of general education also are enhanced through coursework.

Green technology is addressed through changes in emission standards and alternative fuels that will continue to advance changes in this industry.

This practical education will allow graduates to work in dealerships, independent shops or national service centers. Graduates work as automotive technicians, truck technicians, tractor technicians, heavy equipment technicians and other related jobs. Many graduates have advanced from technicians to team leaders, service writers, service managers, owners and vocational teachers.

Students interested in pursuing an advanced degree will find the Associate in Applied Science degree in Automotive Technology provides transfer options to four-year colleges and universities in related fields.

The Automotive Technology program is master certified by the National Institute for Automotive Service Excellence (ASE). The Diesel Technology program is accredited by the AED Foundation.

NOTE: This program requires an EliteBook 850 Laptop or equivalent. Please refer to the NDSCS website for specifications. For further information, contact Terry Marohl, associate dean, at 701-671-2308. The laptop is required for the Automotive courses during 3rd year.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Transfer equivalencies will apply as appropriate.

Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Automotive and Diesel Master Technician.

Required Courses

Course Code	Title	Credits
DTEC 109	Air Conditioning for Diesel Technology	2
DTEC 110	Diesel Equipment Maintenance	3
DTEC 115	Introduction to Light and Medium Duty Engines	4
DTEC 125	Intro to Heavy Duty Drive Systems	3
DTEC 135	Medium/Heavy Duty Brake Systems	2
DTEC 155	Electricity for Diesel Technology	4
DTEC 164	Introduction to Mobile Hydraulics	4
DTEC 215	Heavy Duty Diesel Engines	7
DTEC 225	Heavy Duty Drive Systems	7
DTEC 255	Heavy Duty Chassis Electrical Systems	7
DTEC 265	Mobile Hydraulic Systems Diagnostics and Repair	7
DTEC 297	Internship	4
MFGT 110	Industrial Shop Practices	2
DTEC 101	Science of Success: Intro to Diesel	1

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
	Wellness Elective(s) (2 credits)	2
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2
	Social and Behavioral Sciences, Humanities, History and/or Computer Electives (4 credits)	4

Automotive Technology (Minor) Specific Program Courses

Course Code	Title	Credits
AUTO 206	Chassis Repair/Body Electrical	7
AUTO 216	Engine Repair	7
AUTO 226	Automatic Transmissions/Transaxles	7
AUTO 286	Driveability Procedures	7

Students in this emphasis will complete the Diesel curriculum prior to taking Automotive Technology.

	Total Required Credits	100

Diesel Technology (Case IH)

Degree Type Associate in Applied Science

Contact Information

Michael Redding, Associate Dean of Transportation
Michael.Redding@ndscs.edu
701-671-2226
Bisek 1171

Delivery Methods

Face-to-Face: Wahpeton

The Case IH program is designed to develop technically competent, professional service technicians for participating Case IH dealerships.

This program combines state-of-the-art, on-campus training with internships at a sponsoring Case IH dealership. Students receive technical training on Case IH equipment and related products through a combination of classroom instruction and hands-on laboratory experiences. Classroom and laboratory instruction at NDSCS covers the basics of each subject plus the latest developments in Case IH agricultural equipment. Work experience at the dealership reinforces on-campus training and exposes the student to real life shop service practices.

Green technology is addressed through changes in emission standards and alternative fuels that will continue to advance changes in this industry.

The Case IH program takes five semesters or approximately 20 months to complete. The five semesters are divided into 9 terms, each approximately eight weeks in length. Students complete the first, second, third, fifth, seventh, eighth and ninth terms on campus and the fourth and sixth terms at a participating Case IH dealership.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements. Special requirements include securing a Case IH dealership sponsor.

Transfer equivalencies will apply as appropriate.

Applicants not meeting the above requirements are encouraged to visit with the Diesel Technology Department at 701-671-2330.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Diesel Technology with an emphasis in Case IH.

Required Courses

Course Code	Title	Credits
DTEC 101	Science of Success: Intro to Diesel	1
DTEC 109	Air Conditioning for Diesel Technology	2
DTEC 115	Introduction to Light and Medium Duty Engines	4
DTEC 125	Intro to Heavy Duty Drive Systems	3
DTEC 155	Electricity for Diesel Technology	4
DTEC 164	Introduction to Mobile Hydraulics	4
MFGT 110	Industrial Shop Practices	2
CIH 106	Case IH Shop Service Management	2
CIH 215	Case IH Engine Rebuild	6
CIH 216	Case IH Equipment Operation and Adjustments	4
CIH 225	Case IH Power Trains	4
CIH 255	Case IH Electrical/Electronics Diagnostics	5
CIH 260	Case IH Advanced Farming Systems (AFS)	3
CIH 265	Case IH Hydraulic Systems	5
CIH 110	Case IH Internship I	4
CIH 210	Case IH Internship II	4

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2
	Wellness Elective(s) (2 credits)	2
CIS 101	Digital Literacy	2
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	72

Diesel Technology (General Diesel)

Degree Type Associate in Applied Science

Contact Information

Evan Meier, assistant professor/program coordinator
Evan.Meier@ndscs.edu
701-671-2543
Bisek Hall 128

Delivery Methods

Face-to-Face: Wahpeton

The Diesel Technology program is designed to prepare students for the many employment opportunities in the diesel industry.

This unique program allows students to enter the program at the beginning of any eight-week period. This program gives students the option of earning a diploma or applied science degree. Students are given extensive training and practical experiences in servicing all types of engines, drive trains, hydraulic systems and electrical systems found on trucks, agricultural and industrial equipment.

Students enrolled in Diesel Technology learn the theory of operation along with the latest repair and diagnostic procedures available in the diesel industry. Training facilities are in excellent condition and labs are very well-equipped.

Green technology is addressed through changes in emission standards and alternative fuels that will continue to advance changes in this industry.

Students graduating from Diesel Technology are fully employable upon completion of this program. Diesel Technology graduates are employed by agricultural, industrial (truck and heavy equipment), construction equipment companies, mining industries or fleet owners. Some students may wish to continue their education by returning for an additional year and earn a minor in Automotive Technology.

The Diesel Technology program is accredited by the AED Foundation and the National Automotive Technicians Education Foundation, Inc. (NATEF) at the Automotive Service Excellence (ASE) Master Automobile Service Technology level.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Diesel Technology – General Diesel.

Associate in Applied Science

Course Code	Title	Credits
DTEC 101	Science of Success: Intro to Diesel	1
DTEC 109	Air Conditioning for Diesel Technology	2
DTEC 110	Diesel Equipment Maintenance	3
DTEC 115	Introduction to Light and Medium Duty Engines	4
DTEC 125	Intro to Heavy Duty Drive Systems	3
DTEC 135	Medium/Heavy Duty Brake Systems	2
DTEC 155	Electricity for Diesel Technology	4
DTEC 164	Introduction to Mobile Hydraulics	4
DTEC 215	Heavy Duty Diesel Engines	7
DTEC 225	Heavy Duty Drive Systems	7
DTEC 255	Heavy Duty Chassis Electrical Systems	7
DTEC 265	Mobile Hydraulic Systems Diagnostics and Repair	7
DTEC 297	Internship	4
MFGT 110	Industrial Shop Practices	2

Associate in Applied Science

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
	Wellness Elective(s) (2 credits)	2
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2
CIS 101	Digital Literacy	2
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	72

Diesel Technology (Komatsu)

Degree Type Associate in Applied Science

Contact Information

Evan Meier, assistant professor/program coordinator
Evan.Meier@ndscs.edu
701-671-2543
Bisek Hall 128

Delivery Methods

Face-to-Face: Wahpeton

The Komatsu program is designed to develop technically competent, professional service technicians for participating Komatsu dealers regionally and throughout the world.

This program combines state-of-the-art, on-campus training with internships at a sponsoring Komatsu dealership. Students receive technical training on Komatsu equipment through a combination of classroom instruction and hands-on laboratory experiences. Classroom and laboratory instruction at NDSCS covers the basics of each subject plus the latest developments in Komatsu construction equipment. Work experience at the dealership reinforces on-campus training and exposes the student to real life shop service practices.

Green technology is addressed through changes in emission standards and alternative fuels that will continue to advance changes in this industry.

The Komatsu program takes five semesters or approximately 20 months to complete. The five semesters are divided into 9 terms, each approximately eight weeks in length. Students complete the first, second, third, fifth, seventh, and ninth terms on campus and the fourth, sixth and eighth terms at a sponsoring Komatsu dealership.

Admission Requirements

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements. Special requirements include securing a Komatsu dealership sponsor.

Transfer equivalencies will apply as appropriate.

Applicants not meeting the above requirements are encouraged to visit with the Diesel Technology Department at 701-671-2330.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Diesel Technology with an emphasis in Komatsu.

Required Courses

Course Code	Title	Credits
DTEC 101	Science of Success: Intro to Diesel	1
DTEC 109	Air Conditioning for Diesel Technology	2
DTEC 115	Introduction to Light and Medium Duty Engines	4
DTEC 125	Intro to Heavy Duty Drive Systems	3
DTEC 155	Electricity for Diesel Technology	4
DTEC 164	Introduction to Mobile Hydraulics	4
MFGT 110	Industrial Shop Practices	2
KMTS 106	Introduction to Komatsu Service	3
KMTS 215	Komatsu Engine and Fuel Systems	5
KMTS 225	Komatsu Powertrains and Undercarriage	4
KMTS 255	Komatsu Electrical/Electronics	4
KMTS 265	Komatsu Advanced Hydraulic Systems	4
KMTS 110	Komatsu Internship I	4
KMTS 210	Komatsu Internship II	5
KMTS 220	Komatsu Internship III	5
KMTS 116	Komatsu Machine Structure and Work Equipment	3

Related/General Education courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2
	Wellness Elective(s) (2 credits)	2
CIS 101	Digital Literacy	2
	Social and Behavioral Science, Humanities and History Electives (2 credits)	2
	Total Required Credits	72

Diesel Technology (Electrical)

Degree Type Certificate

Contact Information

Michael Redding, associate professor/program director
Michael.Redding@ndscs.edu
701-671-2226
Bisek 1171

Delivery Methods

Face-to-Face: Wahpeton

The Diesel Technology program is designed to prepare students for the many employment opportunities in the diesel industry.

Students enrolled in Diesel Technology learn the theory of operation along with the latest repair and diagnostic procedures available in the diesel industry. Training facilities are in excellent condition and labs are very well-equipped.

Green technology is addressed through changes in emission standards and alternative fuels that will continue to advance changes in this industry.

Students graduating from Diesel Technology are fully employable upon completion of this program. Diesel Technology graduates are employed by agricultural, industrial (truck and heavy equipment), construction equipment companies, mining industries or fleet owners.

The Diesel Technology program is accredited by the Associated Equipment Distributors (AED) and the National Automotive Technicians Education Foundation, Inc. (NATEF) ASE

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded a certificate in Diesel Engines. This certificate is one of four stackable certificates for the completion of an AAS degree in Diesel Technology.

NOTE: Students may enter this program at the beginning of any 8-week period. Contact the Diesel Department for more information.

Diesel Electrical Certificate

This Diesel Electrical certificate allows students to complete lab/lecture classes in electrical fundamentals and electrical systems. The classes involve a practical approach to the study of electricity including Ohm's Law, power, series and parallel circuits, direct and alternating current, with strong emphasis on diagrams and troubleshooting. Classes covering the theory of operation, repair, and diagnostic procedures of electrical/electronic systems used on heavy-duty truck, construction equipment and agricultural tractor electrical systems, electronic engines, and transmissions. In addition, this certificate includes a class on the procedures and practices used to develop fundamental industrial shop skills. Students will learn to apply a variety of practical skills used to aid in any entry level industrial mechanical service occupation.

Course Code	Title	Credits
DTEC 155	Electricity for Diesel Technology	4
	MFGT 110	2
DTEC 255	Heavy Duty Chassis Electrical Systems	7

Related/General Education Courses

Course Code	Title	Credits
PSYC 100	Human Relations in Organizations	2
	Wellness Elective(s) (2 credits)	2
Total Required Credits		17

Diesel Technology (Engines)

Degree Type Certificate

Contact Information

Michael Redding, associate professor/program director
Michael.Redding@ndscs.edu
701-671-2226
Bisek 1171

Delivery Methods

Face-to-Face: Wahpeton

The Diesel Technology program is designed to prepare students for the many employment opportunities in the diesel industry.

Students enrolled in Diesel Technology learn the theory of operation along with the latest repair and diagnostic procedures available in the diesel industry. Training facilities are in excellent condition and labs are very well-equipped.

Green technology is addressed through changes in emission standards and alternative fuels that will continue to advance changes in this industry.

Students graduating from Diesel Technology are fully employable upon completion of this program. Diesel Technology graduates are employed by agricultural, industrial (truck and heavy equipment), construction equipment companies, mining industries or fleet owners.

The Diesel Technology program is accredited by the Associated Equipment Distributors (AED) and the National Automotive Technicians Education Foundation, Inc. (NATEF) ASE

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded a certificate in Diesel Engines. This certificate is one of four stackable certificates for the completion of an AAS degree in Diesel Technology.

NOTE: Students may enter this program at the beginning of any 8-week period. Please contact the Diesel Technology Department for more information.

Engine Certificate

This Diesel Engines certificate allows students to cover rebuilding of heavy-duty gas and light, medium and heavy-duty diesel engines. Students will troubleshoot, disassemble, rebuild, and assemble an engine during this class. Learning modules include measurement fundamentals, basic engine operating principals, cylinder and piston service, cylinder head rebuilding, valve reconditioning, crankshaft and bearing service, lubrication, and cooling systems. Engines designed for the use of alternative fuels such as LPG and CNG are also covered.

Students gain knowledge in operation, troubleshooting, rebuilding, and tuning all types of diesel engines. Work includes disassembly, assembly, injection timing and adjustments common to diesel engines used in the agricultural, transportation and industrial industries. In addition, this certificate includes a theory and lab course covering general maintenance and service procedures performed on diesel powered equipment. This course includes instructions for safe operation of various types of diesel-powered equipment for the technician to perform general service procedures required by the manufacturer. Proper use of shop tools, equipment, safety techniques and industry standards will be covered.

Course Code	Title	Credits
DTEC 110	Diesel Equipment Maintenance	3
DTEC 115	Introduction to Light and Medium Duty Engines	4
DTEC 215	Heavy Duty Diesel Engines	7

Related/General Education Courses

Course Code	Title	Credits
MATH 120	Basic Mathematics I	2
	Total Required Credits	16

Diesel Technology (Hydraulics)

Degree Type Certificate

Contact Information

Michael Redding, associate professor/program director
Michael.Redding@ndscs.edu
701-671-2226
Bisek 1171

Delivery Methods

Face-to-Face: Wahpeton

The Diesel Technology program is designed to prepare students for the many employment opportunities in the diesel industry.

Students enrolled in Diesel Technology learn the theory of operation along with the latest repair and diagnostic procedures available in the diesel industry. Training facilities are in excellent condition and labs are very well-equipped.

Green technology is addressed through changes in emission standards and alternative fuels that will continue to advance changes in this industry.

Students graduating from Diesel Technology are fully employable upon completion of this program. Diesel Technology graduates are employed by agricultural, industrial (truck and heavy equipment), construction equipment companies, mining industries or fleet owners.

The Diesel Technology program is accredited by the Associated Equipment Distributors (AED) and the National Automotive Technicians Education Foundation, Inc. (NATEF) ASE

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded a certificate in Diesel Engines. This certificate is one of four stackable certificates for the completion of an AAS degree in Diesel Technology.

NOTE: Students may enter this program at the beginning of any 8-week period. Please contact the Diesel Department for more information.

Hydraulics Certificate

This Hydraulic certificate allows students to cover hydraulic system fundamentals and various components used in a typical mobile hydraulic system. Component disassembly and reassembly will take place to aid in the understanding of component and system operation. Various components will be tested on a test bench to help the student understand how the components contribute to the overall operation of the system and will be used to evaluate the students' performance. Experiments will be performed on lab equipment to aid in the understanding of mobile hydraulic principles and service diagnostics. Open center, closed center, and closed center load sensing systems are covered as well as steering, hydrostatic drives, 3-point hitches, and hydraulic functions of today's equipment. In addition, this certificate includes a lecture, discussion, and lab course, covering the design and principles of operation for various air conditioning systems. These systems are used on equipment in the agriculture, construction, and trucking industries. Lab work consists of leak detecting, evacuation, recovering, charging, component comprehension, electrical systems and troubleshooting of various air conditioning units.

Course Code	Title	Credits
DTEC 164	Introduction to Mobile Hydraulics	4
DTEC 109	Air Conditioning for Diesel Technology	2
DTEC 265	Mobile Hydraulic Systems Diagnostics and Repair	7

Related/General Education Courses

Course Code	Title	Credits
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
	Total Required Credits	17

Diesel Technology (Powertrains)

Degree Type Certificate

Contact Information

Michael Redding, associate professor/program director
Michael.Redding@ndscs.edu
701-671-2226
Bisek 1171

Delivery Methods

Face-to-Face: Wahpeton

The Diesel Technology program is designed to prepare students for the many employment opportunities in the diesel industry.

Students enrolled in Diesel Technology learn the theory of operation along with the latest repair and diagnostic procedures available in the diesel industry. Training facilities are in excellent condition and labs are very well-equipped.

Green technology is addressed through changes in emission standards and alternative fuels that will continue to advance changes in this industry.

Students graduating from Diesel Technology are fully employable upon completion of this program. Diesel Technology graduates are employed by agricultural, industrial (truck and heavy equipment), construction equipment companies, mining industries or fleet owners.

The Diesel Technology program is accredited by the Associated Equipment Distributors (AED) and the National Automotive Technicians Education Foundation, Inc. (NATEF) ASE

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award
Upon successful completion of the required courses, students will be awarded a certificate in Diesel Engines. This certificate is one of four stackable certificates for the completion of an AAS degree in Diesel Technology.

NOTE: Students may enter this program at the beginning of any 8-week period. Please contact the Diesel Department for more information.

Powertrains Certificate

This Powertrains certificate is a lecture and lab type course which provides the student with theory, repair and operation of bearings, seals, heavy duty steer axles, drive axles, medium and heavy-duty truck suspension, and wheel end assemblies. Theory of operation and repair of manual, automatic, auto shift and powershift transmission provides the student with training on the latest types of heavy-duty drive systems that the agricultural, transportation and industrial industries use on their equipment.

In addition, this certificate includes a lecture/lab course covering the theory of operation of air and hydraulic brake systems used in light, medium, heavy-duty trucks, and Diesel-powered equipment. This covers diagnosis and repair of air and hydraulic brakes, parking brakes and the support systems used. DOT inspection procedures are also covered in this class.

Course Code	Title	Credits
DTEC 125	Intro to Heavy Duty Drive Systems	3
DTEC 135	Medium/Heavy Duty Brake Systems	2
DTEC 225	Heavy Duty Drive Systems	7

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (3 credits)	3
CIS 101	Digital Literacy	2
	Total Required Credits	17

John Deere Tech

John Deere Tech

Degree Type Associate in Applied Science

Contact Information

Tyler Slettedahl, associate professorprogram coordinator
Tyler.Slettedahl@ndscs.edu
701-671-2726
Tech Center 68

Delivery Methods

Face-to-Face: Wahpeton

The John Deere Tech program is designed to develop technically competent, professional ag equipment service technicians. The John Deere Company sponsors the program and NDSCS administers and operates the program.

This unique program combines state-of-the-art, on-campus training with supervised occupational experiences at a sponsoring John Deere dealership. Students receive technical training on John Deere equipment and related products through a combination of classroom instruction and hands-on laboratory experiences. Classroom and laboratory instruction at NDSCS covers the basics of each subject plus the latest developments in John Deere's agricultural equipment. Work experience at the dealership reinforces on-campus training and exposes the student to real life failures and repairs as they occur on the equipment.

Green technology is addressed through changes in emission standards and alternative fuels that will continue to advance changes in this industry.

The John Deere Tech program takes six semesters, or approximately 24 months, to complete. The six semesters are divided into 10 terms, each approximately eight weeks in length. Students complete the second, third, fourth, sixth, seventh, ninth and tenth terms on campus and the first, fifth, and eighth terms at a sponsoring John Deere dealership.

Admission Requirements

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements. Special requirements include securing a John Deere dealership sponsor.

Transfer equivalencies will apply as appropriate.

Applicants not meeting the above requirements are encouraged to visit with the Diesel Technology Department at 701-671-2330.

**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in John Deere Tech.

Required Courses

Course Code	Title	Credits
DTEC 101	Science of Success: Intro to Diesel	1
DTEC 109	Air Conditioning for Diesel Technology	2
DTEC 115	Introduction to Light and Medium Duty Engines	4
JDAT 105	Internship I	3
JDAT 106	John Deere Time Service Management	2
JDAT 110	Internship II	4
JDAT 114	Internship III	4
JDAT 116	John Deere Equipment Operation & Adjustment	4
JDAT 155	Introduction to Electrical/Electronics	4
JDAT 165	Introduction to John Deere Hydraulic Systems	4
JDAT 215	John Deere Engine Rebuild	6
JDAT 225	John Deere Powertrains	7
JDAT 255	John Deere Electrical/Electronics	5
JDAT 260	Introduction to Ag Management Solutions (AMS)	3
JDAT 265	John Deere Tractor Hydraulic Systems Diagnosis	5
MFGT 110	Industrial Shop Practices	2

Related/General Education Courses

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2
	Wellness Elective(s) (2 credits)	2
CIS 101	Digital Literacy	2
PSYC 100	Human Relations in Organizations	2

76 credits includes two summer sessions required for the program.

	Total Required Credits	75

Powersports Technology

Powersports Technology

Degree Type Associate in Applied Science

Contact Information

Luke Kasowski, associate professor/program coordinator
Luke.Kasowski@ndscs.edu
701-671-2544
Schuett Hall 125

Delivery Methods

Face-to-Face: Wahpeton

The Powersports Technology program prepares students for employment in the vast and broad recreational powersports equipment industry. This program provides learning experiences that enable the student to learn and advance on the job and grow with the occupational field. Students' abilities in communications, human relations and other aspects of general education will be enhanced.

Students are provided with classroom and hands-on laboratory experiences emphasizing diagnostic and repair skills development. Students develop skills and abilities necessary to test, diagnose, adjust and repair various systems on all types of recreational powersports equipment.

This practical education and technical training will allow graduates to work on outdoor power equipment, snowmobiles, motorcycles, ATVs, personal watercraft, outboard, and inboard marine equipment. Graduates may choose to be employed with motorcycle, ATV, snowmobile or marine dealerships, independent repair shops, recreational equipment manufacturers, hardware or rental stores, implement dealers or marinas. Positions such as a service technician, partsman or salesman will be readily available. Many graduates go into business for themselves or advance as service, parts or sales managers, shop foremen, factory representatives and vocational technical teachers.

Career opportunities for this skilled occupation will be plentiful in any geographical region for a competent and dependable graduate. Salaries will advance rapidly as experience and knowledge of the profession grow. Students interested in pursuing an advanced degree will find the Associate in Applied Science degree in Powersports Technology provides transfer options to four-year colleges and universities in related fields.

Employers are looking for trained powersports technicians who have a working knowledge of the latest technological advances in 2- and 4-stroke engines regarding emissions reduction. As the government increases regulation of the emissions produced by powersports engines, it becomes even more important that these workers have the most up-to-date pollution control training in this field.

Admission Requirements*

The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Transfer equivalencies will apply as appropriate.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Award

Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Powersports Technology.

Required Courses

Course Code	Title	Credits
AUTO 101	Science of Success: Intro to Automotive	1
MFGT 110	Industrial Shop Practices	2
PST 101	Outdoor Power Equipment Technology	5
PST 102	Snowmobile Technology I	5
PST 104	Motorcycle and ATV Technology I	5
PST 105	OPE and Snowmobile Fuel Systems	2
PST 110	Powersports Technology Internship I	6
PST 122	Fundamentals of Electricity	3
PST 201	Motorcycle and ATV Technology II	5
PST 202	Outboard Technology	5
PST 203	Stern Drive Technology	5
PST 205	Outboard Fuel Systems	2
PST 210	Powersports Technology Internship II	6

Associate in Applied Science

Course Code	Title	Credits
	English/Communication Elective (choose one)	3
MATH 120	Basic Mathematics I	2
MATH 123	Basic Mathematics II	2
MATH 125	Basic Mathematics III	2
CIS 101	Digital Literacy	2
	Wellness Elective(s) (2 credits)	2
PSYC 100	Human Relations in Organizations	2
	Total Required Credits	67

Marine Technology

Degree Type Certificate

Contact information:
Luke Kasowski, program coordinator
Luke.Kasowski@ndscs.edu
701-671-2544
Schuett Hall 125

Delivery Methods:
Face-to-Face: Wahpeton

Program Information:
The Powersports Technology program prepares students for employment in the vast and broad recreational powersports equipment industry. This program provides learning experiences that enable !he student to learn and advance on the job and grow with the occupational field. Students' abilities in communications, human relations and other aspects of general education will be enhanced.

Students are provided with classroom and hands-on laboratory experiences emphasizing diagnostic and repair skills development. Students develop skills and abilities necessary to test, diagnose, adjust and repair various systems on all types of recreational powersports equipment.

This practical education and technical training will allow graduates to work on personal watercraft, outboard, and inboard marine equipment. Graduates may choose to be employed with marine dealerships, independent repair shops, recreational equipment manufacturers, hardware or rental stores, implement dealers or marinas. Positions such as a service technician, parts man, or salesman will be readily available. Many graduates go into business for themselves or advance as service, parts or sales managers, shop foremen, factory representatives and vocational technical teachers.

Career opportunities for this skilled occupation will be plentiful in any geographical region for a competent and dependable graduate. Salaries will advance rapidly as experience and knowledge of the profession grow.. Students interested in pursuing an advanced degree will find the Associate in Applied Science degree in Powersports Technology provides transfer options to four-year colleges and universities in related fields.

Employers are looking for trained powersports technicians who have a working knowledge of the latest technological advances in 2- and 4-stroke engines regarding emissions reduction. As the government increases regulation of the emissions produced by powersports engines, ii becomes even more important that these workers have the most up-to-date pollution control training in this field.

Admission Requirements*:
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.
**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award:
Upon successful completion of the required courses, students will be awarded a certificate in Marine Technology.

Core Curriculum

Course Code	Title	Credits
PST 202	Outboard Technology	5
PST 205	Outboard Fuel Systems	2
PST 203	Stern Drive Technology	5

General Education Core

Course Code	Title	Credits
	Math Elective (2 credits) (Marine): Recommended Math 120	2
	Social and Behavioral Science Elective (2 credits) (Marine): Recommeded PSYC 100	2
	Total Required Credits	16

Motorcycle/ATV Technology

Degree Type Certificate

Contact information:
Luke Kasowski, program coordinator
Luke.Kasowski@ndscs.edu
701-671-2544
Schuett Hall 125

Delivery Methods:
Face-to-Face: Wahpeton

Program Information:
The Powersports Technology program prepares students for employment in the vast and broad recreational powersports equipment industry. This program provides learning experiences that enable !he student to learn and advance on the job and grow with the occupational field. Students' abilities in communications, human relations and other aspects of general education will be enhanced.

Students are provided with classroom and hands-on laboratory experiences emphasizing diagnostic and repair skills development. Students develop skills and abilities necessary to test, diagnose, adjust and repair various systems on all types of recreational powersports equipment.

This practical education and technical training will allow graduates to work on motorcycles and ATVs. Graduates may choose to be employed with motorcycle and/or ATV dealerships, independent repair shops, recreational equipment manufacturers. hardware or rental stores, implement dealers or marinas. Positions such as a service technician, parts man. or salesman will be readily available. Many graduates go into business for themselves or advance as service, parts or sales managers, shop foremen, factory representatives and vocational technical teachers.

Career opportunities for this skilled occupation will be plentiful in any geographical region for a competent and dependable graduate. Salaries will advance rapidly as experience and knowledge of the profession grow.. Students interested in pursuing an advanced degree will find the Associate in Applied Science degree in Powersports Technology provides transfer options to four-year colleges and universities in related fields.

Employers are looking for trained powersports technicians who have a working knowledge of the latest technological advances in 2- and 4-stroke engines regarding emissions reduction. As the government increases regulation of the emissions produced by powersports engines, ii becomes even more important that these workers have the most up-to-date pollution control training in this field.

Admission Requirements*:
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.
**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award:
Upon successful completion of the required courses, students will be awarded a certificate in Motorcycle/ATV.

Core Curriculum

Course Code	Title	Credits
PST 201	Motorcycle and ATV Technology II	5
PST 122	Fundamentals of Electricity	3
PST 104	Motorcycle and ATV Technology I	5

General Education Core

Course Code	Title	Credits
	ENGL/COMM Elective (choose one) (3 credits)	3
	Total Required Credits	16

Outdoor Power Equipment and Snowmobile Technology

Degree Type Certificate

Contact information:
Luke Kasowski, program coordinator
Luke.Kasowski@ndscs.edu
701-671-2544
Schuett Hall 125

Delivery Methods:
Face-to-Face: Wahpeton

Program Information:
The Powersports Technology program prepares students for employment in the vast and broad recreational powersports equipment industry. This program provides learning experiences that enable !he student to learn and advance on the job and grow with the occupational field. Students' abilities in communications, human relations and other aspects of general education will be enhanced.

Students are provided with classroom and hands-on laboratory experiences emphasizing diagnostic and repair skills development. Students develop skills and abilities necessary to test, diagnose, adjust and repair various systems on all types of recreational powersports equipment.

This practical education and technical training will allow graduates to work on outdoor power equipment and snowmobiles. Graduates may choose to be employed with outdoor power equipment and/or snowmobile or dealerships, independent repair shops, recreational equipment manufacturers. hardware or rental stores. or implement dealers. Positions such as a service technician. parts man or salesman will be readily available. Many graduates go into business for themselves or advance as service, parts or sales managers. shop foremen. factory representatives and vocational technical teachers.

Career opportunities for this skilled occupation will be plentiful in any geographical region for a competent and dependable graduate. Salaries will advance rapidly as experience and knowledge of the profession grow.. Students interested in pursuing an advanced degree will find the Associate in Applied Science degree in Powersports Technology provides transfer options to four-year colleges and universities in related fields.

Employers are looking for trained powersports technicians who have a working knowledge of the latest technological advances in 2- and 4-stroke engines regarding emissions reduction. As the government increases regulation of the emissions produced by powersports engines, ii becomes even more important that these workers have the most up-to-date pollution control training in this field.

Admission Requirements*:
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.
**Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.*

Award:
Upon successful completion of the required courses, students will be awarded a certificate in Motorcycle/ATV.

Core Curriculum

Course Code	Title	Credits
PST 101	Outdoor Power Equipment Technology	5
PST 122	Fundamentals of Electricity	3
PST 102	Snowmobile Technology I	5
PST 105	OPE and Snowmobile Fuel Systems	2

General Education Core

Math 120 Recommended

Course Code	Title	Credits
	Math Elective (2 credits) (OPET): Recommended Math 120	2
	Total Required Credits	17

Courses

Allied Health

AH 171 : Medical Terminology
This course provides foundational knowledge of medical terminology essential for allied health professionals in a healthcare setting. Students will study prefixes, suffixes, and root words to understand the meaning, spelling, and pronunciation of medical terms. Emphasis is placed on developing a working medical vocabulary organized by body systems to enhance communication and comprehension in medical environments. (F, S, Su, O)
Credits 3
Component
LEC

Dental Assisting

AH 101 : Science of Success: Allied Health
This is a practical one-credit course that provides the tools and skills necessary to get a strong start
with the transition for new students at NDSCS. This course will introduce students to campus
resources, policies and procedures and cover topics such as time management, study skills, goal
setting, wellness, financial literacy, and professional development. (F, S, O)
Credits 1
Semester Offered
Fall
Spring

DAST 105 : Office Practice and Management
A study of the business aspects of dentistry including resumes and interviewing, staff and patient management, office communication skills, inventory and recall systems, dental forms, business records, and legal and ethical aspects of dentistry. Prerequisite: Satisfactory completion of DAST 111. (S)
Credits 1
Component
LEC

DAST 106 : Pre-Clinic for the Dental Assistant
This course provides basic information discussing the life-cycle of plaque, disease development and methods of controlling and preventing dental diseases. Prerequisite: Acceptance in the Dental Assisting program. Corequisite: DAST 111. (F)
Credits 1
Component
LEC

DAST 110 : Oral Anatomy for the Dental Assistant
This course provides basic instruction in root and tooth anatomy, charting of human dentition, muscles, TMJ, occlusion, and oral embryology and histology. Clinical considerations of dental anatomy are stressed. Prerequisite: Acceptance into the Dental Assisting program. (F)
Credits 2
Component
LEC

DAST 111 : Introduction to Chairside Assisting
This course is a study of dental team dynamics, infectious disease development and methods of control, didactic and laboratory instruction in basic chairside procedures, patient communication and restorative dentistry. The didactic part of this course will be online. Prerequisite: Acceptance into the Dental Assisting program. Hybrid. (F)
Credits 3
Component
LEC

DAST 115 : Dental Radiology for the Dental Assistant
This course is designed to provide a fundamental knowledge of dental radiology. Emphasis will be placed on operator and patient safety, quality assurance, radiology principles and radiographic imaging and developing laboratory competency in basic radiology skills. The didactic part of this course will be online. Prerequisite: Acceptance into the Dental Assisting program. Hybrid. (F)
Credits 3
Component
LEC

DAST 120 : Dental Assisting Expanded Functions
This course is an introduction to dental assisting expanded functions legal in this region. The course will focus on pre-clinical and clinical skills associated with coronal polishing, fluoride application, pit and fissure sealants, dental dam, excess cement/bonding removal, suture removal, periodontal dressing and orthodontic procedures. Prerequisite: Satisfactory completion of DAST 111. (S)
Credits 2
Component
LEC

DAST 132 : Clinical Training I
A continuation of Introduction to Chairside Assisting (DAST 111). The course will focus on dental specialties, management of patients with special needs, medical emergencies, the history of dentistry, and encompasses educational and licensure requirements for dental professionals, and professionalism in the dental field. Prerequisite: Satisfactory completion of DAST 111. (S)
Credits 3
Component
LEC

DAST 132L : Clinical Training I: Clinic

This course will provide the student with an opportunity to begin developing clinical skills by assisting in a variety of clinical assignments. The course will focus on assisting in the general and specialty dental offices and actively participating in the NDSCS Allied Dental Education Clinic. Prerequisite: Satisfactory completion of DAST 111. (S)
Credits 3
Component
LAB

DAST 133 : Clinical Training II

A continuation of Clinical Training I (DAST 132). The primary focus of this course is to provide dental assisting experience in selected dental offices. A capstone mockboard project will be completed in this course. Prerequisite: Satisfactory completion of DAST 132L. (Su)
Credits 5
Component
LEC

DAST 142 : Dental Materials for the Dental Assistant

A study of the characteristics, physical properties, manipulation, uses and care of dental materials. Includes laboratory experience in the manipulation and preparation of those materials commonly used in dental practice. Safety procedures relating to each material and procedure are incorporated. Prerequisite: Acceptance into the Dental Assisting program. (F)
Credits 3
Component
LEC

DAST 144 : Biodental Science

This course also includes an introduction to microbiology, dental pharmacology, and nutrition, including its role in the maintenance of oral health. Prerequisite: Satisfactory completion of DAST 111. (S)
Credits 2
Component
LEC

DAST 151L : Dental Assisting Simulation Lab I

This course is designed to provide immersive learning experiences for dental assisting students. Course instruction will allow learners to practice and develop clinical skills by applying theoretical knowledge in hands-on scenarios that mimic various clinical situations that range in complexity and skill level. The course focus will be on developing skills for patient treatment. Topics may include vital signs, medical emergencies, patient assessment, radiology, dental materials, and general chairside techniques. Students will participate in classroom activities and outside assignments such as case studies, task analysis, and self-assessment, problem solving skills, communication, and skills evaluations. This course will include interprofessional communication, collaboration and interaction with other health care professionals and programs. Corequisite: DAST 111. (F)
Credits 1
Component
LAB

DAST 152L : Dental Assisting Simulation Lab II

This course is designed to provide immersive learning experiences for dental assisting students. Course instruction will allow learners to practice and develop clinical skills by applying theoretical knowledge in hands-on scenarios that mimic various clinical situations that range in complexity and skill level. The course focus will be on developing skills for patient treatment. Topics may include vital signs, medical emergencies, patient assessment, radiology, dental materials, and general chairside techniques. Students will participate in classroom activities and outside assignments such as case studies, task analysis, and self-assessment, problem solving skills, communication, and skills evaluations. This course will include interprofessional communication, collaboration and interaction with other health care professionals and programs. Corequisite: DAST 132L (S)
Credits 1
Component
LAB

DAST 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

DAST 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

DENT 101 : Science of Success: Introduction to Dental Professions

This is a practical one-credit course that provides the tools and skills necessary to get a strong start with the transition for new students at NDSCS. This course will guide students through the process of exploring careers and transfer considerations. Students will learn to navigate NDSCS resources and technologies as well as learn skills and techniques used by successful college students. Students will also be introduced to the basic aspects of the dental professions. (F, S, O)
Credits 1
Component
LEC
Semester Offered
Fall
Spring
Summer

Dental Hygiene

AH 101 : Science of Success: Allied Health

This is a practical one-credit course that provides the tools and skills necessary to get a strong start
with the transition for new students at NDSCS. This course will introduce students to campus
resources, policies and procedures and cover topics such as time management, study skills, goal
setting, wellness, financial literacy, and professional development. (F, S, O)
Credits 1
Semester Offered
Fall
Spring

CTE 350 : Introduction to Research Methods

This course provides a basic introduction to the principles, methods, and procedures of various research techniques. It provides students with an examination into the construction of research including questions, justification, collection, analysis, and dissemination.
Credits 3
Component
LEC

DENT 101 : Science of Success: Introduction to Dental Professions

This is a practical one-credit course that provides the tools and skills necessary to get a strong start with the transition for new students at NDSCS. This course will guide students through the process of exploring careers and transfer considerations. Students will learn to navigate NDSCS resources and technologies as well as learn skills and techniques used by successful college students. Students will also be introduced to the basic aspects of the dental professions. (F, S, O)
Credits 1
Component
LEC
Semester Offered
Fall
Spring
Summer

DHYG 101 : Pre-Clinic

This course provides basic information discussing the life cycle of plaque, disease development and methods of controlling and preventing dental diseases. Prerequisite: Acceptance into Dental Hygiene program. (F)
Credits 1
Component
LEC

DHYG 101L : Pre-Clinic Lab

This course provides basic instruction in fundamental principles of clinical dental hygiene instrumentation, prevention of disease transmission, instrumentation, dental hygiene assessment, implementation and evaluation procedures. Prerequisite: Acceptance into the Dental Hygiene program. (F)
Credits 3
Component
LAB

DHYG 102 : Clinic I

This course provides instruction on fundamentals of medical histories/medical emergencies, principles of root morphology, ultrasonic scaler, prophy jet, aspiration and tobacco cessation, professionalism and patient motivation. Prerequisites: DHYG 101, DHYG 101L. (S)
Credits 1
Component
LEC

DHYG 102L : Clinic I Lab

This course provides instruction and continuing information on fundamental principles of clinical dental hygiene. Clinical dental hygiene is that portion of the dental hygiene curriculum focused on developing the cognitive, affective and psychomotor skills necessary for delivery of preventive, educational and therapeutic services to the public. This comprehensive care involves an assessment of patient needs, planning for treatment and disease control, implementation of various clinical dental hygiene services and an evaluation of both patient and operator efforts and the results. Prerequisites: DHYG 101, DHYG 101L.(S)
Credits 4
Component
LAB

DHYG 103 : Clinic II

This course provides a continuation of fundamental principles of clinical dental hygiene. Areas of focus will be local anesthesia and pain control, trauma, caries risk assessment and prevention counseling, sealant application, child management, family abuse, and hypersensitivity. Prerequisite: DHYG 102. Corequisite: DHYG 103L. (Su)
Credits 1
Component
LEC

DHYG 103L : Clinic II Lab

This is a continuation of DHYG 102L. This course provides instruction and continuing information on fundamental principles of clinical dental hygiene, periodontal assessment, periodontal treatment planning and case assessments. Clinical dental hygiene is that portion of the dental curriculum necessary for delivery of preventive, educational and therapeutic services to the public. This comprehensive care involves an assessment of patient needs, planning for treatment and disease control, implementation of various clinical dental hygiene services and an evaluation of both the patient and operator efforts and the results. Students participate in off-campus clinical experience with a diverse patient population.Prerequisite: DHYG 102L. Corequisite: DHYG 103. (Su)
Credits 3
Component
LAB

DHYG 110 : Oral Anatomy

This course provides basic instruction in root and tooth anatomy, charting of human dentition, muscles, TMJ and occlusion. Clinical consideration of dental anatomy is stressed. Prerequisite: Acceptance into Dental Hygiene program. (F)
Credits 2
Component
LEC

DHYG 112 : Oral Embryology & Histology

This course is a study of tissue morphology, embryonic development and histologic features of the structure of the oral cavity. Prerequisite: Acceptance into Dental Hygiene program. (F)
Credits 1
Component
LEC

DHYG 114 : Dental Radiology

This course is a supervised lecture/laboratory course that prepares the allied dental student to competently produce intra and extra-oral radiographs. Emphasis includes the principals of x-ray production, biological effects of radiation, quality assurance, radiation safety, exposure, processing and mounting of radiographs, interpretation of dental radiographs and digital radiography. Recent concepts of dental imaging, digital radiographics, software, and state and federal regulations. Prerequisite: Acceptance into Dental Hygiene. (F)
Credits 3
Component
LEC

DHYG 116 : Dental Radiology Refresher Lab

This course is a supervised laboratory course that prepares the Allied Dental Student to competently produce intra- and extra-oral radiographs. Emphasis includes radiation safety, exposure, processing and mounting of radiographs, and digital radiography. Prerequisite: Acceptance into Dental Hygiene program. (F)
Credits 1
Component
LAB

DHYG 145 : Periodontics I

A study of the etiology and clinical characteristics of periodontal diseases. Provides information on tissues of the periodontium, epidemiology, disease classifications, causative factors, assessment, and treatment planning. Prerequisite: Acceptance into Dental Hygiene program. (S)
Credits 1
Component
LEC

DHYG 151L : Pre-Clinic Simulation Lab

This course is designed to provide immersive learning experiences for dental hygiene students. Course instruction will allow learners to practice and develop clinical skills by applying theoretical knowledge in hands-on scenarios that mimic various clinical situations that range in complexity and skill level. The course focus will be on developing skills for clinical dental hygiene and patient treatment. Topics may include vital signs, medical emergencies, patient assessment, treatment planning, radiology, and instrumentation. Students will participate in classroom activities and outside assignments such as case studies, use of dental patient record keeping software, task analysis self-assessment, problem solving skills communication, and skills evaluations. This course will include interprofessional communication, collaboration and interaction with other health care professionals and programs. Pre-requisite: Acceptance into Dental Hygiene Program. (F)
Credits 1
Component
LAB

DHYG 152L : Simulation Lab I

This course is designed to provide immersive learning experiences for dental hygiene students. Course instruction will allow learners to practice and develop clinical skills by applying theoretical knowledge in hands-on scenarios that mimic various clinical situations that range in complexity and skill level. The course focus will be on developing skills for clinical dental hygiene and patient treatment. Topics may include vital signs, medical emergencies, patient assessment, treatment planning, radiology, and instrumentation. Students will participate in classroom activities and outside assignments such as case studies, use of dental patient record keeping software, task analysis self-assessment, problem solving skills communication, and skills evaluations. This course will include inter-professional communication, collaboration and interaction with other health care professionals and programs. Prerequisite: DHYG 151L. (S)
Credits 1
Component
LAB

DHYG 153L : Simulation Lab II

This course is designed to provide immersive learning experiences for dental hygiene students. Course instruction will allow learners to practice and develop clinical skills by applying theoretical knowledge in hands-on scenarios that mimic various clinical situations that range in complexity and skill level. The course focus will be on developing skills for clinical dental hygiene and patient treatment. Topics may include vital signs, medical emergencies, patient assessment, treatment planning, radiology, and instrumentation. Students will participate in classroom activities and outside assignments such as case studies, use of dental patient record keeping software, task analysis self-assessment, problem solving skills communication, and skills evaluations. This course will include inter-professional communication, collaboration and interaction with other health care professionals and programs. Prerequisite: DHYG 152L. (Su)
Credits 1
Component
LAB

DHYG 201 : Clinic III

This course provides basic instruction, care and management of special needs patients. Prerequisites: DHYG 103, DHYG 103L. Corequisite: DHYG 201L. (F)
Credits 1
Component
LEC

DHYG 201L : Clinic III Lab

A continuation of DHYG 102L and DHYG 103L. This course provides instruction and continuing information on fundamental principles of dental hygiene. Clinical dental hygiene is that portion of the dental hygiene curriculum focused on developing the cognitive, affective and psychomotor skills necessary for delivery of preventive, educational and therapeutic services to the public. This comprehensive care involoves an assessment of patient needs, planning for treatment and disease control, implementation of various clinical dental hygiene services and an evaluation of both the patient and operator efforts and the results. Students participate in off-campus clinical experiences with a diverse patient population. Prerequisite: DHYG 103L. Corequisite: DHYG 201. (F)
Credits 4
Component
LAB

DHYG 202 : Clinic IV

The course provides instruction in continuing information in fundamental principles of clinical dental hygiene. Specific topics to be discussed include: dental specialties, dental injuries, rubber dam, periodontal dressing and suture removal, nitrous oxide analgesia, total treatment planning and review and analysis of patient care through written and oral patient case assessments and presentations. Prerequisite: DHYG 201. Corequisite: DHYG 202L. (S)
Credits 1
Component
LEC

DHYG 202L : Clinic IV Lab

Continuation of DHYG 102L, 103L and 201L. This course provides instruction on continuing information on fundamental principles of clinical dental hygiene, periodontal assessment, periodontal treatment planning and case assessments. Clinical dental hygiene is that portion of the dental curriculum necessary for delivery of preventive, educational and therapeutic services to the public. This comprehensive care involves an assessment of patient needs, planning for treatment and disease control, implementation of various clinical dental hygiene services and an evaluation of both the patient and operator efforts and the results. Students participate in off-campus clinical experiences with a diverse patient population. Prerequisite: DHYG 201L. Corequisite: DHYG 202. (S)
Credits 4
Component
LAB

DHYG 203L : Clinic Refresher/Board Prep Lab

A clinical application course designed to assist the student in the preparation for the clinical board exam or to refresh laboratory skills. The course will focus on basic clinical or lab skills. Prerequisite: Completion of AAS in Dental Hygiene. (Su)
Credits 1
Component
LAB

DHYG 205 : Dental Pharmacology

This course provides a study of drugs with an emphasis on those drugs utilized in the practice of dentistry. The course describes the physical properties, major therapeutic classifications of medications, their therapeutic uses, and effects and adverse reactions. Prerequisites: Acceptance into the Dental Hygiene program. (S)
Credits 2
Component
LEC

DHYG 209 : Head and Neck Anatomy

This course involves the study of the structure and function of the osteology, muscles, blood supply, nerves, lymphatics, spread of disease of the head and neck as a whole, and TMJ and mandibular functions. Corequisite: DHYG 103L. (Su)
Credits 1
Component
LEC

DHYG 210 : Local Anesthesia

A clinical application course designed to provide the student with the knowledge and clinical skills to administer safe and effective local anesthesia. In addition, alternate methods of pain control are included in this course. Prerequisite: DHYG 209. Corequisite: DHYG 103. (Su)
Credits 1
Component
LEC

DHYG 212 : Oral Pathology

A study of fundamental disease processes involving the oral cavity and its related structures. The course includes the use of assessment and critical thinking skills in differentiating normal from abnormal conditions. Prerequisite: BIOL 213. Corequisite: DHYG 103L. (Su)
Credits 1
Component
LEC

DHYG 220 : Community Dental Health

This course is an overview of the basic principles of dental public health, epidemiological methods, statistical measurement and analysis. It is designed to prepare the student to function in a community as a professional and provide the basis for lifelong learning and evidence-based decision making. The course also provides information followed by experience in APIE for diverse target populations. Corequisite: DHYG 201L. (F)
Credits 2
Component
LEC

DHYG 242 : Dental Materials

A study of the characteristics, physical properties, selection, manipulation, uses and care of dental materials. Includes laboratory experience in the manipulation and preparation of those materials commonly used in dental practice. Safety precautions relating to each material and procedure are incorporated. Prerequisite: Acceptance into Dental Hygiene program. (F)
Credits 3
Component
LEC

DHYG 243 : Dental Jurisprudence

A study of the legal and ethical aspects of dental hygiene practice in relation to standards at the state and national level. In addition, this course includes writing a résumé, interviewing, recall systems, risk management and office communications. Corequisite: DHYG 202L. (S)
Credits 1
Component
LEC

DHYG 244 : Dental Materials Lab Refresher

A laboratory experience of the characteristics, physical properties, manipulation, uses and care of dental materials. Includes laboratory experience in the manipulation and preparation of those materials commonly used in dental practice. Safety procedures relating to each material and procedure are incorporated. Prerequisite: Acceptance into the Dental Hygiene program. (F)
Credits 1
Component
LAB

DHYG 245 : Periodontics II

This is a continuation of the study of periodontology. This course will include information on plaque control, advanced instrumentation, irrigation, surgical procedures, implants, emergencies, systemic factors, and treatment and maintenance for the periodontal patient. Prerequisite: DHYG 145. (F)
Credits 1
Component
LEC

DHYG 251L : Simulation Lab III

This course is designed to provide immersive learning experiences for dental hygiene students. Course instruction will allow learners to practice and develop clinical skills by applying theoretical knowledge in hands-on scenarios that mimic various clinical situations that range in complexity and skill level. The course focus will be on developing skills for clinical dental hygiene and patient treatment. Topics may include vital signs, medical emergencies, patient assessment, treatment planning, radiology, and instrumentation. Students will participate in classroom activities and outside assignments such as case studies, use of dental patient record keeping software, task analysis self-assessment, problem solving skills communication, and skills evaluations. This course will include inter-professional communication, collaboration and interaction with other health care professionals and programs. Prerequisite: DHYG 153L. (F)
Credits 1
Component
LAB

DHYG 252L : Simulation Lab IV

This course is designed to provide immersive learning experiences for dental hygiene students. Course instruction will allow learners to practice and develop clinical skills by applying theoretical knowledge in hands-on scenarios that mimic various clinical situations that range in complexity and skill level. The course focus will be on developing skills for clinical dental hygiene and patient treatment. Topics may include vital signs, medical emergencies, patient assessment, treatment planning, radiology, and instrumentation. Students will participate in classroom activities and outside assignments such as case studies, use of dental patient record keeping software, task analysis self-assessment, problem solving skills communication, and skills evaluations. This course will include inter-professional communication, collaboration and interaction with other health care professionals and programs. Prerequisite: DHYG 251L (S)
Credits 1
Component
LAB

DHYG 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

DHYG 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

DHYG 324 : Current Issues in Dental Hygiene

Examines various professional issues in clinical or community dental hygiene. Topics may include restorative procedures, medical advances, clinical products or procedures, oral health services, and legal issues impacting dental hygiene practice.
Credits 3
Component
LEC

DHYG 326 : Health Planning for Special Populations

Focuses on the assessment of oral health needs for special populations. Overview of basic disease processes, assessment, planning, and evaluation of medical therapies needed to develop a dental hygiene care plan.
Credits 3
Component
LEC

DHYG 336 : Technology in Oral Health Practice

Analyzes and evaluation of the impact of emerging technology in the field of dentistry. Topics may include software management systems, patient education techniques, internet sources, lasers, and digital radiography.
Credits 3
Component
LEC

DHYG 426 : Educational Methods in Dental Hygiene

This course will focus on educational methods for dental hygiene instruction. Topics will include instructional methods, context and learner analysis, evaluation of student learning, assessment instruments, and the use of competency based dental hygiene instruction.
Credits 3
Component
LEC

DHYG 432 : Advancements in Dental Hygiene

Enhances the knowledge base for the advancement of clinical skills and professional roles of dental hygienists. Topics may include evidence-based practice concepts, advanced instrument techniques, and patient management.
Credits 3
Component
LEC

DHYG 434 : Techniques in Periodontal Therapy

This course will address the surgical and non-surgical management of periodontal patients, including those with medical complications. Students will utilize current knowledge in recognizing periodontal problems and suggesting appropriate treatment techniques.
Credits 3
Component
LEC

ENGL 324 : Writing in the Sciences

English 324 covers the study and practice of written conventions of the sciences for academic, scientific, and public audiences.
Credits 3
Component
LEC

MGMT 320 : Foundations of Management

This course focuses on the nature of management, the evolution of management thought, strategic management and planning concepts, decision making and creative problem solving, and motivation and leadership in a changing environment.
Credits 3
Component
LEC

MGMT 430 : Leadership in Organizations

This course is the study of the principles, practices, and challenges of contemporary leadership and followership.
Credits 3
Component
LEC

Emergency Medical Services

AH 101 : Science of Success: Allied Health

This is a practical one-credit course that provides the tools and skills necessary to get a strong start
with the transition for new students at NDSCS. This course will introduce students to campus
resources, policies and procedures and cover topics such as time management, study skills, goal
setting, wellness, financial literacy, and professional development. (F, S, O)
Credits 1
Semester Offered
Fall
Spring

EMS 100 : Emergency Medical Responder (EMR)

This is an entry-level Emergency Medical Responder (EMR) course which will prepare the student for employment or a volunteer position in a variety of pre-hospital settings. This course will prepare students to provide initial stabilizing care to the sick or injured prior to the arrival of a higher level of Emergency Medical Services (EMS) professionals. This course focuses on the core skills, knowledge and protocols within the EMR scope of practice as defined by the Department of Transportation. Students will be prepared to identify, assess, manage, and treat various types of pre-hospital traumatic and medical emergencies. (F, S, Su)
Credits 2
Component
LEC

EMS 101 : Introduction into EMS

This course prepares students with the fundamentals of Emergency Medical Services (EMS). During this course students will learn about the history of EMS, EMS systems and operations, legal and ethical aspects of EMS, documentation, and disaster and initial hazmat response in EMS. (F, S, Su)
Credits 2
Component
LEC

EMS 110 : EMT Fundamentals

This is an introductory course which will prepare the student to work in the emergency medical field. This course will prepare the student to identify, assess, manage, and treat various types of pre-hospital traumatic and medical emergencies. The student will learn to perform various aspects of emergency medical care and ambulance operations under the scope of practice set forward by the Department of Transportation. (F, S, Su)
Credits 3
Component
LEC

EMS 110L : EMT Fundamentals Lab

The purpose of the laboratory is to discuss, perform and relate the concepts taught in the EMT fundamentals course. This will be done in group discussion and group and individual scenarios. This is a hands-on course where the physical and mental skills necessary for the appropriate assessment and treatment of patients will be taught and tested in small groups and/or individually. Students should be prepared for rigorous questioning and skill demonstration in front of the instructor and their peers. (F, S, Su)
Credits 1
Component
LAB

EMS 110P : EMT Practicum

This course will introduce the EMT student to pre-hospital operations and patient care. During this course students will have the opportunity to ride with ambulance services and assist preceptors in the care of pre-hospital patients. The student will function under the direction of a preceptor. (F, S, Su)
Credits 1
Component
PRA

EMS 180 : Pharmacology I

This is part one of a two-part series that prepares the students for the objectives associated with pharmacology in the pre-hospital setting. Students will learn the pathophysiological effects of drugs on the body and medications associated. (F, S)
Credits 1
Component
LEC

EMS 192 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

EMS 203 : Pharmacology II

This is the second of a two-part course that prepares the students for the objectives associated with pharmacology in the pre-hospital setting. Students will learn advanced pathophysiological effects of drugs on the body and medications associated with advanced treatment modalities. (F)
Credits 2
Component
LEC

EMS 204 : Medical Emergencies I

This course is the first of a two course series that prepares the paramedic to identify, assess, manage and treat various medical emergencies. Topics include neurology, endocrinology, immunology, infectious diseases, gastroenterology and associated interventions. (F)
Credits 2
Component
LEC

EMS 205 : Medical Emergencies II

This course is the second course of a two course series that prepares the paramedic to identify, assess, manage, and treat various medical emergencies. Topics include toxicology, urology, hematology, environmental conditions, behavioral and psychiatric disorders and associated interventions. (S)
Credits 2
Component
LEC

EMS 207 : Special Populations in EMS

This course prepares the paramedic student to identify, assess, manage, and treat age related emergencies, and other special patient population challenges. This course also introduces the paramedic student to the breadth of teamwork with fellow healthcare, first responder, and public safety entities. (S)
Credits 2
Component
LEC

EMS 215 : Cardiology

This course prepares the paramedic student to identify single and multi-lead cardiac rhythms and treat those rhythms with electrical and pharmacological therapy. Skills include, but are not limited to assessment, defibrillation, cardioversion and cardiac rhythm interpretation. (F)
Credits 4
Component
LEC

EMS 217 : Airway and Respiratory Management

The course introduces the paramedic student to identify, assess, manage, and treat respiratory emergencies including airway management. Students will explore all aspects of pre-hospital airway management techniques and associated equipment. (F)
Credits 2
Component
LEC

EMS 218 : Clinical Decision-Making in EMS

Throughout this course students will interact through patient case studies including classroom discussion on the patient assessment, devising differential diagnosis, and potential care plans. Integration of current and previous course lessons and objectives will be included in the overall management of patients presented in the case studies. Prerequisites: EMS 204, EMS 215, EMS 217, EMS 231. (S)
Credits 2
Component
LEC

EMS 219 : Trauma in EMS

This course examines trauma related pathophysiology, assessment and patient management. Students will incorporate assessment findings with principles of epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment strategy for the acutely injured patient. (S)
Credits 3
Component
LEC

EMS 231 : Paramedic Lab I

This is the first in a series of three paramedic lab courses. The purpose of the laboratory is to discuss, perform, and relate the concepts taught in the paramedic didactic courses. This will be done in group discussion and group and individual scenarios. This is a hands-on course where the physical and mental skills necessary for the appropriate assessment and treatment of patients will be taught and tested in small groups and/or individually. Students should be prepared for rigorous questioning and skill demonstration in front of the instructor and their peers. (S)
Credits 2
Component
LAB

EMS 232 : Paramedic Simulation Lab

This is the second in a series of three paramedic lab courses. The purpose of the laboratory is to discuss, perform, and relate the concepts taught in the paramedic didactic courses. This will be done in group discussion and group and individual scenarios. This is a hands-on course where the physical and mental skills necessary for the appropriate assessment and treatment of patients will be taught and tested in small groups and/or individually. Students should be prepared for rigorous questioning and skill demonstration in front of the instructor and their peers. (F)
Credits 2
Component
LAB

EMS 233 : Advanced Life Support Lab

In this course students will enhance their skills in treating adult victims of cardiac arrest or other cardiopulmonary emergencies, while earning their American Heart Association ACLS (AHA ACLS) for Healthcare Providers Course Completion Card. Students will also use a series of simulated pediatric emergencies to reinforce the important concepts of a systematic approach to pediatric assessment, basic life support, treatment algorithms, effective resuscitation and team dynamics, while earning their American Heart Association PALS (AHA PALS) for Healthcare Provider Course Completion Card. This will be done in group discussion and group and individual scenarios. This is a hands-on course where the physical and mental skills necessary for the appropriate assessment and treatment of patients will be taught and tested in small groups and/or individually. Students should be prepared for rigorous questioning and skill demonstration in front of the instructor and their peers. (Su)
Credits 3
Component
LAB

EMS 234 : Paramedic Assessment Lab

The simulation lab is designed to present paramedic students with clinical and field simulation, in a controlled setting, to engage the student and evaluate their skills development, knowledge base and critical thinking skills. This course allows students the opportunity to learn in a risk-free environment, and to improve competence, practice mastery of their patient assessment and management and advance their efficiency. This is a hands-on course where the physical and mental skills necessary for the appropriate assessment and treatment of patients will be taught and tested in small groups and/or individually. Students will receive the opportunity for self-reflection and should be prepared for rigorous questioning and skill demonstration in front of the instructor and their peers to promote an enhanced practicum experience. (F)
Credits 1
Component
LAB

EMS 241 : Advanced Provider Practicum I

This course will give the student the opportunity to learn and expose the student to real life EMS experiences (BLS and ALS). This course will expose the student to ALS skills, assessments, and other ALS knowledge as well as continue creating a solid BLS foundation. The student will function under the direction of a preceptor. (F, S)
Credits 2
Component
FLD

EMS 242 : Advanced Provider Practicum II

This course will give the student the opportunity to apply the material learned in the didactic courses to real life EMS experiences. This course will place emphasis on ALS assessments, ALS skills, ALS knowledge as well as continue creating a solid BLS and ALS foundation. The student will function under the direction of a preceptor. (S)
Credits 4
Component
FLD

EMS 243 : Capstone in Paramedicine

This course determines the preparedness of the student for work in the paramedicine field. All previous coursework will be used by the student to successfully lead an ambulance crew through all patient encounters. Students completing this course will be entry-level competent paramedics. The student will function under the direction of a preceptor and will input patient contact information into the FISDAP data collection system and scores into the Moodle database. (Su)
Credits 3
Component
FLD

EMS 255 : Leadership in EMS

Paramedics work in positions in which they must utilize leadership skills. This course will introduce students to entry-level leadership skills, including working within an EMS culture, with other agencies and with outside organizations or regulators. Students will learn how to become a positive influence in a growing industry.(S)
Credits 2
Component
LEC

EMS 291 : Medical Issues in Community Paramedicine

Students will learn and discuss assessment techniques, lab procedures, special and home health equipment and the diseases they are most likely to encounter in this role. (F)
Credits 4
Component
LEC

EMS 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

EMS 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Health Information

HIT 176 : Introduction to Health Information

Introduction to health record practice and the health information profession. Students will study health record, functions, content, documentation, purposes, and users including secondary data sources and data sets. Students will be introduced to legal and ethical issues, including data privacy, confidentiality, and security standards. Students will explore ethical issues in health information management. Students will use virtual lab software applications. Web-based instruction. Prerequisites and/or Corequisites: None. (F, O)
Credits 4
Component
LEC

HIT 180 : Pathopharmacology

Emphasis on the specific disease processes affecting the human body systems via an integrative approach to specific disease entities, including the study of causes, diagnosis, and treatment of disease. The study of drug actions, including the absorption, distribution, metabolism, and excretion of drugs by the body. Emphasis on most commonly prescribed drugs, the drug formulary, and on matching drugs to common conditions and correlating lab findings. Web-based instruction. Prerequisite: BOTE 171. (S, O)
Credits 3
Component
LEC

HIT 181 : Healthcare Delivery Systems

A study of health information management (HIM) in various healthcare settings. Includes an overview of each healthcare setting and specific documentation requirements, regulatory issues, reimbursement, information management, quality assessment, utilization management, risk management/legal issues, the role of the HIM professional and future trends related to each setting. Prerequisite: HIT 176. (S, O)
Credits 3
Component
LEC

HIT 184 : Basic DiagnosisCoding

An introduction to the basic coding guidelines using the current ICD coding classification system. Students will practice the application of diagnosis and procedure codes, validating coding accuracy using clinical information found in health records. Current regulations, established guidelines, and ethical principles will be studied and applied to coding cases. Encoder systems and software are used. Web-based instructon. Prerequisites: BOTE 171, BIOL 220. Corequisite: HIT 180, BIOL 221. (S, O)
Credits 3
Component
LEC

HIT 185 : Basic Procedure Coding

An introduction to the basic coding guidelines of the Current Procedural Terminology (CPT) nomenclature. Students will practice the application of CPT/HCPCS codes, validating coding accuracy using clinical information found in the health record. Current regulations, established guidelines, and ethical principles will be studied and applied to coding cases. Encoder systems, computer assisted coding, and software are used. Web-based instruction. Prerequisites: BOTE 171 or BIOL 220. Corequisite: HIT 180, BIOL 221. (S, O)
Credits 3
Component
LEC

HIT 197 : Professional Practice I

A virtual internship following completion of all first year courses. Provides reinforcement and application of concepts studied in the first year with hands-on experience simulation using actual health records and software applications. Web-based instruction. Prerequisites: All first year HIT program courses. (Su, O)
Credits 2
Component
CLN

HIT 197C : Practicum

A virtual professional practice experience emphasizing practice with clinical code assignment using a variety of health record types/encounters. Focus on acceptable coding practices, clinical code assignment, and billing methodologies. Emphasis on building speed and accuracy. Encoder technology including coding reference software applications will be used. CCA examination preparation and career exploration will also be covered. Anticipated 40 hours of coding and additional time spent on related projects and case studies. Prerequisite: All program courses. (F, O)
Credits 2
Component
FLD

HIT 280 : Coding Application

Students will review the basic coding guidelines and will practice the application of diagnosis and procedure codes. Application of ICD-10-CM/PCS, Current Procedural Terminology (CPT) and HCPCS codes. Validating coding accuracy using clinical information found in health records. Ethical coding standards will be applied and promoted while adhering to current regulations and established guidelines in code assignment. Encoding technology including coding reference software applications will be used. Web-based instruction. Prerequisites: HIT 184 and HIT 185. (F, O)
Credits 2
Component
LEC

HIT 281 : Health Law, Privacy and Ethics

The study of health law, privacy, security, confidentiality, access, release, and ethical issues. Application of healthcare legal terminology, concepts, and principles to legal documents related to the practice of health information management. Health records and health information software applications are used. Web-based instruction. Prerequisite: HIT 176. (S, O)
Credits 3
Component
LEC

HIT 282 : Health Information Data Analytics

A study in the basics of statistics and data analytics. Application of descriptive statistics and data analysis in healthcare settings. Advanced data analysis techniques will be explored. Software applications will be used for organization, analysis, and presentation of data. Web-based instruction. Prerequisite: HIT 176. (F, O)
Credits 3
Component
LEC

HIT 283 : Health Information Leadership

Practical instruction in management principles from a health information management perspective with both theory and practice examples. Leadership roles, including strategic planning, financial management, and information governance will be studied. Teamwork, communication, change management, work design and process improvement are also covered. Staffing, productivity, federal regulations and laws, training and development, cultural diversity and ethics will be examined. Web-based instruction. Prerequisite: HIT 176. (F, O)
Credits 2
Component
LEC

HIT 284 : Healthcare Quality Management

A study of the principles of performance improvement models, utilization management, and risk management in healthcare. Other topics include credentialing, medical staff services, and committees. Laws, accreditation and regulatory standards will be discussed. Software applications will be used. Web-based instruction. Prerequisite: HIT 176. (F, O)
Credits 3
Component
LEC

HIT 285 : Reimbursement Methodologies

A study of healthcare payment systems and their effects on the US healthcare delivery system. Functions and history of each major payment system are studied. Compliance strategies, clinical documentation improvement, fraud surveillance measures, and reporting requirements will be discussed. Ethical standards of practice will be applied and promoted. Organization, analysis and presentation of data using software applications. Web-based instruction. Prerequisites: HIT 176, HIT 184, HIT 185. (S, Su, O)
Credits 3
Component
LEC

HIT 286 : Intermediate Diagnosis Coding

An in-depth study in the application of diagnosis codes to higher-level case scenarios using the current classification systems, including diagnosis and procedure coding reviews. Prospective payment systems and SNOMED will be studied. Coding compliance and ethical coding practice reinforced. Grouping system application and encoder software will be used. Web-based instruction. Prerequisites: HIT 176, HIT 184, HIT 185. (S, Su, O)
Credits 3
Component
LEC

HIT 287 : Computer Applications in Healthcare

Introduction to systems and common software applications and their use in healthcare informatics including data quality, database architecture and design, health information exchange, data storage and retrieval. System evaluation and acquisition and project management will be discussed. Use of PHRs and patient portals will be explored. Web-based instruction. Prerequisite or Corequisite: HIT 176. (F, O)
Credits 3
Component
LEC

HIT 288 : Intermediate Procedure Coding

An in-depth study in the application of procedure coding to higher level case scenarios using current classification systems, including diagnosis and procedure coding reviews. Procedure based payment systems will be studied. Coding compliance and ethical coding practice reinforced. Grouping system application and encoder software will be used. Web-based instruction. Prerequisites: HIT 176, HIT 184, HIT 185. (S, Su, O)
Credits 3
Component
LEC

HIT 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

HIT 297 : Professional Practice II

A virtual and onsite internship following completion of all program courses. Provides hands-on experience with technical skills in an online environment designed to simulate the activities that would be completed in an HIM setting. Certification examination preparation and career preparation are covered. 40 hours are with hands-on experiences are completed at a(an) health information/ health information-related site. Prerequisites: All HIT program courses. (S)
Credits 2
Component
CLN

HIT 299 : Special Topics

A course designed to meet special departmental needs. (F, S, Su)
Credits 1
Component
LEC

Nursing

NURS 100 : Nursing Assistant

The course offers high quality training for those entering the CNA field or using the CNA course as a pathway to a nursing or other Allied Health career. Emphasis is placed on working with clients in the long-term care setting. This course is a blend of both didactic and laboratory instruction. This class focuses on the hands-on skills required of a Certified Nursing Assistant (CNA). Topics include such things as: Personal Hygiene and cares, including handwashing, bathing, bedmaking and assisting with ADL's (Activities of Daily Living), body mechanics, including transferring and mobility, measuring vital signs, assist with nutritional intake. This class is presented in a face-to-face and an asynchronous hybrid format. Upon completion of this course both the didactic and the laboratory portion a student is eligible to complete the certified nurse assistant examination which consists of a written test and skills demonstrations. (F, S)
Credits 4
Component
LEC
Semester Offered
Fall
Spring

NURS 111 : Fundamentals of Nursing

This course is the first in the nursing curriculum. It includes an introduction to trends in nursing today. An emphasis is placed on the role and responsibility of the individual practical nurse as a person in today¿s society and as a professional in the delivery of health care. An introduction to the mission and conceptual framework of the North Dakota State College of Science Nursing Program is included. Nursing principles are taught in the lecture setting. Class discussion begins with basic nursing care and progresses to introduce various disease processes in the biopsychosocial, spiritual, and culturally diverse adult client. Emphasis is placed on the care of the client in the long-term or transitional care setting. Course content will incorporate the nursing process concepts of assessment, planning, intervention, and evaluation. Incorporation of the nursing process will aide in student learning to provide safe and effective care within the clinical setting. Communication techniques, physical assessment, and complex nursing procedures are discussed in lecture, with demonstration/application in the laboratory. The class consists of both scheduled didactic and laboratory sessions to provide students with practical hands-on learning experiences. (F, S)
Credits 5
Component
LEL

NURS 112 : Fundamentals of Nursing Clinical

This clinical course focuses on communication techniques, physical assessment, and complex nursing procedures which are demonstrated, evaluated, and applied in the clinical setting. Nursing process concepts are utilized to provide safe and effective nursing care by helping each client adapt to his/her environment. Emphasis is placed on the disease process, assessments, and interventions utilizing the nursing process. Nursing care of the client in the long-term or transitional care setting are the focus of this clinical experience. (F, S)
Credits 2
Component
LEL

NURS 114 : Role Development

In this course the student is introduced to the roles and responsibilities of the Registered Nurse in providing nursing care to clients according to the RN Scope of Practice. Emphasis is on the role of the professional nurse and provides an overview of the delivery of professional nursing practices and role development. Principles of evidence-based nursing research will be identified to guide the teaching/learning process. Content regarding legal, ethical responsibilities, quality improvement, and historical trends in nursing is provided to direct the practice of the Registered Nurse. Corequisites: NURS 115 and NURS 116. (F)
Credits 1
Component
LEC

NURS 115 : Essentials for Registered Nursing I

This course emphasizes basic nursing concepts and incorporates the development of conceptual skills needed for therapeutic nursing interventions for culturally diverse individuals, families and communities. Focus is placed on providing a solid foundation of technical and interpersonal skills including written, verbal and therapeutic communication. An introduction to the major disease processes, symptomatology, diagnostic testing, medical-surgical nursing interventions, aspects of nutritional and pharmacological therapy to provide nursing care is included. Students will be introduced to evidence-based nursing care and the use of the nursing process to determine and evaluate nursing care. In the laboratory setting, the student will practice nursing procedures including beginning physical health assessment. Corequisites: NURS 114 and NURS 116. (F)
Credits 4
Component
LEC

NURS 116 : Essentials for Registered Nursing I Clinical

This course develops the skills necessary to provide basic safety and infection control in a supervised clinical setting. Using the nursing process, data collection skills are used to obtain basic adult health assessment information that is reflected in the client's plan of care. The student will demonstrate written, verbal and therapeutic communication to deliver client-centered care that respects client differences, values, preferences and needs. Corequisites: NURS 115 and NURS 116. (F)
Credits 1
Component
LAB

NURS 117 : Mental Health Nursing/Clinical

This course includes mental health nursing principles, concepts of mental health psychopathology, and treatment modalities related to the nursing care of clients/families. Building on the foundation of previous nursing courses and the nursing process, concepts of biological-behavioral modalities in psychiatric nursing care will be addressed. The clinical experience of the course provides opportunities with in-patient acute and chronic mental health concerns across the life span. Using the nursing process, opportunities are provided for the student to provide care to culturally diverse individuals with emphasis on stressors that may interrupt the physiological and psychosocial integrity of individuals and families. Prerequisite: Satisfactory completion of the first two semesters of the Associate in Applied Science Registered Nursing curriculum with a minimum of a "C" in each course that applies to the nursing curriculum. Corequisites: NURS 201, NURS 202 and NURS 203. (F)
Credits 3
Component
LAB

NURS 118 : Essentials for Registered Nursing II

Emphasis on medical-surgical nursing concepts and application to evidence-based clinical practice with culturally diverse individuals will be expanded from NURS 115. Disease processes, diagnostic measures, and interventions including nutritional and pharmacological therapies to culturally diverse individuals and families over the lifespan will be presented. The concepts of health promotion/protection and maintenance for the individual and families will be included. In a laboratory setting students will acquire advanced technical skills appropriate for the registered nurse caring for a diverse population in multiple care settings. Building on previous health assessment information, the student will refine and enhance skills necessary to perform a complete health assessment of the individual across the lifespan including variances from expected findings. Prerequisite: Satisfactory completion of the first semester of the Associate in Applied Science Registered Nursing curriculum with a minimum of a "C" in each course that applies to the nursing curriculum. Corequisites: NURS 119 and PHRM 210. (S)

Credits 4

Component

LAB

NURS 119 : Essentials for Registered Nursing II Clinical

This clinical course provides opportunities to conduct comprehensive health assessments with the emphasis to acquire, process and interpret data collected from clients in the medical/surgical setting. Using a collaborative physical, psychological, socio-culture and spiritual approach the student will use the nursing process to plan, implement and evaluate nursing care. The student will use evidence-based research and theoretical concepts to problem solve and critically reason to manage common clinical problems. The student will apply the teaching/ learning process in the reinforcement of education to the client and family. Prerequisite: Satisfactory completion of the first semester of the Associate Applied Science Registered Nursing curriculum with a minimum of a "C" in each course that applies to the nursing curriculum. Corequisites: NURS 118 and PHRM 210. (S)

Credits 2

Component

LAB

NURS 132 : Adult Health Nursing

This course builds on prior learning to gain knowledge of disease processes of the biopsychosocial, spiritual, and culturally diverse adult client. It prepares the student to recognize the symptomatology of major disease processes and changes in the health status of the client within their environment. It will provide knowledge in the methodology of diagnostic testing, medical-surgical interventions along with aspects of nutritional and pharmacological roles in the delivery of nursing care to the client. The emphasis will be placed on nursing care and utilizing the nursing process. Assessment will follow the system utilizing Maslow¿s Hierarchy of Needs and Erickson¿s Developmental Stages to determine plan of care. Application of the teaching-learning process will be emphasized. Problem-solving skills will be utilized in the identification of environmental risks in planning care of the adult client. Using the nursing process as a framework, students explore the collaborative role of the nurse with the adult client, families, and other members of the health care delivery system. (F)

Credits 5

Semester Offered

Fall

NURS 133 : Practical Nursing Clinical

This course provides supervised clinical experience in which the student applies theories in the care of the biopsychosocial, spiritual and culturally diverse maternal, pediatric and adult clients at various developmental levels. The student will utilize nursing process concepts in providing holistic care to the acutely and chronically ill stable patient/client. Students assess developmental and biopsychosocial, spiritual and culturally diverse needs of the clients and family on the health/illness continuum to assist the client in setting goals to adapt to their environment and plan, implement, and evaluate nursing care to meet those goals under the direction of the registered nurse. The student will apply the teaching/ learning process in the education of the client and family. Emphasis is placed on the role and responsibility of the practical nurse in the acute care settings including medical surgical nursing, pediatric and maternal nursing. This clinical will also include a leadership rotation at the end of the program. (F)

Credits 4

NURS 134 : Specialty Nursing Topics (Mental Health, Maternal, and Peds)

This course will build on prior learning to gain knowledge of nursing care in specialty nursing areas such as mental health, pediatrics and the childbearing family. Various concepts of the nursing process will be utilized to facilitate the patient¿s/client¿s adaptation. Assessment will follow the systems approach utilizing developmental stages to determine the nursing care of the biopsychosocial spiritual, culturally diverse patient/ client and family within the health-illness continuum. The teaching-learning process will be utilized to provide the patient/client with the knowledge to prevent, maintain, and restore health status to assist them attain a safe, and therapeutic environment. Using the nursing process concepts as a framework, the students explore the collaborative role of nursing with the client, family and other members of the health care delivery system. (F)

Credits 3

NURS 201 : Complex Nursing Care Concepts I

Concepts that continue to build on evidence-based clinical judgement and skills in clinical management for the level and scope of registered nursing practice are included in the course curriculum. The course will provide a continuation of biological, physical, social and behavioral sciences, including disease process concepts in the health illness continuum. Nutrition and pharmacology are included to plan, implement and evaluate the delivery of complex client-centered care that supports client differences, values and preferences. Prerequisite: Satisfactory completion of the first two semesters of the Associate in Applied Science Registered Nursing curriculum with a minimum of a "C" in each course that applies to the nursing curriculum or successful admission to the LPN to RN ASN program. Corequisites: NURS 202 and NURS 203 or NURS 262. (F)

Credits 4

Component

LEC

NURS 202 : Complex Nursing Care Concepts I Clinical

This course allows the student to use the nursing process to assess, plan, manage and evaluate the provision of professional nursing care including the acute, unstable client in multiple settings. It places emphasis on the use of critical reasoning and skills necessary to collect and interpret data, and use knowledge synthesized from the bio-psychosocial and physiological sciences to evaluate nursing care. Students will explore the interdisciplinary, collaborative role of the nurse to demonstrate technical and interpersonal skills in the management of health promotion and maintenance for the individual and families. Prerequisite: Satisfactory completion of the first two semesters of the Associate in Applied Science Registered Nursing curriculum with a minimum of a "C" in each course that applies to the nursing curriculum or successful admission to the LPN to RN ASN program. Corequisites: NURS 201 and NURS 203 or NURS 262. (F)

Credits 3

Component

CLN

NURS 203 : Preventative Community Health

This course is composed of an overview of community-based nursing practice and the role of the nurse in health promotion for clients and families in their environment. The course will present basic epidemiology concepts, specific concerns related to communities, including environmental threats and cultural influences. The student will utilize teaching/learning principles to support health promotion and disease prevention for clients/families and communities. Preventative health will include concepts of family health, including women's health. Utilizing critical reasoning and the nursing process, the student will research, design and present a community-based project that promotes health within a community setting. Prerequisite: Satisfactory completion of the first two semesters of the Associate in Applied Science Registered Nursing curriculum with a minimum of a "C" in each course that applies to the nursing curriculum. Corequisites: NURS 117, NURS 201 and NURS 202. (F)

Credits 2

Component

LEC

NURS 204 : Maternal Child

This course focuses on the role and scope of practice of the registered nurse in the care of childbearing families and the developing child. Content and learning objectives are designed to utilize critical reasoning and skills necessary to collect and interpret data, use knowledge synthesized from psychosocial and physiological sciences to evaluate nursing care. The student will explore the nurse¿s responsibilities in the provisions of holistic, safe, competent nursing care for the child bearing process and selected study of diseases/disorders affecting women, children and families. Students will explore the inter-disciplinary, collaborative role of the nurse to demonstrate technical and interpersonal skills in the management of health promotion and maintenance of culturally diverse clients including women, infants and children. Prerequisite: Satisfactory completion of the first three semesters of the Associate in Applied Science Registered Nursing curriculum with a minimum of a ¿C¿ in each course that applies the nursing curriculum. Corequisites: NURS 205, NURS 206, NURS 207 and NURS 208. (S)
Credits 4
Component
LEC

NURS 205 : Complex Nursing Care Concepts II

This course focuses on the care of culturally diverse individuals and families experiencing life-threatening, critical events. Advanced medical-surgical concepts and skills will be presented to care for the critical, unstable client in multiple acute care settings. Ethical concepts will be explored in relation to critical events and end of life care. Prerequisite: Satisfactory completion of the first three semesters of the Associate in Science Registered Nursing curriculum with a minimum of a "C" in each course that applies to the nursing curriculum or satisfactory completion of the first semester of the Associate in Science in Nursing curriculum with a minimum of a ¿C¿ in each course that applies to the nursing curriculum. Corequisites: NURS 204, NURS 206, NURS 207 or NURS 263. (S)
Credits 3
Component
LEC

NURS 206 : Complex Nursing Care Concepts II Clinical

This clinical course provides students opportunities to deliver evidence-based care, including application of evidence-based practice in managing acute clinical problems for clients experiencing life-threatening, critical events. The student functions effectively as an interdisciplinary team member exercising goal-setting strategies and problem-solving techniques in the application and management of care that respects client differences, values, preferences and expressed needs, based on scientific evidence. Prerequisite: Satisfactory completion of the first three semesters of the Associate in Applied Science Registered Nursing curriculum with a "C" in each course that applies to the nursing curriculum or the first semester of the Associate in Science in Nursing curriculum with a minimum of ¿C¿ in each course that applies to the nursing curriculum. Corequisites: NURS 204, NURS 205, NURS 207 or NURS 263. (S)
Credits 4
Component
CLN

NURS 207 : Leadership

Comprised of lecture and clinical practice, this course is designed to assist students to develop and apply the knowledge and skills essential to lead and manage nursing care in a dynamic health care system. Areas presented and explored will include leading and managing concepts; including interdisciplinary teamwork and delegation and supervision of other members of the health care team, evidence-based practice, quality improvement processes, initiation and management of change, budget and resource allocation and professional preparedness and responsibility. The student will collaborate using critical reasoning to make informed nursing clinical judgments, effectively define problems, gather and evaluate information, and determine measures to provide optimal health for clients. A preceptorship clinical experience will be assigned by the student's advisor in collaboration with the student in a health care facility. Prerequisite: Satisfactory completion of the first three semesters of the Associate in Applied Science Registered Nursing curriculum with a minimum of a "C" in each course that applies to the nursing curriculum. Corequisites: NURS 204, NURS 205, NURS 206 and NURS 208. (S)
Credits 2
Component
CLN

NURS 208 : Transition to Practice

Course topics will direct the student to plan and develop professional opportunities to transition into practice such as writing a resume, the interview process, professional expectations, relationships, and organization. Prerequisite: Satisfactory completion of the first three semesters of the Associate in Applied Science Registered Nursing curriculum with a minimum of a "C" in each course that applies to the nursing curriculum. Corequisite: NURS 204, NURS 205, NURS 206, and NURS 207. (S)
Credits 1
Component
LEC

NURS 210 : Pharmacology for Nursing

An introduction to drug legislation, sources, forms, major classifications, actions, side effects and nursing assessments and nursing interventions of selected medications. It prepares the student to begin a systematic and continuing study of drug therapy associated with common health problems and provides necessary information for safe administration of medications to the biopsychosocial, spiritual and culturally diverse client.(F, S)
Credits 3

NURS 245 : Maternal Child Nursing

This course builds on prior learning to gain knowledge of the childbearing family, developing child and women's health. The focus is placed on the normal process of childbearing, the biopsychosocial, spiritual, culturally diverse family, the child through the developmental stages, common disorders associated with childbearing process, children's and women's health. Emphasis is on health maintenance and selected study of diseases and disorders affecting women, children, and families. The student will apply the nursing process in providing holistic care to the client, assess developmental and biopsychosocial, spiritual and culturally diverse needs of the client. The student will apply the teaching-learning process in the education of families, women, infants and children. Emphasis is placed on the role and responsibility of the practical nurse in the maternal child settings. This class meets for an average of four hours per week. Prerequisites of this course are satisfactory completion of the first three semesters of the associate in applied science practical nursing curriculum with a minimum of 'C' in each course that applies to the nursing curriculum. Pre or Corequisites: ENGL 120, SOC 110. Corequisites: NURS 246, NURS 250, and NURS 251. (Fourth semester of the curriculum) (F, S)
Credits 4
Component
LEC

NURS 246 : Maternal Child Nursing Clinical

This course provides supervised clinical experience in which the student applies theories in the care of the biopsychosocial, spiritual, culturally diverse childbearing families, women, infants, and children at various developmental levels. The student will apply the nursing process in providing holistic care to the client, assess developmental and biopsychosocial, spiritual, and culturally diverse needs of the client. The student will apply the teaching-learning process in the education of families, women, infants, and children. Emphasis is placed on the role and responsibility of the practical nurse in the maternal child settings. This class meets for 96 hours and approximately two days per week. Prerequisites of this course are satisfactory completion of the first three semesters of the associate in applied science practical nursing curriculum with a "C" in each course that applies to the nursing curriculum. Pre or Corequisites: ENGL 120, SOC 110. Corequisites: NURS 245 , NURS 250, and NURS 251. (Fourth semester of the curriculum) (F, S)
Credits 2
Component
CLN

NURS 250 : Leadership in Practical Nursing

This course is an introduction to the leadership responsibilities of the practical nurse in the long-term care setting and/or clinic. The concepts necessary for effective management are presented in lecture and applied in the various clinical settings. Student learning is facilitated through assignments related to leadership concepts. F,S
Credits 1
Component
LEC

NURS 251 : NCLEX-PN Review

This course is designed to provide a comprehensive review of the current test plan for the NCLEX-PN licensure exam for graduate practical nurses. This course includes content review of fundamental skills and PN program curriculum inclusive of medical-surgical, maternal, pediatric, and psychiatric areas of nursing practice. Focus will also be placed on the client need areas of safe and effective care environment, health promotion and maintenance, psychosocial integrity, and physiological integrity. The review utilizes the nursing process to problem solve using analytic thought. Tips for test taking and success as well as study skills are also included in the review. Written material and computer assisted testing (CAT) will be utilized to reinforce lecture content. Course requirements and means of evaluation include proficiency in test taking skills and successful completion of a practice, comprehensive NCLEX-PN exam. Prerequisites of this course are satisfactory completion of the first three semesters of the associate of applied science degree nursing curriculum with a minimum of a ¿C¿ in each course that applies to the nursing curriculum. Corequisite courses for this course include NURS 245, NURS 246, and NURS 250. (Fourth semester of the curriculum) (F, S)
Credits 1
Component
LEC

NURS 252 : LPN IV Therapy Certification Course

Designed for an LPN to gain the necessary knowledge and skills to perform selected components in the management of intravenous therapy (IV). This course will discuss the application of advanced IV therapy including types of IV devices, various types of IV therapy, complications of IV therapy, venipuncture techniques along with safe administration of intravenous fluids and medications. The course meets the requirements for the North Dakota Board of Nursing IV therapy rules and regulations for the LPN. Course will consist of 30 hours of theory and 4 hours supervised lab/clinical experience. Attendance is mandatory to complete the class. (F, S, Su)
Credits 2

NURS 255 : Role Transition

This course is designed to promote role development and transition of the LPN to the RN. The student is introduced to the definition, roles and responsibilities of the registered nurse in providing nursing care to clients, families, and communities in their environment. Role concepts essential for the RN to provide and manage care as a member of the professions emphasized. The student will utilize critical reasoning as it relates to the assessment, diagnosis, management and evaluation in the provision of professional nursing practice. Principles of evidence based nursing research will be identified to guide the teaching/learning process. Focus is directed to guide practice within the regulatory framework of professional, ethical and legal responsibilities of the registered nurse and encourages a desire for lifelong learning. Corequisites: NURS 256 and NURS 257.
Credits 1
Component
LEC

NURS 290 : Nurse Internship

This course focuses on the application and integration of nursing concepts, assessment skills, and interventions necessary to provide safe and effective holistic nursing care. Internships will occur in a variety of settings with a focus on clinical decision-making and the development of the professional nursing role. Internships will occur with a nurse preceptor in a variety of clinical settings. Students enrolled in this course must be participating in a nurse internship with a qualified healthcare facility. (F, S, Su)
Credits 1

NURS 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

NURS 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Nutrition

NUTR 240 : Principles of Nutrition (and Diet Therapy)

A study of the basic principles of nutrition including: nutrition in the community, the role of nutrients in the maintenance of normal health and nutrition in the life cycle. Also included is the application of these principles to all age groups, and for diet modification during illness. (F, S, Su, O)
Credits 3
Component
LEC

NUTR 243 : Human Lactation

The Human Lactation Practicum is a comprehensive 300-hour clinical experience designed to provide students with hands-on application of the knowledge and skills acquired in Human Lactation I and Human Lactation II. This practicum focuses on developing the practical competencies required for entry-level lactation consultants and fulfills the clinical experience component necessary to sit for the International Board of Lactation Consultant Examiners (IBLCE) exam.
Students will work under the supervision of qualified lactation professionals to gain real-world experience in supporting breastfeeding families across diverse settings, including hospitals, outpatient clinics, and community health programs.
Throughout the practicum, students will refine their communication and counseling skills, ensuring they can confidently guide and educate families about lactation. Emphasis is placed on ethical decision-making, evidence-based practices, and interprofessional collaboration. This practicum is a critical step for students pursuing a career in lactation consulting, bridging classroom education with practical experience to prepare them for professional practice and certification.
Credits 6

NUTR 255 : Eating Disorders

A study of the incidence, cause, diagnosis, and treatment of the major eating disorders: anorexia nervosa, bulimia and compulsive overeating. (F, S, Su)
Credits 1
Component
LEC

NUTR 299 : Special Topics

A course designed to meet special departmental needs. (F, S, Su, O)
Credits 1
Component
LEC

Occupational Therapy Assistant

AH 101 : Science of Success: Allied Health

This is a practical one-credit course that provides the tools and skills necessary to get a strong start
with the transition for new students at NDSCS. This course will introduce students to campus
resources, policies and procedures and cover topics such as time management, study skills, goal
setting, wellness, financial literacy, and professional development. (F, S, O)
Credits 1
Semester Offered
Fall
Spring

OTA 101 : Introduction to Occupational Therapy

This lecture/lab course is designed to introduce the student to the profession of occupational therapy in the context of current and emerging areas of practice. An overview of the history, philosophy, ethics, tenets, and core values of the profession is presented. Students are introduced to the practice framework, activity analysis, the concepts of theory, models, frames of references and client-centered practice. (F-first year)
Credits 3
Component
LEC

OTA 102 : Disability Awareness

This lab class provides student with practice in organizing and presenting information about various disabilities to the general public. In class activities include guest speakers and discussions. Students may also have the opportunity to plan and carry out structured activities with members of the community in the classroom. Activities outside the classroom may include puppet shows to community groups and presentations to health classes. Corequisites: All fall semester first year courses. (F-first year)
Credits 1
Component
LAB

OTA 105 : Medical Terminology

This online course is a study and practical application of medical vocabulary. Includes recognition, analysis, definition, spelling, pronunciation, and combination of medical terms from prefixes, suffixes, roots, and combining forms. In this course, medical terms related to all major body systems will be covered with emphasis on medical vocabulary used in rehabilitation and occupational therapy. Corequisites: All fall semester first year courses. (F-first year)
Credits 2
Component
LEC

OTA 110 : Introduction to Muscle Function

This course is designed to assist the student to explore and explain how movement occurs from a musculoskeletal orientation. The structure of the human body in relation to joints, trunk, and extremities (with emphasis on the upper extremity) is examined and analyzed in terms of functional movement required for all areas of occupation. Classroom and lab experiences will help the student gain an understanding of what normal movement is and what affects it. Principles of exercise are introduced and manual muscle testing and goniometric measurement are discussed and practiced. Corequisites: BIOL 220/220L and all fall semester first year courses. (F-first year)
Credits 2
Component
LEC

OTA 111 : Therapeutic Media

This course lecture/lab covers the role of the OTA in the therapeutic use of self in context of roles and performance patterns throughout the lifespan. Students are introduced to the theories related to occupation, Occupational Therapy Practice Framework, activity analysis and grading and adaptation of tasks. Students will learn about group dynamics, group process, learning styles, teaching process, expected roles and student self analysis. Students will practice basic techniques and procedures used in media. Prerequisites: All fall semester first year courses. Corequisites: All spring semester first year courses. (S-first year)

Credits 1

Component

LEC

OTA 112 : Documentation

This lecture/lab course is an introduction to medical note writing. Documentation requirements for both the clinical and school-based areas of occupational therapy practice are emphasized. AOTA guidelines, legal and reimbursement guidelines and an analysis of documentation formats are included. Written and oral communication skills including mechanics in note writing such as spelling and grammar as well as proper word usage are practiced. Uniform terminology, practice framework and the impact of OT models and frames of references are also addressed. Prerequisites: All fall semester first year courses. Corequisites: All spring semester first year courses. (S-first year)

Credits 1

Component

LEC

OTA 113 : Physical Disabilities I: Theory-Practice

This course is designed to provide students with an understanding of the occupational therapy process in physical disabilities resulting from illness, disabling conditions, or injury. This lecture/lab course will focus on how occupation forms the core of the profession. It will prepare students to apply theoretical treatment approaches to enhance occupational performance of persons with these types of physical conditions. Evaluation tools and treatment techniques applied to specific diagnoses will be studied and practiced. Theories and practice models/frames of references are examined and applied to guide the evaluation and intervention process. Orthotic and adaptive devices utilized with specific diagnosis will be explored. Laboratory activities reflect current and emerging intervention processes and techniques. Prerequisites: All fall semester first year courses. Corequisites: All spring semester first year courses.(S-first year)

Credits 3

Component

LAB

OTA 114 : Pediatrics I - Theory and Practice

This course lecture/lab is designed to enable the students to investigate and understand the prevalent disabilities occurring during the early years (birth to 21 years of age) and to begin to implement occupational therapy treatment for a variety of disabilities. Students will also study the theories and clinical techniques used to effectively implement occupational therapy treatment techniques in pediatric settings. Evaluation tools, treatment techniques, documentation and approaches applied to specific diagnoses will be examined and practiced. A basic overview of sensory-integrative development, handwriting and adaptive equipment will be addressed. Students will discuss how occupation is the core of the profession and guides treatment. Prerequisites: All fall semester first year courses. Corequisites: All spring semester first year courses. (S-second year)

Credits 2

Component

LAB

OTA 115 : Behavioral Health: Theory/Practice-Children and Adolescents

In this one semester online course students learn about mental health issues that impact the child/adolescent client's occupational performance. Throughout the semester, students will develop treatment plans and activity plans to help children/adolescents achieve functional outcomes within areas of occupation. One Friday/Saturday face-to-face classroom session creates the environment for students to observe and practice occupational therapy assessments and intervention strategies. Prerequisites: All fall semester first year courses. Corequisites: All spring semester first year courses. (S-first year)

Credits 2

Component

LEC

OTA 151 : Fieldwork Level I-Experience I

Designed to provide the student with exposure to a variety of practice settings, personnel, and clients across the life span. Using psychosocial/behavior health approcal observation and documentation skills are practiced, as well as participation in client services per discretion of the clinical supervisor/faculty. Students engage in a variety of activities in psycholocial settings over spring semester (40 hrs). Prerequisites: All fall semester first year courses. Corequisites: All spring semester first year courses. (S, first year)

Credits 1

Component

FLD

OTA 160 : OTA Refresher Course

This OTA course is only open to students who have partially completed the program and plan on re-entering it. This online course will provide the student with learning activities related to the profession of occupational therapy. The OT Practice Framework will be summarized as a framework for delivery of occupational therapy services. There will also be a review of various occupational therapy practice areas, frames of references, AOTA Code of Ethics, Standards of Practice, and the Core Values of the profession. This course will address clinical reasoning, evidence-based practice, and activity analysis. Review of medical terminology and muscle function will be included. Course content may be tailored to meet the needs of each student. (O, F, S)
Credits 2
Component
LEC

OTA 192 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

OTA 213 : Physical Disabilities II: Theory and Practice

This course is a continuation of Physical Disabilities I and is designed to provide students with an understanding of the occupational therapy process in physical disabilities resulting from illness, disabling conditions or injury. This lecture/lab course will focus on how occupation forms the core of the profession. It will prepare students to apply theoretical treatment approaches to enhance occupational performance of person with these types of physical conditions. Evaluation tools and treatment techniques applied to specific diagnoses will be studied and practiced. Theories and practice models/frames of references are examined and applied to guide the evaluation and intervention process. Orthotic and adaptive devices utilized with specific diagnoses will be explored. Laboratory activities reflect current and emerging intervention processes and techniques. Prerequisites: All first year courses. Corequisites: All fall semester second year courses. (F-second year)
Credits 2
Component
LEC

OTA 214 : Pediatrics II: Theory and Practice

This course is designed to enable the students to investigate and understand the prevalent disabilities occurring during the early years (birth to 21 years of age) and to begin to implement occupational therapy treatment for a variety of disabilities. Students will also study the theories and clinical techniques used to effectively implement occupational therapy treatment techniques in pediatric settings. Evaluation tools, treatment techniques, documentation and approaches applied to specific diagnoses will be examined and practiced. A basic overview of sensory-integrative development, handwriting and adaptive equipment will be discussed. Students will discuss how occupation is the core of the profession and guides treatment. Prerequisites: All first year courses. Corequisites: All fall semester second year courses. (F-second year)
Credits 3
Component
LEC

OTA 215 : Behavioral Health: Theory/Practice-Adults

In this one-semester online course, students learn about mental health issues that impact the adult client¿s occupational performance. Throughout the semester, students will develop treatment plans and activity plans to help adult clients achieve functional outcomes within areas of occupation. One Friday/Saturday face-to-face session creates the environment for students to observe and practice occupational therapy assessments and intervention strategies. Prerequisites: All first year courses. Corequisites: All fall semester second year courses. (F-second year)
Credits 3
Component
LAB

OTA 216 : Professional Issues

This course is designed to enhance the OTA's participation in basic support services in occupational therapy, as well as the legal , ethical, and political influences that affect the delivery of occupational therapy services. Topics addressed include leadership and management, health care team role delineation, reimbursement and documentation, credentialing and licensure, ethical standards of practice, quality assurance, research and the use of evidence-based practice in OT. Prerequisites: All first year courses. Corequisites: All fall semester second year courses. (F-second year)
Credits 2
Component
LEC

OTA 217 : Simulation Lab

This course is designed to address experiential learning and development of occupational therapy entry-level practice competencies. It provides students with opportunities to practice skills and apply theory to develop competency in OT interventions and modalities in a safe didactic environment. Simulation methods may include computer-based case studies, part-task trainers, standardized clients, mannequins, virtual reality and interdisciplinary collaboration. (F-second year)
Credits 1
Component
LAB

OTA 218 : Aging

This course provides a concentrated focus on occupational therapy for adults with physical and cognitive deficits, contexts, and client factors. This course examines the basic concepts of aging including theories, trends and policies. Students will study the normal aging process, physical, psychosocial and cognitive dysfunctions common to the elderly. Students will participate in the OT process including screening, evaluation, intervention planning, therapeutic interventions and discharge/follow-up with the geriatric population in the context of occupational performance in order to promote health and prevent disease. This course examines community mobility, aging in place and explores alternative living situations for the geriatric client. The importance of patient, family significant other/caregiver education and documentation to ensure reimbursement in today¿s health care environment is emphasized. Prerequisites: All first year courses. Corequisites: All fall semester second year courses. (F - second year)
Credits 2
Component
LAB

OTA 219 : Community Models of Occupational Therapy Practice

This course introduces the student to emerging areas of occupational therapy practice in the community. These emerging areas of practice are, but not limited to ergonomics, low vision, driving rehab, design and home modifications, and health and wellness. Assessment and intervention strategies will be addressed. Prerequisites: All first year courses. Corequisites: All fall semester second year courses. (F - second year)
Credits 2
Component
LEC

OTA 220 : Teaching Assistant: Medical Terminology

Optional course which requires student to assist in OTA 105 Medical Terminology. Duties to include test proctoring, organizing review session and other duties as assigned. Prerequisite: College level medical terminology course equivalent to OTA 105. (F)
Credits 2
Component
LEC

OTA 241 : Teaching Assistant: Media

Optional course which requires student to assist in media lab supervision, demonstrate techniques, participate in classroom maintenance and carry out other duties as assigned. (S)
Credits 2
Component
LEC

OTA 252 : Fieldwork Level I - Experience II

This course is designed to enhance the OTA¿s participation in basic support services in occupational therapy, as well as the legal, ethical and supervisory issues in professional practice. Impacts of the health care delivery system on OT practice will be addressed. Prerequisites: All first year courses. Corequisites: All fall semester second year courses. (F-second year)
Credits 1
Component
FLD

OTA 253 : Orientation to Fieldwork Level II

This course is designed to assist in the transition from the academic setting to clinical practice. Content includes, but is not limited to, supervision styles, stress management and professional behavior. Policies governing fieldwork will be emphasized. This course reviews the OTA's role in the delivery of OT services for disabled individuals in a variety of settings. This course is designed to enhance student's personal and work behaviors in a small group atmosphere. Students will share experiences from Level I fieldwork. Emphasis is on group leadership and facilitation, development of communication and observation skills, and use of self as a therapeutic self. Prerequisites: All first year courses. Corequisites: All fall semester second year courses. (F - second year)
Credits 1
Component
LAB

OTA 254 : Fieldwork Level II: Experience I

Supervised experience of eight weeks or equivalent under the direction of qualified occupational therapy personnel in approved fieldwork sites. The students will work with clients with a variety of physical disabilities, psychosocial dysfunction or developmental delays or disabilities across the life span. The students will be expected to use knowledge and skills acquired in the academic setting to evaluate and treat clients and document according to prescribed regulations. The students will further be expected to conduct themselves in a professional manner in accordance with AOTA Code of Ethics. Prerequisites: Completion of all academic requirements and Level I Fieldwork. (S-second year)
Credits 6
Component
FLD

OTA 255 : Fieldwork Level II: Experience II

Supervised experience of eight weeks or equivalent under the direction of qualified occupational therapy personnel in approved fieldwork sites. This experience follows Experience I and in a setting that provides therapy to a different population of clients than in the first experience. Client evaluation, treatment implementation and documentation will be expected of the students. The students will further be expected to conduct themselves in a professional manner in accordance with AOTA Code of Ethics. Prerequisites: Completion of all academic requirements and Level I Fieldwork. (S-second year) *Students must complete two Level II Fieldwork Experiences to be eligible for graduation.
Credits 6
Component
FLD

OTA 256 : Seminar

A culminating seminar designed to aid the transition from student to practitioner. This course provides opportunities for application and integration of academic course work used during fieldwork experiences. Students share experiences of being a part of the OT service team and reflect on how the role of occupational therapy and the occupational therapy assistant are demonstrated and delineated in the various fieldwork experiences. The importance of continued lifelong learning and professional development is stressed. Students complete a practice national certification exam and review the application process for the examination. After completion of at least one Level II Fieldwork Experience students are eligible to take this class. (S-second year)
Credits 1
Component
LEC

OTA 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

OTA 295 : Independent Study

A study or in-depth analysis of a selected topic related to Occupational Therapy. This course may be repeated with a new topic. Must have a faculty advisor for project. (F, S)
Credits 1
Component
LEC

OTA 299 : Special Topics

College class in process of development designed to meet student needs or interests or to utilize particular faculty resources. (F, S)
Credits 1
Component
LEC

Pharmacology

PHRM 123 : Pharmacology for Pharmacy Technicians I

This course focuses on the basic concepts of pharmacology, including drug uses, sources, major therapeutic classifications of medications and actions of drugs including the common adverse reactions of the major therapeutic classifications. This course will cover autonomic and central nervous system drugs, the drugs affecting the musculoskeletal system and ophthalmic and otic system drugs. The rest of the body systems will be covered in PHRM 124. Prerequisites and/or Corequisites: BIOL 115, PRMT 101, PRMT 102, and PRMT 111. (F, O)
Credits 2
Component
LEC

PHRM 124 : Pharmacology for Pharmacy Technicians II

This course focuses on the basic concepts of pharmacology, including drug uses, sources, major therapeutic classifications of medications and actions of drugs including the common adverse reactions of the major therapeutic classifications. This course covers the cardiovascular system, GI and respiratory systems, endocrine system and the immune systems. Prerequisites and/or Corequisites: BIOL 115, PRMT 101, PRMT 102, PRMT 111, PHRM 123. (F, O)
Credits 2
Component
LEC

PHRM 192 : Experimental Course

Credits 1
Component
LEC

PHRM 205 : Pharmacology for Nursing

An introduction to drug legislation, sources, forms, major classifications, actions, side effects and nursing assessments and nursing interventions of common medications. It prepares the student to begin a systematic and continuing study of drug therapy associated with common health problems and provides necessary information for safe administration of medications to the biopsychosocial, spiritual and culturally diverse client. Prerequisites of this course are satisfactory completion of the first semester of the NDSCS nursing curriculum. (Second semester of the curriculum) (F, S)
Credits 3
Component
LEC

PHRM 207 : Pharmacology for the Elderly

The course will examine the effects of aging on the geriatric individual. These changes will be investigated in relation to their impact on pharmacodynamics and pharmokinetics. Students will examine and analyze medication induced problems and the use of chemical restraints. This course is designed for the student who has successfully completed a basic pharmacology course.
Credits 2
Component
LEC

PHRM 210 : Pharmacology for Registered Nursing

This course presents education on the concepts and principles of pharmacology and establishing a knowledge base for major drug classifications. A comprehensive approach to the clinical application of drug therapy through the use of the nursing process will assist the registered nurse in role development in regards to medications. Nursing assessments, nursing diagnosis, goals, interventions/implications, and evaluation relative to client care and education for medication administration will be included. Prerequisite: Satisfactory completion of the first semester of the Associate in Applied Science Registered Nursing curriculum with a minimum of a "C" in each course that applies to the nursing curriculum. Corequisites: NURS 118 and NURS 119. (S)
Credits 3
Component
LEC

PHRM 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

PHRM 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Pharmacy Technician

AH 101 : Science of Success: Allied Health

This is a practical one-credit course that provides the tools and skills necessary to get a strong start
with the transition for new students at NDSCS. This course will introduce students to campus
resources, policies and procedures and cover topics such as time management, study skills, goal
setting, wellness, financial literacy, and professional development. (F, S, O)
Credits 1
Semester Offered
Fall
Spring

PRMT 101 : Orientation to Pharmacy Practice

Students will explore the unique role of the pharmacy technician in various health care settings such as community and hospital practices as well as some non-traditional roles. In addition to practice sites, students will be introduced to the laws that govern pharmacy practice as well as the common abbreviations used in various practice settings. The various dosage forms and routes of common medication administration will be additional topics in this course. (F, O)
Credits 1
Component
LEC

PRMT 102 : Pharmaceutical Calculations

Students will demonstrate the ability to perform pharmaceutical calculations. Emphasis will be placed on basic computations, use of measuring tools, dosage computations, compounding calculations and solution preparation. Topics covered include dosage calculations including pediatric doses, conversions between systems, ratio and proportion, dilution and concentration, milliequivalents, units and intravenous flow rates, and compounding sterile and extemporaneous products. Prerequisite: ACT math score of 19 or completion of ASC 092. (F) (O)
Credits 2
Component
LEC

PRMT 111 : Pharmacy Law and Ethics

This course will focus on Pharmacy Law, state and federal as well as the ethical concepts important in healthcare. Topics will include FDA from 1938 to the present, CSA and the DEA, and ethical theories and applications including autonomy and confidentiality. Prerequisites: Successful completion of PRMT 101. (F, O)
Credits 1
Component
LEC

PRMT 112 : Pharmacy Records and Inventory Management

This course is designed to introduce the student to ordering, inventory control and record keeping in a retail pharmacy. The student will be exposed to merchandising and pricing both prescriptions and OTC merchandise. The student will also be exposed to third party billing, rotation of stock and medication returns, Medicaid and Medicare. Prerequisites: PRMT 101, PRMT 102, PRMT 111. (S)(O)
Credits 1
Component
LEC

PRMT 216 : IV and Sterile Product Preparation

This course will focus on preparing the student technician for the preparation of all IV aseptic products. Including, but not limited to IV piggyback medications, large volume IV's, total parenteral nutrition and chemotherapy agents. The student will have appropriate knowledge, skill and demonstration of aseptic technique, measuring medications, calculating drug amounts, laminar flow hood cleaning and appropriate professional garb requirements. This is a lecture course. Prerequisites: PRMT 101, PRMT 102, PRMT 111, PHRM 123, and PHRM 124. Corequisite: PRMT 216. (S)(O)
Credits 1
Component
LEC

PRMT 216L : IV and Sterile Product Preparation Lab

This course will focus on preparing the student technician for the preparation of all IV aseptic products. Including, but not limited to IV piggyback medications, large volume IV's, total parenteral nutrition and chemotherapy agents. The student will have appropriate knowledge, skill and demonstration of aseptic technique, measuring medications, calculating drug amounts, laminar flow hood cleaning and appropriate professional garb requirements. This is a lab course. Prerequisites: PRMT 101, PRMT 102, PRMT 111, PHRM 123, and PHRM 124. (S)(O)
Credits 1
Component
LAB

PRMT 217 : Pharmacy Practice

During this course students will master the concepts needed to interpret, dispense, label and maintain patient profiles in various pharmacy settings. Topics included in this course are communication skills, abbreviations, dosage calculations, policies and procedures of The Joint Commission, inventory control, medication safety and medication reconciliation. Students will master the top 200 drugs as well as the commonly used over-the-counter medications. This is a lecture course. Prerequisites: PRMT 101, PRMT 102, PRMT 111, PHRM 123 and PHRM 124. (S)(O)
Credits 2
Component
LEC

PRMT 217L : Pharmacy Practice Lab

Students will master the skills needed to prepare medication orders and prescription orders for patient use and dispensing. This is a laboratory class; students will utilize computer software for retail and institutional settings as well as manual preparation of pharmaceutical products. Corequisite: PRMT 217. Prerequisites: Successful completion of PRMT 101, PRMT 102, PHRM 123 and PHRM 124. (S)(O)
Credits 1
Component
LAB

PRMT 221 : Chemical/Physical Pharmacy

In this course students will be introduced to the concepts of extemporaneous product preparation, weighing, measuring of solid and liquid products, labeling and dispensing of these products and the chemical concepts required for their preparation. Students will be introduced to the concepts involving stability and compatibility of various preparations. Prerequisites: Successful completion of PRMT 101, PRMT 102, PHRM 123 and 124. Corequisite: PHRM 221L. (S)
Credits 1
Component
LEC

PRMT 221L : Chemical/Physical Pharmacy Lab

This class is the laboratory class for PHRM 221. In this course the student technician will master the skills needed to interpret, weigh and measure ingredients specially ordered by the physician for extemporaneously compounded products, and dispense these compounds in accordance to approved pharmacy practice standards. Prerequisites: Successful completion of PHRM 101, PHRM 102, PHRM 123 and 124. Corequisite: PHRM 121. (S)
Credits 1
Component
LAB

PRMT 231 : Pharmacy Internship.-Community Based

Students who have completed all of the course work in the Pharmacy Technician program qualify for this course. Students will participate for a minimum of 120 hours in a licensed community pharmacy setting, supervised by a registered pharmacist. The duties and tasks to be performed will be pre-determined based on classroom instruction to reinforce competencies. The duties and tasks to be performed will be agreed upon by the faculty, student and supervising pharmacist to guarantee learning. Performance activities are to include: customer relations; following workplace rules, procedures, ethics and legal parameters; processing of prescriptions including compounding, counting and pouring, packaging and labeling; inventory and stock operations including control, ordering and pricing, data entry and record-keeping. Prerequisites: Successful completion of all core curriculum courses with a grade of "C" or better. (S)
Credits 3
Component
FLD

PRMT 241 : Pharmacy Internship-Hospital Based

Students who have completed all of the course work in the Pharmacy Technician program qualify for this course. Students will participate for a minimum of 120 hours in a licensed institutional (hospital) pharmacy setting, supervised by a registered pharmacist. Students will be assigned activities and will be evaluated in the following areas: compliance with the institution's policies and procedures, perform billing operations, use of drug dispensing systems, compound, package and label medications, process data on electronic systems, prepare sterile products, use of proper procedures in working with controlled substances, inventory maintenance, use of technology including automated dispensing machines and record-keeping. Prerequisites: Successful completion of all courses with a grade of "C" or better. (S)
Credits 3
Component
FLD

Aviation Maintenance Technology

AIR 101 : Flight Controls

Students learn the flight control systems for fixed wing and rotary wing aircraft, rotorcraft aerodynamics, rotor drive system vibration and inspection, and the procedures of flight control rigging. They identify and mitigate risks associated with working around helicopter blades during ground operations, the use and interpretation of cable tensiometers, and the selection and use of lifting equipment used to move aircraft components into place for assembly. Students remove and reinstall a primary flight control surface, explain procedures to track and balance a rotor system, and adjust push-pull flight control systems.
Credits 2
Component
LEL

AIR 102 : Metallic Structures

Students identify different types of sheet metal, rivets, hardware, and types of airframe structures. They will identify and mitigate risks associated with sheet metal repair practices and use of electrical welding equipment. Students will install and remove solid rivets, develop layout patterns for bending and cutting, calculate rivet layouts, prepare and install a repair patch, and fabricate aluminum parts in accordance with a drawing.
Credits 3
Component
LEL

AIR 102 : Metallic Structures

Students identify different types of sheet metal, rivets, hardware, and types of airframe structures. They will identify and mitigate risks associated with sheet metal repair practices and use of electrical welding equipment. Students will install and remove solid rivets, develop layout patterns for bending and cutting, calculate rivet layouts, prepare and install a repair patch, and fabricate aluminum parts in accordance with a drawing.
Credits 3
Component
LEL

AIR 103 : Non-Metallic Structures

Students learn the principles of wooden airframe construction, fabric coverings and repair procedures, types of composite materials, and the storage and handling of thermoplastics. They will identify and mitigate the risks associated with non-metallic repairs and the proper storage of hazardous materials. Students will clean and repair acrylic windshields, prepare a composite surface for painting, and perform a lay up for a repair to a composite panel.
Credits 2
Component
LEL

AIR 104 : Hydraulic and Pneumatic Systems

Students will understand the operating principles of hydraulic and pneumatic systems, servicing requirements, and maintenance procedures. They will assess and mitigate risks associated with high pressure gases and fluids, the storage and handling of hydraulic fluids, and prevention of cross-contamination. Students will install seals in a hydraulic component, remove and install a selector valve, remove, clean, and install a hydraulic system filter, and service a hydraulic system reservoir.
Credits 2
Component
LEL

AIR 105 : Aircraft Electrical Systems

Students will learn about alternators and generators, inverter systems, aircraft lighting systems, soldering procedures, and aircraft battery troubleshooting and maintenance. They will identify and mitigate risks associated with the maintenance of energized circuits, routing and securing wires and wire bundles, effects of soldering, and maintenance in areas containing aircraft wiring. Students will perform aircraft wiring and splicing, assemble an aircraft electrical connector, solder aircraft wiring, troubleshoot an airframe electrical circuit, install electrical wiring, switches and protective devices, and perform continuity tests.
Credits 2
Component
LEL

AIR 106 : Landing Gear

Students will learn about fixed and retractable landing gear systems and components, position and warning system inspections and checks, brake assembly servicing and inspection, and alternative landing gear systems. They will identify and mitigate the risks associated with high pressure strut and system disassembly, operation of retractable landing gear, and safe tire and wheel practices. Students will inspect and service landing gear, jack an aircraft, troubleshoot a landing gear retraction check, remove and replace brake linings, inspect tires for defects, and troubleshoot landing gear warning systems.
Credits 2
Component
LEL

AIR 107 : Aircraft Fuel Systems

Students will learn about fuel system components, characteristics of fuel types, and requirements of fuel system maintenance. They will identify and mitigate the risks associated with aircraft fueling, fuel spills, and fuel quantity indication. Students will inspect, troubleshoot, and repair a fuel system component, inspect a fuel selector valve, drain a fuel system sump, and remove and install a fuel quantity transmitter.
Credits 2
Component
LEL

AIR 108 : Environmental Systems

Students will learn about pressurization systems, bleed air heating, aircraft instrument cooling, exhaust heat exchangers, vapor-cycle systems, and air-cycle systems and components. They will identify and mitigate risks associated with oxygen system maintenance, recovery of vapor-cycle refrigerant, and maintenance of combustion heaters. Students will inspect, purge, and service an oxygen system, locate and troubleshoot a combustion heater, and clean and inspect an outflow valve for a pressurization system.
Credits 2
Component
LEL

AIR 109 : Ice, Rain, Water & Waste Systems

Students will learn about aircraft icing causes and effects, ice detection systems, de-ice systems, potable water systems, and lavatory waste systems and components. They will identify and mitigate risks associated with lavatory servicing, storage and handling of deicing fluids, and the selection and use of cleaning materials for heated windshields. Students will inspect and operationally check pitot-static anti-ice system, inspect deicer boots, and troubleshoot an electrically-heated pitot system.
Credits 2
Component
LEL

AIR 110 : Airframe Fire Protection

Students will learn the types of fires and aircraft fire zones, overheat and fire detection warning systems, smoke and carbon monoxide detection systems, and fire extinguishing agents. They will identify and mitigate the risks associated with the maintenance on circuits associated with fire bottle squibs, the use of PPE when working on or testing fire extinguishing systems, and the health risks of various fire extinguishing agents. Students will troubleshoot a fire detection system, inspect a carbon monoxide detector, perform an operational check of a fire protection system, and inspect a continuous-loop type fire detection system.
Credits 2
Component
LEL

AIR 111 : Aircraft Instrument Systems

Students will learn about the annunciator indicating systems, pressure indicating instruments, position indication sensors, the pitot-static system, built in test equipment, and head-up displays. They will identify and mitigate risks associated with actions in response to a reported intermittent warning or caution annunciator light illumination, and performing maintenance on equipment identified as electrostatic-sensitive. Students will perform a pitot-static test, remove and install instruments, inspect a magnetic compass, adjust gyro/instrument air pressure/vacuum, and explain the adjustment procedures for a stall warning system.
Credits 2
Component
LEL

AIR 112 : Communication and Navigation

Students will learn radio operating principles, component location and operation, types of antennas, autopilot theory and operation, radio altimeter theory, and Automatic Dependent Surveillance-Broadcast (ADS-B) theory. They will identify and mitigate risks associated with ELT test procedures, wire harness routing, mounting antennas, and electro-static discharge. Students will check VHF communications for operation, inspect a coaxial cable installation for security, inspect static discharge wicks for security and resistance, and check an ELT for operation.
Credits 2
Component
LEL

AIR 113 : Airframe Inspection

Students will learn inspection requirements under 14 CFR part 91, maintenance record keeping requirements, airworthiness directive compliance, the use of FAA-approved data, and compliance with service letters, service bulletins, and instructions for continued airworthiness. They will identify and mitigate risks associated with performing radiographic inspections, interpretation of inspection instructions, and maintenance record documentation. Students will perform an airframe inspection including a records check, enter results of a 100-hour inspection in a maintenance record, and record findings found during inspection.
Credits 2
Component
LEL

GEN 101 : Human Factors

Students will learn about the safety culture and organizational factors of the aviation industry. They will learn to assess and mitigate risks associated with the reporting of hazards, fatigue management, and condition-monitoring technologies. Students will demonstrate the ability to file a malfunction or defect report and locate information regarding human factors errors.
Credits 1
Component
LEL

GEN 102 : Mathematics

Students will review basic mathematic functions and calculate the areas and volumes of various geometrical shapes. They will solve algebraic equations and identify the appropriate process to solve various mathematical problems faced as an aircraft technician. Students will demonstrate the ability to calculate torque when converting from inch-pounds to foot-pounds, compute the area of a wing, and compute compression ratio.
Credits 1
Component
LEL

GEN 103 : Physics for Aviation

Students will learn Bernoulli¿s Principle, basic fluid mechanics, Newton¿s Laws of Motion, and the theory of aerodynamics. They will identify and assess changes in aircraft and engine performance due to density altitude, and the aerodynamic effects a repair can have on a flight surface. Students will demonstrate the ability to convert temperature units, determine density and pressure altitudes, calculate physical forces, and compute the various types of mechanical advantage.

Credits 1
Component
LEL

GEN 104 : Electronic Fundamentals

Students will learn electrical laws and theories, the different types of circuits and components, and about electrical measurement tools, principles, and procedures. They will identify and mitigate risks associated with taking electrical measurements, handling and inspecting batteries, and the safe handling of high-voltage circuits.
Credits 2
Component
LEL

GEN 105 : Aircraft Drawings

Students will learn to read aviation drawings, blueprints, charts, graphs, and system schematics. They will learn to interpret plus or minus tolerances as depicted on aircraft drawings, specifications for design of alterations and repairs, and the applicability of the drawing or schematic to a particular aircraft by model and serial number. Students will draw a sketch of a repair, interpret dimensions from aircraft drawings, and identify changes on an aircraft drawing.
Credits 1
Component
LEL

GEN 106 : Materials and Processes

Students will identify materials commonly used in aircraft and their general application. They will learn the characteristics of an acceptable weld, suitability and compatibility of materials, and the operation of precision measuring tools. Students will install safety wire, fabricate a cable assembly, and distinguish between heat-treated and non-heat-treated aluminum alloys.
Credits 1
Component
LEL

GEN 107 : Regulations & Mechanic Privileges

Students will learn the limitations of a mechanic certificate, how to make logbook entries for return-to service, and the purpose of various FAA forms. They will assess the completeness and accuracy of documentation, utilize Safety Data Sheets, and identify the warnings, cautions, and notes in maintenance and operational manuals. Students will complete an FAA Form 337, review aircraft maintenance records, determine the applicability of Airworthiness Directives, and determine approved replacement parts for installation on a given aircraft.
Credits 1
Component
LEL

GEN 108 : Inspection Tools and Techniques

Students will learn the various inspection methods and processes to complete aircraft inspection programs including progressive, 100-Hour, annual, and other FAA-approved inspections. They will identify the appropriate inspection method required for a task, risks associated with magnetic particle inspection, and how to identify properly calibrated equipment. Students will perform a dye penetrant inspection, perform a tap test on a composite component, and perform various visual inspections.
Credits 1
Component
LEL

GEN 109 : Cleaning and Corrosion Control

Students will learn corrosion theory and causation, types of corrosion, aircraft cleaning procedures, and about preparation for protective and finishing materials. They will assess and mitigate risks associated with the application of paints, solvents, and cleaning processes. Students will perform a corrosion inspection, prepare a metal surface for painting, layout and mask a surface for paint, and determine location and size requirements for aircraft registration numbers.
Credits 2
Component
LEL

GEN 110 : Aircraft Weight and Balance

Students will learn the purpose of aircraft weight and balance, the procedure for calculating the arm, moment, and center of gravity (CG) of an aircraft. They will identify risks associated with jacking an aircraft, the aerodynamic effect of CG that is forward or aft of CG limits, and the aerodynamic and performance effects of weight in excess of limits. Students will perform weight and balance calculations, calculate the moment of an item of equipment, identify tare items, revise an aircraft equipment list after an equipment change, and determine an aircraft¿s CG range using aircraft specifications.
Credits 1
Component
LEL

GEN 111 : Fluid Lines & Fittings

Students will learn about tubing and hose materials, applications, sizes and fittings. They will assess and mitigate risks associated with hazardous fluids, high pressure systems and components, installation configurations, and the use of safety equipment. Students will fabricate and install a rigid line, fabricate a flexible hose, and fabricate a flareless-fitting-tube connection.
Credits 1
Component
LEL

GEN 112 : Ground Operations and Services

Students will learn aircraft towing procedures, fueling/defueling procedures, airport operation area procedures, and various aspects of Line Maintenance Servicing. They will identify and mitigate risks associated with connecting external power equipment, ground services, and engine starting and general troubleshooting safety during engine operation. Students will perform a foreign object damage (FOD) procedure, use appropriate hand signals for aircraft movement, and inspect an aircraft fuel sample for contamination.
Credits 1
Component
LEL

POW 101 : Engine Electrical Systems

Students will learn about starter generators, voltage regulators and overvoltage and overcurrent protection, DC and AC generation systems, and the procedure for determining the correct electrical cable/wire size needed for specific applications. They will identify and mitigate risks associated with maintenance on energized aircraft systems, routing and security of wiring near flammable fluid lines, and polarity when performing electrical system maintenance. Students will replace an engine driven generator or alternator, troubleshoot generating systems, inspect an electrical cable, and fabricate a bonding jumper.
Credits 2
Component
LEL

POW 102 : Engine Instrument Systems

Students will learn about engine speed indicating systems, the electronic centralized aircraft monitor, engine instrument range markings, and pressure and temperature instruments. They will identify and mitigate risks associated with damage to instruments and indicating systems, and engine instrument calibration. Students will troubleshoot an engine oil temperature/pressure instrument system, identify components of an electric tachometer system, perform resistance measurements of thermocouple indication system, and inspect a manifold pressure system.
Credits 2
Component
LEL

POW 103 : Lubrication Systems

Students will learn the types, grades, and uses of engine oil, the lubrication system components and operation, oil system types, and inspection, servicing, and maintenance requirements. They will identify and mitigate risks associated with the mixing of oils, and the handling, storage and disposal of lubricating oils. Students will inspect an oil cooler and lines, perform oil pressure adjustment, replace an oil system component, and troubleshoot an engine oil pressure malfunction.
Credits 2
Component
LEL

POW 104 : Reciprocating Engines

Students will learn the types of reciprocating engines, internal combustion engine principles, engine storage and preservation, causes and effects of induction system icing, superchargers and controls, carburetor heaters, and liquid cooling system theory. They will identify and mitigate risks associated with maintenance on turbochargers, maintenance related FOD, preparation for and ground operation of a reciprocating engine, and actions in the event of an engine fire. Students will service an induction air filter, inspect a turbocharger for leaks and security, repair a cylinder baffle, install piston and knuckle/wrist pins, install a cylinder on a horizontally-opposed engine, and identify and inspect various types of bearings.
Credits 3
Component
LEL

POW 105 : Turbine Engines

Students will learn turbine operating principles, the types and applications of turbine engines, causes for turbine engine performance loss, auxiliary power units(APU), turbine engine cowling air flow, induction system theory, and the engine anti-ice system. They will identify and mitigate risks associated with maintenance on compressor bleed air systems, operation of a turbine engine, and actions in the event of a turbine engine fire. Students will remove and install a fuel nozzle in a turbine engine, perform inlet guide vane and compressor blade inspection, inspect a combustion liner, perform an induction and cooling system inspection, and inspect a bleed air system.
Credits 3
Component
LEL

POW 106 : Ignition and Starting Systems

Students will learn ignition theory, magneto system components and operation, the three electrical circuits of a magneto system, and turbine engine ignition systems. They will identify and mitigate risks associated with advanced and retarded ignition timing, maintenance on engines with capacitor discharge ignition systems, and working around reciprocating engines with an ungrounded magneto. Students will set magneto internal timing, time a magneto to an engine, remove, clean, and install spark plugs, troubleshoot and repair an ignition system, inspect an electrical starting system, and troubleshoot turbine engine igniters.
Credits 2
Component
LEL

POW 107 : Fuel and Fuel Metering Systems

Students will learn about carburetor adjustments, continuous flow fuel injection theory, Digital Engine Control Modules (FADEC), fuel system components, and inspection requirements for fuel systems. They will identify and mitigate risk associated with adjusting a turbine engine fuel control system, considerations during fuel system maintenance, and adjusting reciprocating engine fuel control systems. Students will inspect and repair a continuous-flow fuel injection system, remove and install a carburetor main metering jet, and remove and install a float-type carburetor.
Credits 2
Component
LEL

POW 108 : Engine Exhaust and Reversers

Students will learn about reciprocating and turbine engine exhaust components and inspection, noise suppression theory, and thrust reverser components and operation. They will identify and mitigate risks associated with the inspection of exhaust reversing systems, exhaust system failures, and ground operations of aircraft engines. Students will perform a pressure leak check of a reciprocating engine exhaust system, inspect exhaust heat exchangers, and locate procedures for testing and troubleshooting a turbine thrust reverser system.
Credits 2
Component
LEL

POW 109 : Propellers

Students will learn propeller theory and operation, the types of propellers and blade design, pitch control and adjustment, propeller servicing and inspection requirements, and propeller ice control systems. They will identify and mitigate risks associated with propeller ground operations and propeller maintenance and inspection. Students will remove and install a propeller, check blade static tracking, measure blade angle, adjust a propeller governor, perform a 100-Hour inspection, and inspect and repair a propeller anti-icing or de-icing system.
Credits 1
Component
LEL

POW 110 : Engine Fire Protection Systems

Students will learn the types of fires and engine fire zones, the fire detection warning system operation, fire extinguishing agents, and fire system maintenance and inspection. They will identify and mitigate risks associated with container discharge cartridges, extinguishing agents, and maintenance on circuits associated with electrically-activated container discharge cartridges (squibs). Students will troubleshoot and repair an engine fire detection system, inspect a fire continuous loop system, inspect fire extinguishing discharge circuit, inspect flame detectors for operation, and check operation of press-to-test and troubleshoot faults.
Credits 1
Component
LEL

POW 111 : Engine Inspection

Students will learn inspection requirements under 14 CFR part 43 and 14 CFR part 91, how to identify life-limited parts, engine component inspection techniques, and engine maintenance record keeping. They will identify and mitigate risks associated with a reciprocating engine compression test, and maintenance on reciprocating and turbine engines. Students will perform a powerplant records inspection, check engine controls for proper operation and adjustment, determine engine installation eligibility, perform a 100-hour engine inspection, and perform an engine start to inspect engine operational parameters.
Credits 2
Component
LEL

AG Economics

AGEC 141 : Introduction To Agribusiness Management

This is an introductory course dealing with the economic importance of the agribusiness community and the potential for employment with the agribusiness industry. (F, S)
Credits 1
Component
LEC

AGEC 142 : Agribusiness Internship Orientation I

A combination of individual and group meetings designed to develop knowledge and skills pertinent to agricultural industries. This course prepares a student for an internship in agriculture. Topics covered include career exploration, self-evaluation, employment skills development, and job acquisition correspondences. (F)
Credits 1
Component
LEC

AGEC 143 : Agribusiness Internship Orientation II

A combination of individual and group meetings designed to develop knowledge and skills pertinent to agricultural industries. This course prepares a student for an internship in agriculture. Topics covered include goal setting, career skill inventory and interpersonal relationship development. (S)
Credits 1
Component
LEC

AGEC 145 : Farm Records

This is a basic course in farm balance sheets, accounts, inventories, enterprise and production records, and various other financial records. The course also includes, but is not limited to, crop and feed check, monthly inventory, and family living expenses. The course will cover paper-based as well as computerized farm recordkeeping systems. (S)
Credits 3
Component
LEC

AGEC 197 : Farm and Ranch Management Internship

This course will begin the student' s knowledge of the recordkeeping process. The student will be responsible for completing a set of records for their family farm or a practice farm as directed by the instructor. The student will also begin a FINPACK analysis by completing a beginning balance sheet for their family farm or for a practice farm. (S, Su)
Credits 4
Component
INT

AGEC 231 : Professional Selling Skills

AGEC 231 explores some of the human elements of agribusiness. It is designed for students studying agriculture who plan a professional career in agribusiness. The course is also highly practical for students outside of agriculture who are interested in pursing a career in professional selling. It recognizes the wide diversity of backgrounds, interest areas and problems young professionals are likely to face as they begin their careers. The approach taken in this class is highly pragmatic and attempts to give the student more than a glimpse of a wide array of concepts of human behavior and professional selling techniques. (S)
Credits 3
Component
LEC

AGEC 242 : Introduction to Agricultural Management

Farm or agribusiness management concepts, measuring management performance, developing and improving management skills such as managing risk, managing income taxes, farm business analysis, controlling and using land, human resource management, and machinery management. (F, S)
Credits 3
Component
LEC

AGEC 244 : Introduction to Agricultural Marketing

A study of the agricultural marketing system to include cash marketing, commodity futures trading, branded products merchandising and the interrelationship of the government and international trade. (F)
Credits 3
Component
LEC

AGEC 245 : Commodity Market Analysis

Addresses advanced commodity market concepts and tools. Includes the study and application of fundamental and technical analysis of the grain and livestock markets. Prerequisite: AGEC 244. (S)
Credits 3
Component
LEC

AGEC 246 : Introduction to Agricultural Finance

Introduction to agricultural finance provides background in farm and agribusiness credit use and evaluation. Discussion of specific financial conditions on farms and in agribusiness. (S)
Credits 3
Component
LEC

AGEC 247 : Agricultural Land Resource Acquisition

The study and application of management and financial considerations involved with renting and purchasing farmland. (F)
Credits 2
Component
LEC

AGEC 248 : Introduction to Risk Management and Insurance

This course presents principles of loss control, insurance, and financial risk management, as they apply to current farm operations. Basic concepts of financial risk management, crop insurance, property, liability, and disability insurance, life and health insurance, and functional and financial operations of insurers will be examined. Primary emphasis is placed on applying risk management principles to farm operations in order to manage risk exposure and improve financial security and profitability. (S)
Credits 3
Component
LEC

AGEC 250 : Agribusiness Sales

The principles of salesmanship applied to the agricultural business. Topics include attitudes and value systems, basic behavioral patterns, relationship of sales to marketing, selling strategies, preparing for sales calls, making sales presentations, and closing sales. (S)
Credits 3
Component
LEC

AGEC 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

AGEC 297 : Farm and Ranch Management Internship

In this course, the student will gather data in order to complete a set of annual farm accounting records and learn to complete a whole farm and enterprise analysis of those records. The student will be responsible for completing a farm analysis for their family farm or a practice farm as directed by the instructor. (F, S)
Credits 2
Component
INT

Agriculture

AGCE 232 : Agricultural Communication and Marketing

This course explores the integration of agricultural marketing and communications, emphasizing digital strategies and sales techniques. Students will learn to develop and implement effective marketing plans for agricultural products and services, utilizing digital platforms, social media, and multimedia content creation. The curriculum covers online and traditional livestock sales, agricultural product development, advertising, photography, and videography. Through practical assignments and presentations, students will enhance their communication skills and apply marketing concepts to real-world agricultural scenarios.
Credits 3
Component
LEC

AGEC 232 : Agricultural Communication and Marketing

This course explores the integration of agricultural marketing and communications, emphasizing digital strategies and sales techniques. Students will learn to develop and implement effective marketing plans for agricultural products and services, utilizing digital platforms, social media, and multimedia content creation. The curriculum covers online and traditional livestock sales, agricultural product development, advertising, photography, and videography. Through practical assignments and presentations, students will enhance their communication skills and apply marketing concepts to real-world agricultural scenarios.
Credits 3
Component
LEC

AGEC 274 : Introduction to Cooperatives

Theory, practice, and evaluation of cooperatives including principles, management, marketing, finance, taxes, legal issues, and adjusting to change. (F)
Credits 3
Component
LEL

AGRI 101 : Science of Success: Ag

This is a practical one credit course that provides the tools and skills necessary to get a strong start with the transition for new students at NDSCS. This course will introduce students to campus resources, policies and procedures and cover topics such a time management, study skills, goal setting, wellness, financial literacy, and professional development. (F)
Credits 1
Component
LEC

AGRI 110 : Rural Safety

Agriculture is one of the most hazardous industries in the nation. Farming is one of the few industries in which the families (who often share the work and live on the premises) are also at risk for fatal and nonfatal injuries. This class is designed to address the many safety concerns and issues that face modern farm workers and their families. (F)
Credits 2
Component
LEC

AGRI 135 : Applied Mathematics

This course will include a review of mathematics including fractions, decimals, percentages and basic algebra. The course will emphasize problem-solving in agriculture applications using spreadsheet software. (F, S)
Credits 2
Component
LEC

AGRI 191 : First Year Seminar

This course is designed as a forum for presentations on a variety of agriculture topics and to strengthen communication skills including the use of professional speaking skills, demonstrating professional etiquette, and challenging critical thinking skills through questioning presenters. (S)
Credits 1
Component
LEC

AGRI 192 : Experimental Course

Credits 1
Component
LEC

AGRI 197 : Internship (Agriculture Department)

Provides opportunities to explore career interests and develop professional skills through work experiences. Under supervision of the employer and the instructor while receiving credit. May be repeated. (F, S, Su)
Credits 3
Component
FLD

AGRI 241 : Farm Management Education

Farm Management Education is designed as a practical study of the farming business for farm families currently engaged in managing their farms or ranches.
Credits 1
Component
LEC

AGRI 242 : Advanced Farm Management Education

This course continues the application of farm management principles for decision-making. Prerequisite: AGRI 241 or department approval.
Credits 1
Component
LEC

AGRI 291 : Second Year Seminar

This course will hone your abilities to present current agricultural topics in a professional manner to a large group of your peers. Furthermore, you will practice your professional etiquette during presentations, challenge your critical thinking skills through questioning presenters and increase your knowledge of current agricultural topics. (S)
Credits 1
Component
LEC

AGRI 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

AGRI 296 : Agriculture Industry Tour

Agriculture business tour and/or field trip is an excursion or planned work-based learning experience for a group of students allowing them to explore or observe occupations. These experiences should be carefully planned to provide a quality educational experience, protect the safety of the students, and create positive relationships with the agricultural businesses. A combination of individual and group meetings designed to develop knowledge and skills pertinent to develop soft skills for the workplace. This course prepares a student for a career in agriculture. (S)
Credits 1
Component
FLD
Semester Offered
Spring

AGRI 297 : Internship (Agriculture Department)

Provides opportunities to explore career interests and develop professional skills through work experiences. Under supervision of the employer and the instructor while receiving credit. May be repeated. (F, S, Su)
Credits 1
Component
FLD

AGRI 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

CSCI 101 : Software Apps and Digital Literacy

This course prepares students for success in developing essential software applications and digital literacy skills that are transferable to educational and career environments. Through real-world projects and practical exercises, students will gain proficiency in word processing, spreadsheets, presentations, and the responsible use of AI and emerging technologies. Emphasizing workplace applications, this course builds the essential skills required to navigate and succeed in today's evolving digital landscape. ND:COMPSC

Credits 3

Component

LEC

PAG 105 : Precision Agriculture Operations

Provides a background in precision agriculture. Emphasis is on working with control consoles, equipment, precision digital platforms, zone management and variable rate applications. (S)

Credits 2

Component

LEC

Semester Offered

Spring

PAG 115 : Introduction to Precision Agriculture

This course is designed to introduce the student to principles of precision agriculture. Students will receive instruction in GPS, GIS, remote sensing, and data management.

Credits 3

Component

LEC

PAG 215 : Mapping of Precision Ag Data

This course is designed to introduce students to mapping data in precision agriculture. Emphasis is placed on one management, variable rate prescriptions and basic GIS functions. (F)

Credits 3

Component

LEC

PAG 276 : Data Collection and Management

This course will experiment with types and methods of data collection of spatial data. The majority of the course will concentrate on data logging using GPS receivers (various monitors, rugged handheld units, and iPads), utilizing mobile software and geospatial apps. The course also will include downloading data from the Internet and evaluation and purchase of data from commercial sources. Students will learn data collection processes based on a real world project. They will be responsible for identifying a study area, a question or management issue, and the data needed to answer the questions. Prerequisites: PAG 275. (F)

Credits 3

Component

LEC

PAG 280 : Advanced Precision Agriculture Fall Operations

Emphasis on maximizing the use and implementation of common precision agricultural equipment used in the harvesting, tillage, fertilization and other applications of inputs of today's production of crops. Safe operations, setup, maximizing the efficient use of precision agricultural equipment for harvesting, tillage, planting equipment, GPS data management systems and guidance systems will be covered.

Credits 2

Component

LAB

PAG 285 : Precision Agriculture Software Systems

This course introduces various precision farming software in real-world applications. Discussion of how Geographic Information Systems (GIS) can be used to input and store data, assist in the analysis of data and create interpretive maps. It focuses on initial setup of software, data management and evaluation, saving and unloading data cards, processing field data, and compiling prescription application maps.

Credits 3

Prerequisite Courses

Semester Offered

Spring

PAG 286 : Advanced Mapping

This course covers the use of spatial data for recordkeeping, analytical decision making and modeling prescription maps for variable rate applications. Student will use various data sets and apply GIS functions to answer management questions. A major component of this course will be determining relationships and establishing patterns in yield and other cropping factors and interpretation of these patterns and relationships. Prerequisite: PAG 285. (S)

Credits 3

Component

LEC

PSYC 100 : Human Relations in Organizations

This course focuses on building successful and effective interpersonal relationships within organizational and other social environments. It includes an examination of human relations in business and industry with emphasis on how people can work effectively in groups to satisfy both organizational and personal goals. Motivation, emotional and mental health, communication techniques, and coping with stress are explored. Activities are used to encourage the application of concepts to enhance personal growth and insight and to increase social skills. (F, S, Su-as needed, O) ND:SS

Credits 2

Component

LEC

Animal Science

ANSC 114 : Introduction to Animal Sciences
General principles of the livestock industry and relationship to mankind. (F)
Credits 3
Component
LEC

ANSC 116 : Animal Reproduction
This course will investigate the anatomy, physiology, and endocrinology of animal reproduction and the techniques for the control and manipulation of reproductive processes. (S-alternating)
Credits 3
Component
LEC

ANSC 118 : Livestock Health Management
This introduction to infectious diseases affecting livestock provides students with an introduction to infectious diseases and details the animal husbandry practices influencing the host-pathogen interactions. (Spring alternating)
Credits 3
Component
LEC

ANSC 123 : Feeds and Feeding
Principles of feeding livestock including digestive systems, nutrient requirements, nutrient characteristics and sources utilized in the formulation of balanced rations. (F-alternating)
Credits 3
Component
LEC

ANSC 220 : Livestock Production
Livestock production is intended to cover the general production and management of livestock species in North Dakota. Emphasis will be placed on beef, dairy, swine and sheep. Specific topics will include: production systems, genetics and breeding systems, herd health, nutrition, reproduction and waste management. (F-alternating)
Credits 3
Component
LEC

ANSC 224 : Applied Livestock Feeding
Applied livestock feeding will discuss practical diets and feeding for beef, dairy, swine and sheep. An emphasis will be placed on nutritional needs of ruminants in the upper Midwest and utilizing common co-products available in the region. (F-alternating)
Credits 3
Component
LEC

ANSC 231 : Livestock Evaluation
The study of evaluating breeding and market livestock based on records, appearance, and soundness. (F-alternating)
Credits 2
Component
LEC

ANSC 236 : Introduction to Range Management
Principles of range management which include plant identification, range evaluation and range improvement. (S-alternating)
Credits 2
Component
LEC

ANSC 241 : Survey of Meat Science
This class is taught in collaboration with North Dakota State University at the NDSU meat processing lab. Introduction to aspects of fresh and processed meat technology. Corequisites: ANSC 234, ANSC 244, and ANSC 245.
Credits 2
Component
LEC

ANSC 243 : Slaughter and Processing of Domestic Livestock
This class is taught in collaboration with North Dakota State University at the NDSU meat processing lab. This course will teach the principles and procedures of meat animal humane slaughter, carcass fabrication, and meat processing. You will be required to help in all processes of slaughter, fabricating, processing, and cleaning. Corequisites: ANSC 241, ANSC 244, and ANSC 245.
Credits 4
Component
LEL

ANSC 244 : Value-added Meats Processing
This class is taught in collaboration with North Dakota State University at the NDSU meat processing lab. An investigation of factors involved in the production of processed and value-added meat products by hands-on training and classroom instruction. Corequisites: ANSC 241, ANSC 243, and ANSC 245.
Credits 2
Component
LEL

ANSC 245 : Hazard Analysis and Critical Control Points (HACCP)
This class is taught in collaboration with North Dakota State University at the NDSU meat processing lab. Students will become familiar with hazard analysis, critical control point, and food safety plans, including good manufacturing practices and standard operating procedures for safe food production. Corequisites: ANSC 241, ANSC 243, and ANSC 244.
Credits 2
Component
LEC

ANSC 252 : Large Ruminant Production

Large ruminant production will explore common production practices of beef and diary in the upper midwest. A focus of the class will be making production decisions based on profitability and efficiency. (S-alternating)
Credits 3
Component
LEC

ANSC 260 : Introduction to Equine Studies

A review of evolution, historical roles of the horse, breeds, and the modern day equine industry. Introduction to anatomy, physiology, selection, nutrition, health care, and stable design/management. A lab component will accompany this course. (F)
Credits 3
Component
LEC

ANSC 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

Architectural Modeling & Design Technology

ARCT 101 : Architectural Modeling I

This course is a beginning architectural modeling course. The course covers basic modeling skills as applied to residential construction. These concepts include sketching, interior planning, exterior style, blueprint reading, and code interpretation. The student will learn the step-by-step process for designing and laying out a set of working drawings for a residential home. (Prerequisite: ARCT 121. (F)
Credits 3
Component
LEC

ARCT 102 : Architectural Modeling II

This course is a continuation of traditional wood construction. Students will draw a complete set of working drawings for a multi-story apartment building. Stair sections, framing plans, truss construction, and a study of kitchen layouts and elevations are included. Prerequisite: ARCT 101. Corequisite: ARCT 121. (S)
Credits 4
Component
LEC

ARCT 110 : Graphic Communications

This course is an introduction to print reading, sketching, and manual drafting. The course will cover the proper use of tools and equipment, freehand lettering techniques, technical drafting skills, sketching, orthographic projection, and isometric drawing in addition to a basic understanding of residential print reading. (F)
Credits 2
Component
LEC

ARCT 120 : AutoCAD for Architecture

This course will introduce AutoCAD Basic applied in a practical manner for architectural drawing. (F)
Credits 2
Component
LEC

ARCT 121 : Revit Architecture

This course is an introduction to Building Information Modeling (BIM). We will specifically be using the latest version of the Autodesk Revit software. Students will use the Revit software to create a virtual working model of a commercial project. (F)
Credits 2
Component
LEC

ARCT 122 : Structural Modeling

Structural modeling is an introduction to modeling the structural system in Autodesk Revit. Various structural systems will be explored and modeled. The student will model and annotate the structural system for a high-rise, steel-frame building and complete other various projects. Prerequisite: ARCT 121. (S)
Credits 2
Component
LEC

ARCT 131 : Construction Methods and Materials I

This course is an introduction to the methods, terminology, and materials associated with building construction. Students will be introduced to a wide variety of construction methods and materials. (F)
Credits 3
Component
LEC

ARCT 152 : MEP Modeling

This course will introduce Revit MEP basics, including HVAC, electrical, and piping/plumbing components, as well as familiarize students with tools required to create, document, and print the parametric model. Pre-requisite: ARCT 121. (S)
Credits 2
Component
LEC

ARCT 162 : Construction Experience

In this course students will enhance their understanding of construction methods and materials by visiting multiple construction job sites and by working in the Building Construction Technology lab on a residential construction project. (S)
Credits 2
Component
LAB

ARCT 201 : Architectural Modeling III

This course involves the development of a partial set of working drawings for a commercial building containing the following disciplines: architectural, structural, mechanical, electrical, and plumbing. Students will use Revit software to develop all their project drawings. Prerequisite: ARCT 102. (F)
Credits 4
Component
LEC

ARCT 202 : Architectural Modeling IV

This course is a culmination of all previous design and modeling knowledge. A multi-level mixed use building will be modeled, detailed, and documented. Prerequisite: ARCT 201. (S)
Credits 4
Component
LEC

ARCT 212 : Architectural Presentations

Course material covers the techniques of graphic communication, three-dimensional modeling, materials, lighting, and photo-realistic computer renderings and animations. Special presentation software is introduced and utilized to provide rendered presentations using a computer. Prerequisite: ARCT 201. (S)
Credits 2
Component
LEC

ARCT 214 : Architectural Portfolio

This seminar course will guide the student through the creation of two portfolios of their architectural related work. Organization and presentation skills will be emphasized. Prerequisite: ARCT 201. (S)
Credits 1
Component
LEC

ARCT 221 : Structural Detailing

Structural detailing provides the student with an introduction to devising and drafting large-scale details of structural systems and connections. Other covered topics will include precast concrete detailing and structural steel shop drawings. Both Autodesk Revit and AutoCAD will be used to complete projects in this course. Prerequisite: ARCT 122. (F)
Credits 3
Component
LEC

ARCT 223 : Renovation and Design

This course is a practical introduction to the techniques of upgrading, rehabilitation and design of residential and/or commercial structures to meet the needs of today's customer. Prerequisites: ARCT 102. (S)
Credits 3
Component
LEC

ARCT 225 : Mechanical and Electrical Systems

This course focuses on the mechanical and electrical equipment, their functions, and testing requirements as they relate to the construction industry from a construction management perspective. Terminology and general knowledge of the construction industry as it relates to mechanical and electrical systems will be emphasized. (S)
Credits 2
Component
LEC
Prerequisite Courses
BCT 140: Intro to Print Reading

ARCT 231 : Construction Methods and Materials II

This course is a continuation of study for construction methods, terminology and use of construction materials with an emphasis on commercial construction. Students will write a research report on specific construction materials as assigned. This course will also introduce basic mechanical and electrical equipment and their functions and space requirements as they relate to commercial construction. Students may visit job sites to examine the latest methods of commercial construction. Prerequisite: ARCT 131. (F)
Credits 3
Component
LEC

ARCT 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

ARCT 297 : Internship

This internship course provides students with supervised, hands-on work experience in their chosen career field. The internship course reinforces technical and professional skills gained in the classroom through real-world application in a workplace setting. Students will develop industry-specific competencies, enhance problem-solving and communication skills, and gain insight into workplace expectations. Faculty and industry professionals will provide guidance and evaluation to ensure meaningful learning outcomes. Upon completion, students will be able to demonstrate increased proficiency in their field, apply critical thinking to job-related tasks, and reflect on their professional growth.
Credits 4
Component
FLD

ARCT 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

CMT 144 : Construction Estimating I

This course is an introduction to residential material and labor estimating. The basic principles of construction estimating are covered. Material lists, calculations and costs are made for several different houses and pole type construction. Prerequisite: ARCT 131 or department approval. (S)
Credits 3
Component
LEC

CMT 241 : Construction Estimating II

This course will build upon students knowledge of manual estimating to create Excel spreadsheets and utilize the On Screen Take-off software. Students become familiar with contracting and estimating procedures. The study of pre-engineered metal building terminology and the Butler Advantage software is also covered.
Credits 3
Component
LEC
Prerequisite Courses
CMT 144: Construction Estimating I

CMT 242 : Construction Estimating III

This course covers manual and computer-aided takeoff procedures for commercial buildings. Calculations may utilize manual ledger forms, excel spreadsheets, and computer-assisted estimating programs. Students become familiar with contracting and estimating procedures. Calculating labor hours for various construction tasks is also included. (S)
Credits 3
Component
LEC
Prerequisite Courses
CMT 241: Construction Estimating II

Autonomous Systems Technology

AST 101 : Ground Systems I

Students will learn about the fundamentals of ground-based autonomous technologies and their application in various industries such as, agriculture, transportation, manufacturing, and defense. Students will gain a foundational understanding of the system components that are required for autonomous operations on any machine or vehicle. Autonomous system safety requirements will also be covered during this class. (F)
Credits 2
Component
LEC

AST 102 : Ground Systems II

Students will receive an introduction to some of the autonomous system control methods and algorithms used to operate a ground-based autonomous system. Control methods to be covered will include area mapping and lead/follow. A brief introduction to control logic methods and the PID algorithm will be covered during this course. Prerequisite: AST 103. (S)
Credits 2
Component
LEC

AST 111 : Introduction to Data Science

Students will be introduced to basic data collection techniques and how this collected data is analyzed for use by autonomous equipment. (F)
Credits 2
Component
LEC

AST 220 : Autonomous Systems Capstone

In this course students will use the knowledge and skills obtained in their previous AST coursework to configure a small ground-based vehicle for autonomous operation. Students will be assigned a specific task for their vehicle to perform and will test their vehicle's ability to complete this task as determined by the instructor. (S)
Credits 2
Component
LEC

AST 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

AST X92 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

Building Construction Technology

ARCT 162 : Construction Experience

In this course students will enhance their understanding of construction methods and materials by visiting multiple construction job sites and by working in the Building Construction Technology lab on a residential construction project. (S)
Credits 2
Component
LAB

ARCT 225 : Mechanical and Electrical Systems

This course focuses on the mechanical and electrical equipment, their functions, and testing requirements as they relate to the construction industry from a construction management perspective. Terminology and general knowledge of the construction industry as it relates to mechanical and electrical systems will be emphasized. (S)
Credits 2
Component
LEC
Prerequisite Courses
BCT 140: Intro to Print Reading

BCT 102 : Core Curriculum

Core Curriculum from the National Center for Construction Education and Research (NCCER), consists of eight modules which are: ¿Basic Safety¿; ¿Construction Math¿; ¿Hand Tools¿; ¿Power Tools¿; ¿Blueprints¿; ¿Basic Rigging¿; ¿Communication Skills¿; and ¿Employability Skills¿. This course is a prerequisite for all NCCER ¿Craft Level Training,¿ (regardless of the craft). (F)
Credits 2
Component
LEC

BCT 110 : Concrete and Sitework

This course is an introduction to the techniques of forming, placing, and finishing concrete. Students will gain experience and knowledge of footings, walls, and flat work as well as the tools used in the concrete construction industry. The course is conducted during the first eight weeks of the fall semester and is primarily lab. The students actually prep the sub-grade, construct the form-work, install the reinforcement, place and finish the concrete, strip and clean the forms, and backfill the work site as required. Skid steer operation as well as the use of other construction equipment is incorporated into this hands-on training experience. (F)
Credits 4
Component
LEC

BCT 111 : Concrete Theory

This course gives the students an understanding of proper procedures and techniques for placing, finishing, jointing, curing, and protection of concrete flatwork. (F)
Credits 2
Component
LEC

BCT 115 : Intro to Light Commercial Construction

This course is an introduction to framing techniques to include constructing a floor system, framing of walls, constructing and installing rafters, applying sheathing, installing windows and doors, installing siding and soffits, and installing shingles. Both wood and metal is used in the construction of small utility type structures. The students use blueprints to construct these projects and work in small teams. This course is primarily lab. (F)
Credits 3
Component
LEC

BCT 131 : Rough Carpentry

This course is primarily laboratory focused consisting of proper construction of floor, wall and roof assemblies using appropriate means and methods in regards to building codes and applicable drawings. The students are also developing their skills as a leader and crew member. Students are required to give daily safety toolbox talks, plan daily tasks, and track daily logs and timesheets. (S)
Credits 3
Component
LAB

BCT 132 : Exterior Finish Construction

This course is primarily laboratory focused consisting of proper construction of exterior weather barriers, windows and doors, and exterior finishes while following appropriate building codes, manufacturer's instructions and applicable drawings. The students are also developing their skills as a leader and crew member. Students are required to give daily safety toolbox talks, plan daily tasks, and track daily logs and timesheets. (S)
Credits 3
Component
LAB

BCT 133 : Carpentry Fundamentals

This course is primarily lecture focused on the basics of carpentry. Course modules consist of orientation to the trade, building materials and fasteners, hand and power tools, floor assemblies, wall assemblies, roof assemblies, building envelops, and basic stair layout. (F)
Credits 2
Component
LEC

BCT 140 : Intro to Print Reading

This is a comprehensive lecture-based course that covers print reading fundamentals, construction materials, and light frame construction used in residential and light commercial buildings. The course provides information applicable to carpentry, electrical, mechanical, and general building trades. It provides an authentic print reading experience using contemporary prints. Also included is updated coverage on building codes, CSI Master Format, LEED Certification, and Green Building Technology. (F)
Credits 2
Component
LEC

BCT 201 : Internship I

The student will receive on-the-job experience on a construction project. This will allow the student to practice and utilize the skills and knowledge learned during the previous on-campus instructional period. The work experience will be supervised by the NDSCS Supervised Occupational Experience coordinator. (Su)
Credits 6
Component
PRA

BCT 202 : Construction Seminar

The student will receive customized learning modules based on evaluations acquired from Supervised Occupational Experience I. The course will require a minimum of 64 hours over a two-week period. Students will be assigned learning objectives necessary for the successful completion of Supervised Occupational Experience II. (F)
Credits 2
Component
LEC

BCT 203 : Internship II

The student will receive on-the-job experience on a construction project. This will allow the student to practice and utilize the skills and knowledge learned during the previous on-campus instructional period. The work experience will be supervised by the NDSCS Supervised Occupational Experience coordinator. (F)
Credits 3
Component
PRA

BCT 212 : Steel Frame Construction

This course provides experience and knowledge of how to work with commercial construction materials. Methods of constructing pre-engineered structures and steel construction including commercial frame, floor, roof, and interior systems will be taught. Hallow metal doors, frames and hardware will be included. Equipment usage and safety will be emphasized. (F)
Credits 3
Component
LEC

BCT 220 : Project Supervision

This is a lecture/discussion-based class in supervisory training. Individual participation is highly recommended and encouraged. It is a comprehensive, competency-based program that gives new field managers a step-by-step approach to honing their natural abilities, developing essential skills, and generally improving their performance as leaders. Students will learn management skills in problem solving, planning, estimating, safety supervision, scheduling, controlling costs and resources, and, perhaps most important, managing people. These are skills most easily acquired through formal education. (S)
Credits 3
Component
LEC

BCT 222 : OSHA 30 Hour for Construction

This course is designed to parallel the 29CFR1926 OSHA Construction Industry Regulations. The course covers both the compliance as well as best practices in the construction industry as they pertain to safety. Upon completion of this course students will receive a "30 Hour OSHA Safety Card." Attendance at each of the 30 hour sessions is mandatory.
Credits 2
Component
LEC

BCT 224 : Building Layout

The course will be held in a classroom and outdoor environment where the student will learn basic site layout and determining elevations. Students will utilize basic site layout tools during the lab portion of the class.
Credits 2
Component
LEC

BCT 231 : Interior Finishes

This course provides a hands-on lab-based experience and knowledge of the skills and techniques to perform in the field of carpentry. Methods of laying out and installing insulation, vapor barrier, drywall and getting to a finished wall state (painted). Organization, quality control, estimating materials and coordination with others will be emphasized. (S)
Credits 3
Component
LEC

BCT 232 : Finish Carpentry

This course provides a hands-on lab-based experience and knowledge of the skills and techniques to perform in the field of finish carpentry. Methods of laying out and installing frames/doors, cabinet/counter installation, millwork, floor coverings, tile and finish hardware. Organization, quality control, estimating materials and coordination with others will be emphasized. (S)
Credits 3
Component
LEC

BCT 233 : Commercial Finishes

¿Carpentry Framing and Finishing from the National Center for Construction Education and Research¿ (NCCER), along with ¿Fundamentals of Building Construction¿ are used to educate the student in areas of commercial and residential finishes. Some specific topics covered are cold-formed steel framing; thermal and moisture protection; doors and door hardware; drywall installation; window, door, floor, and ceiling trim; cabinet installation; selecting interior finishes; interior walls and partitions; and finish ceilings and floors. It is to develop the students¿ vocabulary and knowledge of the commercial construction industry relating to construction practices and construction material requirements within our industry. (S)
Credits 3
Component
LEC

BCT 240 : Commercial Print Reading

This course provides a print reading experience relating to commercial construction. The course covers the skills needed to interpret plans and specifications commonly included on prints for large commercial structures. Expanded topics include materials and methods, the roles of building-process participants, and project delivery methods. Included are types of construction, specifications, site work, structural steel construction, reinforced concrete construction, mechanical and electrical systems, and finish construction found on commercial projects. Students will become familiar with terms and symbols that are commonly used in commercial blueprints. (F)
Credits 3
Component
LEC

BCT 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

BCT 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

CMT 144 : Construction Estimating I

This course is an introduction to residential material and labor estimating. The basic principles of construction estimating are covered. Material lists, calculations and costs are made for several different houses and pole type construction. Prerequisite: ARCT 131 or department approval. (S)
Credits 3
Component
LEC

CMT 241 : Construction Estimating II

This course will build upon students knowledge of manual estimating to create Excel spreadsheets and utilize the On Screen Take-off software. Students become familiar with contracting and estimating procedures. The study of pre-engineered metal building terminology and the Butler Advantage software is also covered.
Credits 3
Component
LEC
Prerequisite Courses
CMT 144: Construction Estimating I

CMT 242 : Construction Estimating III

This course covers manual and computer-aided takeoff procedures for commercial buildings. Calculations may utilize manual ledger forms, excel spreadsheets, and computer-assisted estimating programs. Students become familiar with contracting and estimating procedures. Calculating labor hours for various construction tasks is also included. (S)
Credits 3
Component
LEC
Prerequisite Courses
CMT 241: Construction Estimating II

Career and Technical Education

CTE 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1-3
Component
LEC

Civil Engineering and Surveying Technology

CT 111 : Civil Plans and Specifications

This course is an introduction to basic fundamentals of civil engineering and surveying. Emphasis is placed on familiarization, reading and understanding highway/heavy plans, specifications and contracts. (F)
Credits 3
Component
LEC

CT 113 : Introduction to Civil Design Applications

Introduction to Civil 3D software focusing on the user interface of the software, points and point management, lines and curves, annotation, styles, surfaces, figures, and grading objects. During this course, the student will work on projects that will be used in future course work in courses such as Land Use Planning and Highway and Street Design. Software utilized will be Civil 3D. Prerequisite: CAD 120. (S)
Credits 3
Component
LEC

CT 121 : Surveying I

This course covers the instruction and practice in the use of surveying instruments and equipment. Types of survey, field notes, bench marks, traversing with total stations, traverse calculations, bearing calculations, remote elevations and distancesThis course covers the instruction and practice in the use of surveying instruments and equipment. Types of survey, field notes, bench marks, traversing with total stations, traverse calculations, bearing calculations, remote elevations and distances

Credits 2
Component
LEC

CT 122 : Surveying II

Advanced survey traverse and triangulation calculations and adjustments including error analysis, error distribution, subdivision of sections, contouring, route locations, grade determinations, earthwork measurements, map plotting, and coordinate geometry such as inversing between points and line intersections. The course will include fieldwork such as; traversing, direct and reverse angles, property corner searches, EDM calibration, construction location and grade staking, building layouts with offset stakes. These labs will be done using Total Stations, Data Collectors, and GPS. Prerequisites: CT 121 and MATH 136. (S)

Credits 4
Component
LEC

CT 132 : Material Testing/Quality Control

This course covers the field testing procedures that are prominent in highway/heavy construction projects and commercial construction projects. The materials consist of soils, aggregates, portland cement concrete, and asphalt. This course's main focus is on standardized testing procedure of the most commonly performed field testing procedures and includes background of the need for testing, conducting measurements, performing calculations, and recording results of testing. Results of the various reports will be explained so students will have the ability to interpret and understand the results for each report. (S)

Credits 3
Component
LAB

CT 142 : OSHA 10 Hour for Construction

This course will cover safety related to Civil Engineering and Surveying Technicians. Student will cover the content and have the opportunity to earn the OSHA 10-Hour certification. Most of the course will be lecture, video and group discussion. (F)

Credits 1
Component
LEC

CT 192 : Experimental Course

Credits 1
Component
LEC

CT 211 : Introduction to Geographic Information Systems

This course looks at Geographic Information Systems (GIS) and how they are used. Students will look at all aspects of GIS in terms of design, maintenance, analysis and industry usage. This class will teach students GIS concepts while applying those concepts to unit assignments using Esri ArcGIS. Students will apply all concepts to a final project. Prerequisite: CAD 120. (S)

Credits 3
Component
LEC

CT 212 : GIS Applications

This course will provide the general knowledge and applications a student will need to perform advanced analysis of data, data management and file transformation, data collection and compilation of spatial data, web mapping and data in the cloud. This course will be based on hands-on projects using Esri and ArcGIS software. Prerequisites: CT 211. (S)

Credits 3
Component
LAB

CT 214 : Highway and Street Design

This course covers the fundamentals of highway and street design. Included in the course are design safety considerations, design cost effectiveness, geometric features, construction plan development, print reading, and other highway design criteria. A construction design project will be developed during the course using Autodesk Civil 3D. Prerequisite: CT 215. (F)

Credits 3
Component
LEC

CT 215 : Land Use Planning and Development

This course will take an undeveloped parcel of land and develop it into a residential subdivision. The parcel boundary will be surveyed in an earlier surveying class using GPS, Total Stations and Data Collectors. The point files will be downloaded into the latest version of Civil 3D for design and drafting use. Each student will create his or her own subdivision given the parcels boundary. In addition to the subdivision, the student will create contour maps, drainage plans, subdivision plats, etc. Prerequisite: CT 113. (F)

Credits 3
Component
LEC

CT 216 : Utility and Drainage Design

This course covers the fundamentals of water supply and distribution, sanitary sewage and collection methods, and storm water collection and management. Included in the course are topics on hydraulics, hydrology, water distribution and collection systems, and storm water management. Fundamentals in Civil 3D drainage design and analysis, as well as the creation of water, storm, and sanitary pipe networks. A final project will be rendered using Autodesk 3DSMax. Prerequisite or Corequisite: CT 214. (S)
Credits 3
Component
LEC

CT 221 : Surveying III

This course is comprised of field work, with emphasis on data collection procedures, and drawing with Civil 3-D, following standards set by ALTA. The students will collect boundary and topographic data utilizing the latest technology in equipment, such as Total Stations, GPS, Robotic Total Stations, etc. The students will take a project, divide it up between groups, perform survey work, merge data files and draw the entire project following ALTA Standards. Prerequisites: CT 113 and CT 122. (F)
Credits 4
Component
LEC

CT 222 : Surveying IV

This course is comprised of field work and classroom work. The classroom work includes theoretical work in highway and railroad curve alignment, compound curves, reverse curves and vertical curves. The field work includes advanced GPS such as static networks, advanced alignment stakeout, infill surveys, and 3D scanning. A student project performed on their own following procedures taught for boundary research, data collection, data analysis and the creation of a certificate of survey for the project. Prerequisite: CT 221. (S)
Credits 4
Component
LEC

CT 223 : Boundary Controls & Legal Principles

The study of the laws and systems of land description and subdivision, including: history of land ownership; terminology used in Real Property Law; methods of property transfer; abstracts of titles; types of titles; filing and recording deeds; legal principles of retracements; reversion of rights; riparian and littoral rights; mining claims; Public Land Survey System; and the preparation of metes and bounds descriptions and records of surveys. (F)
Credits 3
Component
LEC

CT 224 : Research and Analysis

This class serves as a capstone class and will focus on land and real property ownership. Students will research original survey notes and plats, will gain an understanding of recording practices and will conduct research projects in the County Recorder's Office and NDRIN, research railroad and highway plats, monument records, easements, etc. Students will perform calculations of the restoration of lost corners by single and double proportion. (S)
Credits 3
Component
LEC

CT 261 : Machine Control and Project Layout

This course will provide the skills necessary to set up control on a construction site, recreate 3d models for proper equipment operation, provide proper data for machine control, compute volumes of project and what is needed for quality control of a project. Students will learn equipment set-up and operations on a skidsteer with GPS guided attachment. Prerequisite: CT 216. (S)
Credits 2
Component
LEC

CT 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

CT 297 : Cooperative Education

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

CT 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Computer Aided Drafting

CAD 120 : Introduction to AutoCAD

This course is an introduction to the operation and application of computer-aided drafting utilizing AutoCAD Software. Drawing and editing commands are studied and utilized in a final project. (F, O)
Credits 3
Component
LEC

CAD 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

CAD 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Construction Management Technology

ARCT 162 : Construction Experience

In this course students will enhance their understanding of construction methods and materials by visiting multiple construction job sites and by working in the Building Construction Technology lab on a residential construction project. (S)
Credits 2
Component
LAB

ARCT 225 : Mechanical and Electrical Systems

This course focuses on the mechanical and electrical equipment, their functions, and testing requirements as they relate to the construction industry from a construction management perspective. Terminology and general knowledge of the construction industry as it relates to mechanical and electrical systems will be emphasized. (S)
Credits 2
Component
LEC
Prerequisite Courses
BCT 140: Intro to Print Reading

CMT 144 : Construction Estimating I

This course is an introduction to residential material and labor estimating. The basic principles of construction estimating are covered. Material lists, calculations and costs are made for several different houses and pole type construction. Prerequisite: ARCT 131 or department approval. (S)
Credits 3
Component
LEC

CMT 150 : Construction Document Management

This course is an introduction to Construction Document Management in a digital world. Students will receive PROCORE certification training and utilize the PROCORE software for managing construction documents related to a construction project. Other software will include navigating a project with Revit Architecture and printing digital documents. Utilization of BlueBeam as it relates to construction document management will also be covered in the course. (S)
Credits 2
Component
LEC

CMT 165 : Residential Project Experience

This course provides students with the opportunity to be on a team that competes in the National Association of Home Builder's Residential Construction Management Competition. The event gives first year students the opportunity to apply skills learned in the classroom to a real construction company by completing a management project/proposal. Proposals are submitted to a group of construction company executives who act as judges. During the International Builder's Show, students defend their proposals to the judges in front of an audience. All students must be a member of the Home Builders Association in order to enroll in the course. (S)
Credits 1
Component
LEC

CMT 241 : Construction Estimating II

This course will build upon students knowledge of manual estimating to create Excel spreadsheets and utilize the On Screen Take-off software. Students become familiar with contracting and estimating procedures. The study of pre-engineered metal building terminology and the Butler Advantage software is also covered.
Credits 3
Component
LEC
Prerequisite Courses
CMT 144: Construction Estimating I

CMT 242 : Construction Estimating III

This course covers manual and computer-aided takeoff procedures for commercial buildings. Calculations may utilize manual ledger forms, excel spreadsheets, and computer-assisted estimating programs. Students become familiar with contracting and estimating procedures. Calculating labor hours for various construction tasks is also included. (S)

Credits 3

Component

LEC

Prerequisite Courses

CMT 241: Construction Estimating II

CMT 251 : Construction Documents and Specifications

This course is designed to cover the fundamental understanding of construction contracts and specifications. Various contract delivery methods and an understanding of contract language will be studied. Navigating and interpreting construction specifications will be another focus in the course. Students will utilize actual specifications from several construction projects in the learning process. The course will primarily cover the 16 divisions of the CSI Master Format and an introduction the new CSI Format of 50 divisions. (F)

Credits 3

Component

LEC

CMT 252 : Project Management

This course focuses on the processes and tasks required for successful management of construction projects based on the NCCER curriculum. Students will gain a thorough understanding of all aspects of project coordination and contract administration. Topics will include project delivery systems, safety administration, project communication, interpersonal skills, conflict resolution, contract interpretation, construction planning, estimating and cost control, resource control, and continuous improvement. Ethics as it relates to project management and customer relations will also be discussed. Prerequisite: BCT 220 or CMT 251.

Credits 3

Component

LEC

CMT 253 : Construction Scheduling

Students will study the importance of planning and scheduling in construction. This course will provide students with the fundamental skills necessary to plan and schedule the entire construction process. Students will work with several scheduling techniques commonly used in the construction industry and incorporate the use of scheduling software to schedule projects for a timely and economically successful completion. Prerequisite: BCT 220. (S)

Credits 3

Component

LEC

CMT 265 : Residential Project Experience

This course provides students with the opportunity to be on a team that competes in the National Association of Home Builder's Residential Construction Management Competition. The event gives students the opportunity to apply skills learned in the classroom to a real construction company by completing a management project/proposal. Proposals are submitted to a group of construction company executives who act as judges. During the International Builder's Show, students defend their proposals to the judges in front of an audience. All students must be a member of the Home Builder's Association in order to enroll in the course. (S)

Credits 1

Component

LEC

CMT 297 : Internship

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.

Credits 4

Component

FLD

CMT 299 : Special Topics

A course designed to meet special departmental needs.

Credits 1

Component

FLD

CT 120 : Surveying Fundamentals

This course covers the instruction and practice in the use of surveying instruments and equipment. Types of surveys, units of measure, elementary leveling, field notes, bench marks are covered.

Credits 2

Component

LEC

CT 121 : Surveying I

This course covers the instruction and practice in the use of surveying instruments and equipment. Types of survey, field notes, bench marks, traversing with total stations, traverse calculations, bearing calculations, remote elevations and distances

Credits 2

Component

LEC

Criminal Justice

CJ 160 : The Legal System

Function and ethics of the legal assistant in the law office and legal system. An introduction to the federal and state court systems, personnel in the legal field, and the historical development and nature of the law. (S of odd-numbered years)
Credits 4
Component
LEC

CJ 201 : Introduction to Criminal Justice

Examination of the criminal justice system and process including crime, law-making, criminality, prosecution, police, courts, and corrections. (F) ND:SS
Credits 3
Component
LEC

CJ 232 : Administration of Justice

For criminal justice students or laymen; designed to broaden the understanding of the student concerning the various agencies involved in the administration of criminal law. Emphasis is placed upon the more important law-enforcement functions and interrelationships from arrest to executive pardon. (S)
Credits 3
Component
LEC

CJ 297 : Internship

Supervised placement in local agencies (Wahpeton Police Department, NDSCS Campus Police, and Richland County Sheriff¿s Office) to give students experience in various areas of policing and corrections and to cultivate career exploration. (F, S)
Credits 1
Component
FLD

Culinary Arts

BAKE 200 : Nutritional Baking

This course delves into the art and science of baking while prioritizing nutritional value. Students will explore the fundamental principles of baking, including ingredient interactions, techniques, and equipment usage. The focus will be on creating delicious and nutritious baked goods that incorporate wholesome ingredients and minimize refined sugars, unhealthy fats, and excessive sodium.

Through hands-on experience, students will learn to formulate recipes that balance taste, texture, and nutritional content. Topics covered will include: Nutritional basics: Understanding macronutrients (carbohydrates, proteins, fats), micronutrients (vitamins, minerals), and their roles in baking. Ingredient selection: Choosing whole grains, natural sweeteners, healthy fats, and plant-based proteins.
Recipe adaptation: Modifying traditional recipes to enhance nutritional value without compromising flavor. Baking techniques: Mastering techniques such as kneading, proofing, shaping, and glazing. Equipment usage: Using appropriate tools and equipment for baking, including mixers, ovens, and measuring devices.
Food safety: Adhering to proper food handling and sanitation practices. By the end of the course, students will be equipped with the knowledge and skills to create nutritious and satisfying baked goods, promoting a healthier lifestyle. Prerequisite:
BAKE 132.
Credits 2
Component
LAB

BAKE 230 : Advanced Breads

This course provides an advanced study in the art and craft of bread making. Topics include pertinent formulas and techniques associated with naturally leavened loaves, hearth breads, focaccia, flatbreads, and other breads utilizing a variety of grains. Students produce breads that are mixed and shaped, employing traditional techniques and using pre-fermented dough, sponges, and sourdough starters. Prerequisite: BAKE 132.
Credits 2
Component
LAB

BAKE 232 : Confections

This course emphasizes the concepts, procedures, and techniques related to chocolate, sugar, and decorative bakeshop items. tempering and sugar cooking.
Students will learn about chocolate, tempering, sugar, sugar cooking, ingredient identification, and application of those ingredients. Confectionary skills covered include bonbons, candies, confections, icing, fondant, marzipan, and royal icing decorations; poured, pulled, and blown sugar; chocolate and sugar work; and sculptures.
Prerequisite: BAKE 131.
Credits 2
Component
LAB

BAKE 233 : Baking and Pastry Capstone

In this course, students apply baking and pastry skills from throughout the curriculum in order to prepare and merchandise restaurant-style desserts. This course includes dessert menu planning, plating, garnishing, and producing component-style desserts. Students will receive practical experience in the operation of a restaurant kitchen and retail bakery. These duties tie into prior classroom work (sanitation, nutrition, purchasing, cost management, and supervision) in a practical way.
Credits 2
Component
LAB

BAKE 240 : Quantity Baking

In this course, students apply baking and pastry skills through out the curriculum to
produce on a large scale. Students will receive practical experience by producing various baked goods on a large scale for use in a business setting and for retail sale. Students use the fundamentals of bake shop math to scale recipes to large quantities. Through practical experience, students will develop their skills in organization, timing, and judgment.
Credits 2
Component
LAB

BANQ 125 : Quantity Food Preparation

The fundamentals of food preparation and application of these principles to quantity food production in commercial and non-commercial settings. Emphasis is placed on the use of quantity food preparation equipment, menu planning, food safety and production.
Credits 2
Component
LAB

BANQ 126 : Banquet Service

This course provides students with comprehensive training in the field of banquet service. Through a combination of theoretical knowledge and practical hands-on experience, students will develop the skills necessary to excel in various banquet settings, including hotels, resorts, convention centers, and catering companies.
Credits 2

BEVM 102 : Coffee and Tea

This course delves into the intricate world of coffee and tea production, refinement, and service. Students will gain a comprehensive understanding of the cultivation, processing, roasting, brewing, and presentation of these beloved beverages. The curriculum will explore various coffee and tea varieties, their unique characteristics, and the factors that influence their flavor profiles.
The course will combine theoretical instruction with hands-on practical experience. Students will participate in group discussions, presentations, and laboratory exercises. Field trips to local coffee shops, tea houses, and roasteries may be included to provide real-world exposure to the industry.
Credits 2
Component
LEC

CULA 100 : Culinary Fundamentals

Culinary Fundamentals is a blend of theory and practical experience in the fundamental use of hand tools, equipment and materials used in the industry. This course is a basic introductory class exploring safety, sanitation, basic cooking and baking techniques, as well as the culture of and behind food. With the completion of this course you will be able to gain an entry-level position in the foodservice and hospitality industry. (F)
Credits 3
Component
LEC

CULA 101 : Science of Success: Career and Technical Education Student Organizations

Career and Technical Student Organizations (CTSO) enhance student learning through contextual instruction, leadership and personal development, applied learning and real world application. CTSOs work as an integral component of the classroom curriculum and instruction, building upon employability and career skills and concepts through the application and engagement of students in hands-on demonstrations and real live and/or work experiences through a Career and Technical Education (CTE) program. CTSO's help guide students in developing a career path, a program of study and provide opportunities in gaining the skills and abilities needed to be successful in those careers through CTSO activities, programs and competitive events. In addition, students have opportunities to hold leadership positions at the local, state, and national level and attend leadership development conferences to network with other students as well as business and industry partners.
Credits 1
Component
LAB

CULA 102 : Food Preparation Laboratory

Provides practical experience with the tools, equipment, materials and products used in food service and hospitality industry. Includes the properties and composition of food along with the basic knowledge of meats, produce, dairy products and staple groceries. Practical experience in the preparation of appetizers, salads, soups, sauces, meats, seafood, vegetables and farinaceous products. Practical experience in fabrication and preparation of beef, veal, pork, lamb, poultry and seafood along with the theory of service for these items. Practical experience in preparing and serving of food products is achieved through various banquets, special functions, daily preparation, fabrication and serving individuals and groups throughout both semesters. NOTE: The hospitality industry utilizes items that contain alcohol to flavor and flame food products that will be served to customers. These items include wine, flavored liquors, and spirits. The Culinary Arts Department, in an attempt to offer experiences and products that are as close to the work environment as possible, utilizes the same types of products in the preparation and service of food items prepared in the laboratory. Prerequisite for CULA 102: CULA 101, CULA 110. (CULA 101, F; CULA 102, S)
Credits 9
Component
LAB

CULA 103 : Intermediate Food Preparation Lab

Theory and practical experience in the use of hand tools, equipment and materials used in the industry. Intermediate composition of food products, meats, produce, dairy products and staple groceries, practical experience in the preparation and serving of: appetizers, salads and salad dressings, soups and stocks, vegetables, potatoes, and sauces, some emphasis will be placed on the use of herbs, spices and cheeses in the preparation of various dishes and foods, as used in the industry A student with basic culinary skills will use and hone those skills through practice and repetition. (F)
Credits 5
Component
LEC

CULA 110 : Sanitation and Safety

A study of health and sanitation conditions as well as effective sanitary application measures, types of organisms and adulterates responsible for food contamination and spoilage. Special emphasis is placed on the conditions conducive to the transmittal and methods of preventing the growth of organisms and contaminating food products. The HACCP system of food protection is introduced. Personal hygiene and appearance is a significant part of sound sanitation practices and is stressed throughout the course. The National Restaurant Association's ServSafe® Certification Program is a nationally recognized food safety program, and the students are required to become ServSafe® Certified. Safety procedures and laws are reviewed and practiced in relationship to food and personal safety. Corequisite: CULA 101. (F)
Credits 2
Component
LEC

CULA 119 : Culinary Nutrition

A study of basic nutrition, including how nutrients are utilized in the body. The requirements of the various nutrients in the body, and suggested daily nutritional needs are covered. A study of food products and their impact on the nutritional needs of the customer. The hospitality industry¿s role and responsibility in providing for the nutritional needs of the general public is emphasized. A computer analysis software program is used to evaluate diets throughout the course. Corequisite: CULA 101. (F)
Credits 2
Component
LEC

CULA 120 : Menu Planning

Includes principles and practices related to preparing menus. Included are menu formats, preferences of the public, and trends within the industry. Menus are planned to meet nutritional needs and the desires of our ever changing customers that are eating in various institutional and commercial food services. Students research, prepare and complete a menu project that is a large portion of the course. A nutrition computer analysis software program is used as a tool to aid in evaluating the menus in the course. This course allows the student to earn a certificate from National Restaurant Association Educational Foundation¿s Management First Program¿. The Manage First Program¿ focuses on the key competencies defined by today¿s restaurants, hospitality and foodservice leaders. Corequisites: CULA 102 and CULA 121. (S)
Credits 2
Component
LEC

CULA 121 : Culinary Mathematics

The study of the principles involved when operating a sound food service operation combined with the study of the basic principles of effective food cost control and the procedures used by various operations. Practice in the application of these procedures and principles is achieved through various projects and specific units. Computer programs are introduced to aid in menu costing, inventory control and recipe sizing. The course focuses on the key competencies defined by today's restaurants, hospitality and food service leaders. (F)
Credits 2
Component
LEC

CULA 140 : Restaurant Service

An overview of the operation of the restaurant dining room including personnel management and training, day-to-day operations and controls. Practical experience in customer relations is provided in an actual dining room setting.
Credits 4
Component
LAB

CULA 150 : Culinary Meat Fundamentals

This course focuses on educating the professional meat cutter from the culinary arts perspective. Students will learn basic kitchen safety and sanitation, equipment identification, and muscle structure and how it relates to cooking methods. The lab portion of the course will teach students basic knife skills, how to season and cook proteins using the various cooking methods, and how to advise customers (home cooks) to best utilize the various retail cuts. Students will develop a greater understanding of what the cuts of meat are and what customers can do with those cuts.
Credits 3

CULA 201 : Principles of Baking and Specialty Desserts

A study of the basic baking ingredients and how they function in the baking process. Practical application in preparation of pies, cakes, yeast breads and pastries as they would be prepared in hotel and restaurant kitchens. A wide variety of pastry and dessert products are prepared by students and many are utilized in the campus Dining Services facilities. Skills in recipe interpretation and conversion, accuracy in weighing of ingredients, proper mixing methods, and correct baking procedures are emphasized. (NOTE: Products will be prepared using flavored liqueurs and other spirits. Refer to CULA 101.) Prerequisites: CULA 101 and CULA 102. (F)
Credits 9
Component
LAB

CULA 202 : Short Order Cookery

Training in grill, fryer and broiler cookery, sandwich and breakfast preparation. Actual short-order preparation experience is available through a campus restaurant operated by students. Corequisite: CULA 222. (F)
Credits 2
Component
LEC

CULA 203 : Gourmet Foods/Catering & Banquet Service

This course is a continuation of food preparation techniques as taught in previous courses with opportunities for more specialized preparations. A variety of ethnic cuisines are explored, some of which are prepared and served in the campus restaurant. Food planning, purchasing and receiving procedures are studied. Catering projects and special functions serve as opportunities to practice these procedures along with food and labor costing. Advanced bake shop techniques are practiced. (See CULA 101 regarding the use of alcohol in food preparation). Prerequisites: CULA 101 and CULA 102. Corequisites: CULA 202 and CULA 221. (S)
Credits 4
Component
LEC

CULA 220 : Dining Room Service

An overview of the operation of the restaurant dining room including personnel management and training, day-to-day operations and controls. Practical experience in customer relations is provided in an actual dining room setting. Corequisite: CULA 221. (F)
Credits 1
Component
LEC

CULA 221 : Principles of Restaurant Management

Basic principles of food service management emphasizing food and labor management and problem-solving. Menu development, costing and inventory are practiced utilizing computer software designed for food service use. Corequisite: CULA 220. Prerequisites: CULA 120 and CULA 121. (F)
Credits 2
Component
LEC

CULA 222 : Restaurant Service & Production Management

Students execute the day-to-day operations of a restaurant in this course. Dining room service and restaurant production are explored through a combination of classroom and operations-based lab activities. Students will practice management skills such as sales forecasting, record of sales, inventory, point of sale operation, ordering, scheduling, customer service, meeting management, kitchen service, and employee training in an actual restaurant setting. Students and faculty practice a management style which emphasizes the team approach to attaining a common goal. (See CULA 101 regarding the use of alcohol in food preparation). Prerequisites: CULA 120 and CULA 221. Corequisites: CULA 202 and CULA 203. (S)
Credits 6
Component
LEC

CULA 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

CULA 297 : Internship

This internship course provides students with supervised, hands-on work experience in their chosen career field. The internship course reinforces technical and professional skills gained in the classroom through real-world application in a workplace setting. Students will develop industry-specific competencies, enhance problem-solving and communication skills, and gain insight into workplace expectations. Faculty and industry professionals will provide guidance and evaluation to ensure meaningful learning outcomes. Upon completion, students will be able to demonstrate increased proficiency in their field, apply critical thinking to job-related tasks, and reflect on their professional growth.
Credits 4
Component
FLD

CULA 297 : Cooperative Education (Management Application)

Credits 3
Component
INT

CULA 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

FTRC 110 : Food Truck Foundations

This course provides students with a fundamental knowledge of food truck equipment, operations, food preparation, service, safety and sanitation, and regulatory requirements. This class includes a combination of classroom discussion with hands-on, food truck learning.
Credits 3

FTRC 120 : Advanced Food Truck Operations

This advanced course delves into the intricate world of food truck operations, providing students with the in-depth knowledge and practical skills necessary to manage a food truck business successfully. Building upon foundational culinary arts principles, students will explore advanced food truck concepts, including menu development, cost management, marketing strategies, and regulatory compliance. Through classroom instruction, hands-on culinary demonstrations, and guest lectures from industry experts, students will gain the practical knowledge and skills needed to excel in the competitive world of food truck entrepreneurship.
Credits 3

ITLY 105 : Pasta, Risotto, and Gnocchi

This course provides students with a fundamental knowledge of pasta, risotto, and gnocchi preparation and service. This class includes a combination of classroom discussion with hands-on learning.
Credits 2

ITLY 106 : Italian Breads and Pastries

This course provides a study of the diverse range of Italian breads, pastries, and desserts. Italian cuisine has developed through centuries of internal and external influence. Using fundamental baking skills and unique Italian ingredients, students will produce traditional Italian baked goods.
Credits 2

ITLY 107 : Pizza

This course provides students with a fundamental knowledge of pizza preparation and service. This class includes a combination of classroom discussion with hands-on learning.
Credits 2

Electrical Technology

ECAL 100 : Introduction To Electricity

An introductory lecture class in electrical fundamentals. A practical approach to the study of electricity including Ohm¿s law, power, series and parallel circuits, direct and alternating current, with strong emphasis on diagrams and troubleshooting. (F, S)
Credits 3
Component
LEC

ECAL 101 : Direct Current (DC) Fundamentals

This course examines the basic components used in electrical circuits. The course stresses the appropriate terminology, units and uses of the various components in DC (direct current) environment only. Also, circuit analysis is stressed with circuits connected in series, parallel and series/parallel configurations. (F)
Credits 5
Component
LEC

ECAL 102 : Alternating Current (AC) Fundamentals

This course examines the basic components used in electrical circuits. The course stresses the appropriate terminology, units and uses of the various components in an AC (alternating current) environment. Also, circuits are analyzed with components in series, parallel, and series/parallel. Prerequisites: ECAL 101, MATH 136. (S)
Credits 5
Component
LEC

ECAL 103 : Electrical Code Study

An in-depth study of the National Electrical Code Chapters 1, 2, 3 and portions of Chapter 4. Wiring methods and materials, and equipment for general use are covered. State (ND and MN) electrical codes are also covered. (F)
Credits 4
Component
LEC

ECAL 105 : Electrical Safety and NFPA 70E

This course is a study of electrical safety and the rules for safe work practices set forth by OSHA and NFPA 70E, the standard for electrical safety in the workplace. In this course you will look at procedures to work safely around electrical systems and how to create an electrically safe work environment. (F)
Credits 1
Component
LEC

ECAL 111 : Electric Meters and Motors Lab

A practical, hands-on course using various electrical testing equipment to troubleshoot and test electric motors, components, and wiring systems. A study of single and three phase AC motors, their construction features and operating characteristic's. This lecture/lab class emphasizes electric motor terminology, identification of motor types, enclosures, mounts, motor selection, connections, maintenance, testing and troubleshooting. Students are also introduced to motor loads, protection, controls, and devices used to connect motors to their loads such as pulleys, v-belts, gearboxes, and couplings. (F, S)
Credits 3
Component
LAB

ECAL 133 : Basic Wiring Lab

This is an introduction to basic electricity, basic wiring methods, and materials and tools used in the electrical industry. Actual circuit layout and installation is done according to the rules of the National Electrical Code and other applicable state and local codes. (F, S)
Credits 3
Component
LAB

ECAL 137 : Electrical Drafting

This is a lecture and laboratory course dealing with the application of Computer Aided Drafting (CAD), using AutoCAD drafting software, as well as some reading and interpretation of blueprints from an electrician¿s perspective. (F, S)
Credits 2
Component
LEC

ECAL 192 : Experimental Course

A course designed to meet special departmental needs during the new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

ECAL 197 : Cooperative Education

Cooperative education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

ECAL 201 : 3-Phase Electrical Systems

This course is a study of three-phase alternating current circuits, electrical instruments and the theory, operation and connection of transformers. Students will study the theory, operation and connection of three-phase wye and delta circuits and the relationship of voltage, current and power in these circuits. Students will also study the harmonics of the effects of the building electrical systems. Prerequisite: ECAL 102. (F)
Credits 5
Component
LEC

ECAL 203 : Advanced Electrical Code Study

This course is a continuation of ECAL 103. Chapters 4 through 8 of the National Electrical Code (NEC) are studied in this course. There is special emphasis on hazardous locations and applications. Prerequisite: ECAL 103. (S)
Credits 3
Component
LEC

ECAL 204 : Electrical Planning and Estimating

This course is a culmination of all the student¿s previous learning experiences. It incorporates code classes, lighting and design, AutoCAD, wiring labs and theory classes. The course is designed to teach the student how to read and understand a set of prints in conjunction with a specification book, familiarize the student with the various materials, an emphasis on layout procedures, labor, and two different estimating techniques to develop a reasonable ¿bid¿ price for various projects. (S)
Credits 4
Component
LEC

ECAL 205 : Electrical Design and Lighting

A class discussion course dealing with electrical material and equipment sizing, layout and application, applicable wiring codes, regulations and rules, and characteristics of common electrical distribution systems as used in industrial plants and commercial building locations. Included is a study of short circuit current, current limiting and coordination, power factor correction and electrical rates. This course includes the study of modern illumination principles, calculation procedures and equipment for lighting installations. (S)
Credits 3
Component
LEC

ECAL 211 : AC Measurements

This lecture/lab course consists of a series of experiments to investigate the characteristics of single-phase and three-phase electrical circuits. The connections and testing of transformers in both single-phase and three-phase configurations are stressed. Students also learn the operation of three phase motors from conventional sources. Corequisite: ECAL 201. (F)
Credits 4
Component
LEC

ECAL 222 : Solid State Systems Lab

This course covers the foundation of electronics, the devices used in electronic circuits, how they function, and the proper handling of electronic components. The course covers the proper operation and use of test equipment such as multi-meters and oscilloscopes used in industry for testing and troubleshooting equipment. In addition, the course covers home automation.
Credits 2

ECAL 223 : Structured Cabling and Alarms Lab

Structured cabling for low voltage systems, installation, and maintenance of alarms. This type of work is considered a specialty trade branch of electrical work. In this course the student will understand the unique terminology associated with these systems. Describe the relationship between these systems and life safety by various codes and standards that affect both commercial and residential building. The course will describe the characteristics and functions of various alarm components, explain the different types of circuitry that connects these components and describe the theory behind conventional, addressable, and analog systems to better understand how these systems function. The lab portion of the class includes handling and termination of low voltage cables for networking, structured wiring, data, video, and warning alarms. Emphasis will be placed on major brands of fire alarms for commercial buildings with the lab using both Simplex and Siemens equipment.
Credits 2
Component
LAB

ECAL 224 : Automated Industrial Controls Lab

This is a lecture/lab course that will cover digital electronics, basic pneumatic and hydraulic principles, and basic robot operations and programming. The final lab projects will include principles from all elements covered. (S)
Credits 5
Component
LAB

ECAL 233 : Commercial Wiring Laboratory

This course will introduce the student to many different wiring methods and equipment used in the electrical industry in commercial and industrial electrical environments. Provide examples of tools, materials and procedures utilized by electricians in the fast paced and rapidly changing electrical field of today. Prerequisites: ECAL 103, ECAL 133. Corequisite: ECAL 203. (S)
Credits 3
Component
LEC

ECAL 237 : House Wiring Rough-In

This course will introduce the student to the logistics and procedures involved with wiring of a residential dwelling. (F)
Credits 1
Component
LEC

ECAL 238 : House Wiring Trim-Out

This course will introduce the student to the logistics and procedures involved with the proper trim-out of a residential dwelling. (S)
Credits 1
Component
LEC

ECAL 241 : Basic Motor Controls Lab

A lecture and laboratory class oriented to the study of electromechanical control system concepts. Experiments are designed to illustrate the principles, applications, connection and installation procedures of electrical controllers. Special emphasis is placed on the analysis and development of motor control circuits. (F, S)
Credits 3
Component
LAB

ECAL 242 : Advanced Drives/Lab

This is a lecture and laboratory course dealing with the theory, construction, application, installation, and programming of Variable Frequency Drive (VFD) motor controllers. VFDs are an increasingly common method of controlling motors and their related processes. Students will program a variety of controllers to learn the limitations and capabilities of each device. We will also be configuring programmable controllers to communicate with the drives, as well as communications with Human Machine Interfaces (HMIs). This course is a two credit class that will meet for one hour four times per week. (S)
Credits 2
Component
LAB

ECAL 243 : Programmable Logic Controllers Lab

This is a lecture and laboratory course dealing with the theory, construction, application, installation and programming of microprocessor-based programmable controllers. Logic networks solving typical industrial control problems are developed and programmed into a variety of controllers to learn the limitation and capabilities of each machine. (F, S)
Credits 3
Component
LAB

ECAL 245 : Medium & High Voltage

This lecture/lab course covers medium- and high-voltage electrical theory, conductors, insulators, overcurrent devices, testing, termination, safety precautions and safety equipment. (F, S)
Credits 1
Component
LEC

ECAL 246 : Alarm, Communications and Data Systems

Installation and maintenance of alarms, communications and data is considered a specialty branch of electrical work. In this course you will understand the unique terminology associated with these systems, describe the relationship between these systems and life safety by various codes and standards that affect both commercial and residential buildings. The course will describe the characteristics and functions of various alarm system components, explain the different types of circuitry (hard wired and wireless) that connects these components and describes the theory behind conventional, addressable and analog systems to better understand how these systems function. The lab portion of this class includes handling and splicing of fiber optics, networking, structured wiring, data, satellite communications, all types of alarms (fire, security and community warning-tornado-civil defense) and video surveillance/recording. (These technology/ revolutionary-based systems are subject to rapid change and every effort will be made to reflect any changes in technology. (F)
Credits 3
Component
LEC

ECAL 253 : Introduction to Instrumentation Lab

This course introduces the basic concepts of instrumentation and process control. The focus of the course is on negative feedback proportional control loops and their application in industry. This course will focus on the understanding of those systems used in the process control industries. (S)
Credits 3
Component
LAB

ECAL 254 : Instrumentation and Control Systems

This lecture/lab course covers the concepts of process control. Concepts include the terminology and functions of the devices used in control systems. The primary focus of this course will be on the role of controller plays in a process. (S)
Credits 4
Component
LAB

ECAL 255 : Process Measurement and Control Valves

This lab/lecture course deals with the operation and function of devices used to measure the process output of a control loop. Control valves and actuators are also included. Lab time is spent on experimentation and calibration of the devices. (S)
Credits 4
Component
LAB

ECAL 261 : HVAC and Building Systems

This is a lecture/lab course which examines the basic components used in refrigeration and air conditioning systems and their electrical circuits. The course focuses on identifying whether the system has failed due to an electrical problem or a mechanical problem. The building envelope is studied to verify proper size equipment or to use electric heat. Energy usage/efficiency will be discussed to maximize savings where possible. Lastly, building usage and scheduling will be studied where systems allow further control of the system to reap energy savings (introduction of building automation). (F)
Credits 2
Component
LAB

ECAL 263 : Distributed Electrical Systems

This course is a lecture/discussion course which examines today's need for more flexible energy systems. The basic components used in distributed generation systems will be discussed as well as the various types (solar, wind, engine drive, etc.). The NEC and wiring perspectives of various systems will also be studied. The students will be required to do research into modern systems as well as consult various industry resources for additional information. (F)
Credits 3
Component
LEC

ECAL 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

ECAL 297 : Cooperative Education

Cooperative education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

ECAL 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Fire Science

FIRE 101 : Fire Fighter I

This course introduces students to the foundational knowledge and skills required for entry-level firefighting, meeting the NFPA 1001 Standard for Firefighter Professional Qualifications. Students will engage in hands-on training and classroom instruction to prepare for Firefighter I certification.
Credits 5
Component
LEL

FIRE 102 : Firefighter Safety and Survival

This course emphasizes firefighter safety through modules on Courage to be Safe, LACK (Leadership, Accountability, Culture, Knowledge), After Action Reviews, and Creating Change in the Fire Service. Students will explore strategies to reduce firefighter injuries and fatalities, enhance accountability, and promote a positive safety culture within their departments.
Credits 1
Component
LEC

FIRE 103 : Incident Command

This course provides an in-depth understanding of the Incident Command System (ICS) and its application in emergency management. Students will complete FEMA certifications for ICS 100, IS 200, IS 700, and IS 800, focusing on command structure, resource management, and interagency coordination for all-hazards incidents.
Credits 3
Component
LEL

FIRE 104 : Hazardous Materials Operations

This course prepares students to respond to hazardous materials incidents at the operations level, following NFPA 472/1072 standards. Hands-on training and classroom instruction prepare students for Hazardous Materials Awareness and Operations level certification.
Credits 3
Component
LEL

FIRE 105 : Structure-Based Live Fire

This course combines learning modules and hands-on training to prepare students for live fire scenarios within structure-based environments, following NFPA 1403 standards.
Credits 2
Component
LEL

FIRE 106 : Interior Fire Attack

This course covers interior attack fundamentals and advanced tactics, including size-up, attack line operations, ventilation, smoke reading, and safety. Classroom sessions include video scenarios and insights from UL and NIST studies.

Credits 2

Component

LEC

FIRE 197 : Internship (Fire)

Provides opportunities to explore career interests and develop professional skills through work experiences. Under supervision of the employer and the instructor while receiving credit. May be repeated. (F, S, Su)

Credits 6

Component

INT

Semester Offered

Fall
Spring
Summer

FIRE 201 : Fire Fighter II

This course builds on Firefighter I skills, meeting NFPA 1001 standards for advanced firefighting. Hands-on training and classroom instruction prepare students for Firefighter II certification. Prerequisite: FIRE 101.

Credits 4

Component

LEL

FIRE 202 : Auto Extrication

This course teaches techniques for safely accessing and removing victims from vehicles involved in accidents. Topics include scene safety, tool operation, stabilization, and patient care. Hands-on training focuses on using specialized equipment for extrication.

Credits 4

Component

LEL

FIRE 203 : Fire Instructor I

In partnership with the North Dakota Fire Fighters Association, this course is designed to provide firefighter knowledge and skills training to prepare firefighters wishing to take the state Fire Instructor I level certification test. The academy consists of online, self-paced classroom instruction. The academy also includes hands-on training where candidates are trained on the firefighter Job Performance Requirements (JPRs) identified in NFPA 1041, Fire Service Instructor I

Credits 3

FIRE 204 : Responding to Flammable Gas Emergencies

This course covers the safe and effective response to incidents involving flammable gas. Topics include hazard recognition, scene safety, containment, and extinguishment techniques, as well as incident mitigation strategies for gas leaks and explosions.

Credits 2

Component

LEC

FIRE 205 : Fire Department Emergency Vehicle Operations Course (EVOC)

This course trains firefighters to operate emergency vehicles safely and efficiently. Topics include vehicle handling, defensive driving, emergency response tactics, and legal responsibilities. Hands-on driving exercises focus on skills required for operating emergency vehicles in various conditions.

Credits 2

Component

LEL

FIRE 206 : Heavy Vehicle Extrication

This course provides training in the techniques used to safely extricate victims from large, heavy vehicles such as trucks and buses. Topics include vehicle stabilization, tool use, and patient care during extrication.

Credits 2

Component

LEL

FIRE 207 : Grain Bin Extraction & Rescue

This course focuses on the safe and effective techniques for rescuing victims trapped in grain bins. Topics include scene assessment, equipment use, and rescue strategies tailored to grain bin environments. Hands-on training ensures students are prepared for real-world rescues.

Credits 2

Component

LEL

FIRE 208 : Technical Rescue

In partnership with the North Dakota Fire Fighters Association, this course is offered as an academy format designed to provide firefighter knowledge and skills training to prepare firefighters wishing to take the state Technical Rescue certification test. The academy consists of online, self-paced classroom instruction. The academy also includes hands-on training where candidates are trained on the firefighter Job Performance Requirements (JPRs) identified in NFPA 1006, Standard for Technical Rescuer Professional Qualifications

Seven separate certification options with 3 levels in each option are available for completion of the core technical rescue JPRs Technical Rescuer
1. Rope Rescue Awareness/Operations/Technician (NFPA 1006, 2021 Edition)
2. Confined Space Rescuer Awareness/Operations/ Technician (NFPA 1006, 2021 Edition)
3. Trench Rescue Rescuer Awareness/Operations/ Technician (NFPA 1006, 2021 Edition)
4. Structural Collapse Rescuer Awareness/Operations/ Technician (NFPA 1006, 2021 Edition)
5. Surface Water Rescuer Awareness/Operations/ Technician (NFPA 1006, 2021 Edition)
6. Swift Water Rescuer Awareness/Operations/Technician (NFPA 1006, 2021 Edition)
7. Ice Rescue Rescuer Awareness/Operations/Technician (NFPA 1006, 2021 Edition)

Candidates who successfully complete this academy are eligible to attempt the certification test. ProBoard® accredited, Technical Rescue certification will be awarded to those who successfully pass the testing process and complete all prerequisites.
Credits 1-8
Component
LEL

FIRE 209 : Fire Instructor I

This course provides foundational skills for teaching and evaluating firefighter training. Students will learn lesson planning, teaching techniques, and classroom management to effectively deliver fire service training. Emphasis is on preparing students for Fire Instructor I certification.
Credits 2
Component
LEL

FIRE 297 : Cooperative Education

Cooperative education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1-6

FIRE 299 : Special Topics

A class or activity designed or customized to meet the special needs of the student or to utilize faculty resources.
Credits 1-8

Heating, Ventilation, Air Conditioning and Refrigeration Technology

HVAC-R 297 : Cooperative Education

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their field of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

HVAC-R 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

HVAC-R X92 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year afterwhich time the course is assigned a different number.
Credits 1
Component
LEC

Land Surveying and Civil Engineering Technology

CT 121 : Surveying I

This course covers the instruction and practice in the use of surveying instruments and equipment. Types of survey, field notes, bench marks, traversing with total stations, traverse calculations, bearing calculations, remote elevations and distancesThis course covers the instruction and practice in the use of surveying instruments and equipment. Types of survey, field notes, bench marks, traversing with total stations, traverse calculations, bearing calculations, remote elevations and distances
Credits 2
Component
LEC

Manufacturing Technologies

MFGT 101 : Robotics I

This is a lab/lecture introductory robotics course that includes FANUC robot terminology and operational skills with a welding emphasis. This course provides basic instructions using the FANUC Roboguide-WeldPRO software on how to setup a workcell for the simulation programming software using the FANUC robot. FANUC teach pendant and Windows-based computers. (S)
Credits 2
Component
LEC

MFGT 107 : Introduction To CNC

A lecture/lab introductory course that introduces the student to the basic fundamentals of CNC programming. Applied lab exercises in programming bench-top mills and lathes are included. (F)
Credits 2
Component
LEC

MFGT 110 : Industrial Shop Practices

An introduction to the procedures and practices used to develop fundamental industrial shop skills. Students enrolled in this class will learn and apply a variety of practical skills used to aid in any entry level industrial mechanical service occupation. The topics covered in this course are: general shop safety; MIG welding set-up and operation as well as welding simulation; Oxy-Fuel torch set-up and operation; basic measuring methods using tape measures, rulers, calipers, and micrometers; identification of SAE and ISO metric measuring systems; proper use and identification of basic shop tools; identification of twist drills and sharpening; identification and use of hand taps; fastener type and grade identification; Helicoil insert use; bolt extraction; properly demonstrate the use of mechanical type torque wrenches; properly demonstrate the use of electronic type torque wrenches; properly demonstrate the ability to torque according to industry standards.
Credits 2
Component
LEC

MFGT 115 : Manufacturing Processes I

The study of basic machine tool operations and forming processes topics include: lathe work, milling, drilling operations, tooling, and fixture work. (F)
Credits 4
Component
LEC

MFGT 120 : Basic Welding I

Basic training in the use of Oxygen-Acetylene/Propylene Cutting (OFC), Shielded Metal Arc Welding (SMAW), and Gas Metal Arc Welding (GMAW). Welding safety, welding equipment, welding joint configurations, and welding techniques will be covered. Welding supplies such as electrodes, shielding gases, and electricity will be studied. Welding shop safety is the main focus. (F, S)
Credits 1
Component
LEC

MFGT 121 : Basic Welding II

This course is a continuation of MFGT 120. This course covers basic horizontal and vertical welding using Shielded Metal Arc Welding (SMAW) and Gas Metal Arc Welding (GMAW). Plasma Arc Cutting and Carbon Arc Cutting are also covered. Prerequisite: MFGT 120. (F, S)
Credits 1
Component
LEC

MFGT 123 : Fabrication Methods I

A course for students to learn fabrication techniques as they relate to product manufacturing, maintenance and repair. How to use basic shop tools and shop equipment efficiently and safely. (F)
Credits 2
Component
LEC

MFGT 125 : Total Quality Improvement

A study of the introductory concepts of total quality improvement. Fundamentals of quality, commitment, teamwork, cause/effect, data collection and decision-making. (F, S)
Credits 2
Component
LEC

MFGT 126 : Manufacturing Process II

A lecture/lab introductory course that introduces students to robotics and automated systems and their operating characteristics. Students will learn basic coordinate systems and how hydraulic, pneumatic and electromechanical systems function together as a production cell. Applied work cell projects will be utilized. (S)
Credits 2
Component
LEC

MFGT 127 : Precision Measuring Techniques

A lecture/lab introductory course that introduces the student to common measuring tools and measurements. Topics include: common measuring tools, gauge blocks, surface measurement, dial indicators, micrometers, optical measuring techniques, surface measurements, tolerance zones and basic calibration methods. (S)
Credits 2
Component
LEC

MFGT 137 : Print Reading I

A basic course for students to learn basic shop sketching and print reading. Giving the individual enough knowledge to manufacture a part from an engineering shop drawing. (F, O)
Credits 2
Component
LEC

MFGT 140 : Fabrication Methods II

An advanced course for students to learn fabrication techniques as they relate to product manufacturing, maintenance and repair. How to use advanced shop tools and shop equipment efficiently and safely. Prerequisite: MFGT 123. (F)
Credits 2
Component
LEC

MFGT 141 : Print Reading II

An advanced course for students to learn shop sketching and print reading. Giving the individual knowledge of unusual applications of drafting principles including sketches, auxiliary sections, distorted views, welding/ machining symbols and representations of some common production methods. Brief applications in 2D and 3D drawing software and GD&T (Geometric Dimensioning and Tolerancing). Prerequisite: MFGT 137. (S)
Credits 2
Component
LEC

MFGT 150 : Hydraulics I

A study of the basic hydraulic system and system components. The student will explain how each component works, will relate each component's relationship to a functioning system, will read and interpret basic hydraulic schematics, and will review general component troubleshooting and maintenance procedures. Topics include: basic hydraulic systems, force, energy, pumps, motors, control valves, actuators, reservoirs, filters, lines, fittings and basic system troubleshooting methods. (F, S)
Credits 2
Component
LEC

MFGT 160 : Pneumatics

A study of the basic pneumatic system and system components. This study will explain how each component works, will relate each component's relationship to a functioning system, will include reading and interpreting basic pneumatic schematics, and will review general component troubleshooting and maintenance procedures. Topics include: compressed air, force transmission, energy, air distribution, actuators, valves, regulators, air preparation and basic troubleshooting methods. (F, S)
Credits 2
Component
LEC

MFGT 225 : Intro To Statistical Process Control

A study of the introductory concepts of statistical process control. Fundamentals of statistics, control charts, process capability, sampling plans, quality costs, ISO 9000 and quality teams. (F, S)
Credits 2
Component
LEC

MFGT 228 : Geometric Tolerancing

A course dealing with the basic principles used in geometric tolerancing and its use in the world of manufacturing. Topics include: general tolerancing methods, geometric symbols, datums, material conditions, form tolerances, orientation tolerances, and location tolerances, measuring methods and basic bonus tolerancing methods. (S)
Credits 2
Component
LEC

MFGT 230 : CIM Lab

This course is a capstone project that is designed to showcase the students¿ abilities that have been developed over the four semesters. The class will include mechanical adjustments, electrical wiring, and PLC programming. The class combines all the skills that a mechatronics technician needs to have a systems approach to automation. (S)
Credits 5
Component
LAB

MFGT 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

MFGT 297 : Cooperative Education

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

MFGT 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
SEM

Mechanical Systems

MSYS 103 : Math for Mechanical Systems Technicians
A basic math course with emphasis on development of useful skills in layout, measurement and computation of pipe lengths and fitting allowances, as well as a study of elevation, grade and volumes as it pertains to the trades. (F)
Credits 3
Component
LEC

MSYS 132 : Advanced Hydronics Systems Lab
This course covers hydronic heating from boiler operation to hydronic heating systems, forced-air, convention and radiant. The course includes classroom and laboratory assignments. (S)
Credits 2
Component
LAB

MSYS 141 : Introduction To Electricity
A study of basic electricity for plumbers including applications such as water heaters, pumps, hot-water heating systems and their associated controls is offered with this course. (S)
Credits 2
Component
LEC

MSYS 142 : Electrical Controls for HVAC and Refrigeration
This course covers many aspects of control circuits connected to HVAC and refrigeration service, and it includes classroom and laboratory assignments. Prerequisite: MSYS 141 or equivalent. (F)
Credits 2
Component
LEC

MSYS 151 : Drafting and Sketching
A practical course in drafting, sketching, scale reading, geometric construction and interpretation of drawings. The principles involved are sufficient in depth to give the student the working knowledge and skills required for the major program areas. (S)
Credits 2
Component
LEC

MSYS 192 : Experimental Course
Credits 1
Component
LEC

MSYS 292 : Experimental Course
A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

MSYS 299 : Special Topics
A course designed to meet special departmental needs.
Credits 1
Component
LEC

Plant Science

PLSC 105 : Applied Agronomy
Provides basic concepts of crop and pest management and identification as well as fertilizer and pesticide uses and proper application methods. (S)
Credits 3
Component
LEC
Semester Offered
Spring

PLSC 110 : World Food Crops
Scientific principles of crop growth, worldwide production, management alternatives and processing for domestic and international consumption. (S) ND:SCI
Credits 3
Component
LEC

PLSC 115 : Crop Technologies
This course is designed to introduce students to the importance of seed selection in crop production. Seed traits and the economic impact of the seed business will be discussed. Planting systems, world market implications and stewardship of traits will be explored. This course provides the background information needed by today¿s seed representatives and farm producers. Prerequisites: PLSC 224 and PLSC 225. (S)
Credits 2
Component
LEC

PLSC 223 : Introduction to Weed Science
Introduction of a basic knowledge of weeds, herbicide groups, the use of pesticides, economic and environmental considerations, personal safety, modes of action and terminology.
Credits 3
Component
LEC

PLSC 224 : Introduction to Crop Protection

Introduction to chemical crop protection such as herbicides, fungicides, insecticides and seed treatment. A study of chemical crop protection products or pesticides which aid in management and control of insects, diseases, weeds, fungi and other undesirable pests for improved crop health, growth and yield production. (F)
Credits 3
Component
LEC

PLSC 225 : Principles of Crop Production

Principles of field crop production with emphasis on relationships of crops to their climate and production considerations as a means of managing resources and environment. Prerequisite: PLSC 110. (F)
Credits 3
Component
LEC

PLSC 226 : Introduction to Cover Crops

The purpose of this course is to introduce cover crop concepts and best management practices for the use of cover crops in cropping and diversified situations. Development of an individual project for the use of cover crops to address a specific field situation including the planning, implementation, management and evaluation. Prerequisites: SOIL 210, PLSC 110, and PLSC 225. (S)
Credits 3
Component
LEC

PLSC 235 : Field Scouting Techniques

The purpose of this course is to provide students the skills necessary for proper pest identification and crop scouting techniques. Information such as crop growth and development, pest life cycles, damage symptoms and economic thresholds will be covered. Communication skills and presentation techniques will also be emphasized. (S)
Credits 3
Component
LEC

PLSC 235L : Field Scouting Techniques Lab

Field scouting activities will be done in the field at various locations throughout the summer to give the student practical field experience. Prerequisite: PLSC 235 (Su)
Credits 1
Component
FLD

PLSC 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

Plumbing

PLMB 101 : Core Curriculum for Plumbers

The Core Curriculum consists of nine individual modules which are: Basic Safety, Introduction to Hand Tools; Introduction to Power Tools; Introduction to Blueprints; Basic Communication Skills; Basic Employability Skills and Introduction to Materials Handling.
Credits 2
Component
LEC

PLMB 102 : Plumbing Theory

A study of general Plumbing topics that will be essential while working in the field. There will be an emphasis on plumbing history, plumbing math, plumbing fixtures and fittings, DWV systems, water systems introduction into service plumbing and other essential topics in the plumbing industry.
Credits 2
Component
LEC

PLMB 103 : Plumbing Code I

A study of the Uniform Plumbing Code that is recognized in North Dakota. The course covers definitions and general regulations as they pertain to the UPC. A detailed study of the code as it regulates our trade and protects the public health.
Credits 2

PLMB 104 : Plumbing Code II

A study of the Uniform Plumbing Code that is recognized in North Dakota. The course covers fixtures and plumbing systems as they pertain to the UPC. A detailed study of the code as it regulates our trade and protects the public health.
Credits 2

PLMB 105 : Plumbing Code III

A study of the Uniform Plumbing Code that is recognized in North Dakota. The course covers plumbing systems and indirect wastes as they pertain to the UPC. A detailed study of the code as it regulates our trade and protects the public health.
Credits 2
Component
LEC

PLMB 106 : Plumbing Code IV

A student of the Uniform Plumbing Code that is recognized in North Dakota. The course covers venting, traps and interceptors, and firestop protection as they pertain to the UPC. A detailed study of the code as it regulates our trade and protects the public health.
Credits 2

PLMB 111 : Plumbing Lab I

Hands-on learning of the plumbing trade. Students will learn the proper name for plumbing fittings. The course includes the installation of plumbing pipes, fittings, and some basic fixtures that you will encounter on the job. Students will make sure that the Uniform Plumbing Code is implemented on all jobs installed in the lab.
Credits 3
Component
LAB

PLMB 112 : Plumbing Lab II

Hands-on learning of the plumbing trade. The course includes the installation of plumbing for toilets and sinks in a residential setting. Students will make sure that the Uniform Plumbing Code is implemented on all jobs installed in the lab.
Credits 3
Component
LAB

PLMB 113 : Plumbing Lab III

Hands-on learning of the plumbing trade. The course includes the installation of plumbing for showers, tub/shower, clothes washers, and laundry sinks in a residential setting. Students will make sure that the Uniform Plumbing Code is implemented on all jobs installed in the lab.
Credits 3

PLMB 114 : Plumbing Lab IV

Hands-on learning of the plumbing trade. The course includes the installation of plumbing for urinals, wall hung water closets, water heaters, and other commercial fixtures. Students will make sure that the Uniform Plumbing Code is implemented on all jobs installed in the lab.
Credits 3
Component
LAB

PLMB 115 : Residential Plumbing Application

Installation of drain, waste, and vent (DWV) and water supply systems in a residential setting. Students will use all applicable codes to install a whole house plumbing system.
Credits 1

PLMB 132 : Blueprint Reading I

A study and practice in measuring and blueprint reading, with a detailed study of the residential and light commercial plans that pertain to plumbing and mechanical installations.
Credits 2
Component
LEC

PLMB 133 : Blueprint Reading II

A study and practice in measuring and blueprint reading, with a detailed study of the commercial plans that pertain to plumbing and mechanical installations.
Credits 2

PLMB 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

PLMB 297 : Cooperative Education

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

PLMB 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Precision Machining Technology

MATL 101 : Machine Tool Theory I

This Precision Machining Theory course introduces the safe use and functional purpose of hand tools, layout tools, and measuring instruments. Fundamentals in the use of lathes and vertical milling machines including all of the basic procedures used to produce machined parts are explained and studied in detail. Horizontal and vertical sawing machines are also introduced. Proper use and identification of cutting tools for these machines are learned. Safe machine shop practices are studied and are applied in MATL 111. (F)
Credits 3
Component
LEC

MATL 102 : Machine Tool Theory II

The Precision Machining Theory course introduces the safe use and functional purpose of surface grinders and cylindrical grinding attachments. CNC tool room lathe and mill applications will be studied, and introductory CNC programming will be introduced. Advanced processes for manual mills and lathes, as well as rotary tables and indexers will be included in the course. Carbide insert and tool holder nomenclature and application is learned. Metallurgy and heat-treating processes will be covered and students will have the opportunity to apply these technologies in MATL 112. (S)
Credits 3
Component
LEC

MATL 111 : Machine Tool Lab I

This introductory course to Precision Machining begins with the use of basic tools such as hammers, punches, layout tools, files, drills, taps, and reamers. Students will learn the proper techniques to sharpen drills, layout parts, drill and tap holes, and properly deburr parts using files and abrasives. Fundamentals in the use of the drill press, lathe, vertical mill, and horizontal and vertical saws, includes all of the basic procedures to produce machined parts on these machines. Proper measuring tool use and applications will be practiced. Safety techniques in the use of tools and equipment will be stressed. (F)
Credits 9
Component
LAB

MATL 112 : Machine Tool Lab II

This course will continue to expand on machining operations studied and applied in MATL 111. More advanced practices for lathes, vertical milling machines, and metrology including CMM operation will be introduced. New technologies utilized shall consist of surface grinding, metallurgy, and CNC turning and milling operation and setup. Students will set tool and work offsets and use conversational programming to produce parts on CNC tool room lathes and mills. Safety techniques in the use of tools and equipment will continue to be applied. (S)
Credits 9
Component
LAB

MATL 201 : Toolmaking Theory I

The design and application of cutting tools and tool holders will be studied. The theory and procedures for setup and operation of Wire and Sink Electrical Discharge Machining (EDM), along with the tooling involved in these processes, will also be covered. Toolmaking procedures for the design and construction of jigs, fixtures, and inspection gages will be included in the coursework. Students will study the design, construction, and terminology involved with metal stamping dies including blank and pierce, compound, progressive, and bending and forming dies. (F)
Credits 3
Component
LEC

MATL 202 : Toolmaking Theory II

An introduction to plastic injection molding and the procedures and practices used to design and build plastic injection molds. Types and uses of plastics will be studied along with other types of molding processes such as die-casting, extrusion, compression molding, thermoforming, blow molding, and rotational molding. Emphasis will be placed on the theory and design of plastic injection molds including standard, cam, stripper plate, 3-plate, and unscrewing molds. The study of cold runner and hot runner systems will be included in the coursework. (S)
Credits 2
Component
LEC

MATL 205 : CNC Theory and CAD-CAM Operation

The purpose of this course is to provide the student with the basic skills and knowledge necessary to be successful in the operation, set-up, and programming of CNC turning and milling centers. Emphasis will be placed on: 1) proficient CNC operation, 2) set-up, and 3) entry level programming. Advanced programming and set-up will be covered in later coursework. (F)
Credits 3
Component
LEC

MATL 206 : CNC and CAD-CAM Programming

The theory and practices learned in MATL 205 along with advanced programming and set-up techniques in multi-axis machine tools up to 4 axis' are taught in this class. Several advanced projects will be programmed, set up and run by students on CNC turning centers and CNC machining centers. In addition, a major capstone programming project is done in this class that requires full scale production methods used in producing more than 30 components that will be manufactured and assembled to produce a finished working machine or production tool. Introduction to basic CAD-CAM programming to 2 1/2 dimensions is also covered in this class to aid in producing the capstone project. Set-up and operation of DNC software for uploading and downloading NC files is stressed in this class. Each student will advance from simple to complex programming as their ability and interest permits. (F)
Credits 3
Component
LEC

MATL 212 : Toolmaking Lab II

Toolmaking students will specialize in either mold-making or die-making. They will design and build either a complex mold or die depending upon the area in which they choose to specialize. They will be required to complete a portion of their molds or dies using EDM and a portion on CNC. They also will be involved in the design and building of jigs and fixtures used in the production job by the machinist students. Students also will learn how to make single flute carbide and HSS form cutters. (S)
Credits 7
Component
LAB

MATL 213 : Machinist Lab I

Basic projects using the CNC lathe and CNC mill are introduced. More complicated setups and procedures on lathe, vertical and horizontal CNC mills and surface grinders to produce parts in quantity or repair situation are learned. ID/OD and form grinding are introduced. (F)
Credits 9
Component
LAB

MATL 214 : Machinist Lab II

Each student will program, setup and operate CNC lathes and mills, sinker and wire E.D.M.'s on a variety of required lab jobs. Additional experience producing parts to accurate dimensions is highly stressed. Speed of completion becomes very important in this class. All students will be involved in a full-scale production capstone project that involves building and assembling a production tool or machine consisting of at least 30 precision machined components. This project requires them to use all of the knowledge gained in both MATL 205 and MATL 206 to efficiently use time and resources available to complete the job while meeting stringent timelines and high quality standards. This capstone project gives students real-world manufacturing experience as well as the chance to work with other students and even other departments as a team to identify and solve real manufacturing problems. Jigs and fixtures required to align and hold parts during machining also will be designed and built by students. (S)
Credits 9
Component
LAB

MATL 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

MATL 297 : Cooperative Education

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

MATL 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Prior Learning Assessment

PLA 202 : Prior Learning Assessment

This course recognizes prior education and training provided through a USDOL or federally approved apprenticeship training program. Individuals who have completed at least 6000 hours (including 400 hours of related study) and who have applied for and been admitted to the NDSCS Technical Studies-Journeyworker Track will qualify.
Credits 0-12
Component
LEC

Refrigeration and Air Conditioning Technology

REFG 101 : Science of Success: Intro to HVAC/R

REFG 101 will introduce HVAC/R Technology students to the program, the industry at large, and relevant professional skills to include soft skills. Program expectations and policies will be discussed, as well as other relevant topics to make a student successful in the program. The course will also introduce students to campus resources, policies and procedures and cover topics such as time management, study skills, goal setting, wellness, financial literacy, and professional development. This class may require participation in several field t rips for further understanding of the profession.
Credits 1
Component
LEC

REFG 102 : Refrigeration Technology

An in-depth study of the four essential components of the refrigeration system such as: evaporators, condensers, compressors and metering devices will be included in this course. Normal system operating conditions will be discussed for a variety of refrigeration and air conditioning applications. Understanding normal operating conditions will be essential in learning troubleshooting techniques. This course will begin with a review of the theories of refrigerants, refrigerant recovery methods, and system evacuation. Prerequisite: REFG 101. (S)
Credits 3
Component
LEC

REFG 104 : Refrigerants: Chemistry and Ecology

With an emphasis on decreasing the impact on the environment by improved service techniques, study in this course will prepare the student to practice more environmental acceptable procedures. Study in this course will include: The chemical composition of the refrigerants commonly used in the refrigeration and air conditioning industry, effects of the refrigerants on the environment, service procedures recommended by the Environmental Protection Agency for preventing the release of refrigerants to the atmosphere. During the course the students will examine oils and the appropriate application, changing, and disposal methods. This course is designed to be a concentrated study to help the student pass the EPA Refrigerant Certification Exam.(S)

Credits 1

Component

LEC

REFG 110 : Blueprint Reading and Estimating

In the HVAC/R industry it is imperative that professionals have a good working knowledge of blueprints. Blueprint reading and estimating learning outcomes are measuring and scaling skills, identification of symbols, and definitions of pertinent terms. The student will work with plan views, elevations, sections, details, and specifications and show how it is possible to determine the scope of the job and formulate a list of materials needed. Time will also be spent learning to determine how the building designer intended the HVAC/R equipment to be installed. No prerequisites are required. (F)

Credits 2

Component

LEC

REFG 111 : HVAC/R Trade Skills

REFG 111 will be a 3-hour long lecture-lab combination class. Some of the time will be spent lecturing, using academic course materials. The rest of the time will be spent in a lab setting, practicing the application of skills learned in theory. This course will introduce the student to common skills, tools, and competencies required for the installation of various piping materials, air distribution components, and water distribution piping used in HVAC/R. It will cover the theory and application of required skills for refrigeration lines, gas lines, venting, condensate, hydronics, and duct work. It will also cover common HVAC/R tools, safety, and best practice procedures. REFG 111 will provide actual fabrication tools and equipment where the student will be able to practice fabricating projects until they are acceptable trade quality projects. Sheet metal layout, piping leak testing, threading, priming, gluing, silver soldering, and silver brazing are examples of activities in the lab. This class may require participation in several field trips for further understanding of the profession.

Credits 3

REFG 112 : Domestic and Residential Systems

This will be a 2-hour long lecture/lab combination class. Some of the time will spent lecturing, using academic course materials. The rest of the time will be spent in a lab setting practicing the application of skills learned in theory. This course will allow the student to apply refrigeration fundamentals to actual domestic and residential systems. Diagnostics, repairs and component replacements will be applied to refrigerators, freezers, window air conditioners, de-humidifiers, and central air conditioning systems. There will also be application opportunities for the knowledge learned in REFG 102. A key component of the course will be providing repair reports on two separate pieces of equipment that the student has provided. This class may require participation in several field trips for further understanding of the profession. (S)

Credits 3

Component

LAB

REFG 113 : Intro to Refrigeration

REFG 113 will be a 3-hour long lecture-lab combination class. Some of the time will be spent lecturing, using academic course materials. The rest of the time will be spent in a lab setting, practicing the application of skills learned in theory. This course will introduce the student to various theories behind mechanical refrigeration, refrigerants, and the refrigeration system. Students will take necessary readings and measurements to solidify their understanding of a simple refrigeration system. There will also be introductions and opportunities to use evacuation, refrigerant recovery, and refrigerant charging equipment. This class may require participation in several field trips for further understanding of the profession.

Credits 3

Component

LAB

REFG 121 : Electrical Fundamentals

REFG 121 will be a 2-hour long lecture-lab combination class. Some of the time will be spent lecturing, using academic course materials. The rest of the time will be spent in a lab setting, practicing the application of skills learned in theory. This course will introduce the student to the basic theories of electricity with an emphasis on applying these to the HVACR industry. It will begin by examining atomic theory, electrical pressure, current flow, resistance, and electrical power. There will be and emphasis on Ohm's Law, series, parallel, and combination circuits. The student will be instructed on electric meters and their use. Alternating current, inductance, and capacitance will be studied. The course will also provide instruction in the components, symbols and circuits used in the HVACR industry.

This class may require participation in several field trips for further understanding of the profession.

Credits 3

REFG 122 : Motors for HVAC/R I

This course will be a 2-hour long lecture/lab combination class. Some of the time will be spent lecturing using academic course material. The rest of the time will be spent in a lab setting practicing the application of skills learned in theory. From motor theory to HVAC/R components to the wide varieties of electrical diagrams, the course focus is to give the student a strong background in electrical understanding necessary to install and service heating, ventilating, air conditioning and refrigeration systems. Special emphasis will be applied to learning the types of motors and what the differences are in their composition and behavior. We will also explore capacitors and motor starting devices. This class may require participating in several field trips for further understanding of the profession. Prerequisite: Satisfactory completion of REFG 121 and REFG 123 or equivalent. (S)
Credits 3
Component
LEC

REFG 123 : Basic Electrical Controls

REFG 123 will be a 2-hour long lecture-lab combination class. Some of the time will be spent lecturing, using academic course materials. The rest of the time will be spent in a lab setting, practicing the application of skills learned in theory. This course will examine the electrical properties of voltage, current, resistance, and power by designing circuits, measuring, and recording data, t hen comparing this data to calculated values. Electrical meter operation and application, as well as safety practices will be of primary focus. Control circuits will be designed and examined. Emphasis will be placed on obtaining a solid understanding of electrical fundamentals to develop troubleshooting skills necessary to work in the HVACR industry. This class may require participation in several field trips for further understanding of the profession.
Credits 3

REFG 124 : Motors for HVAC/R II

This will be a 2-hour long lecture/lab combination class. Some of the time will be spent lecturing using academic course materials. The rest of the time will be spent in a lab setting practicing the application of skills learned in theory. From motor theory to HVAC/R components to wide varieties of electrical diagrams, the course focus is to give the student a strong background in electrical understanding necessary to install and service heating, ventilating, air conditioning and refrigeration systems. Special emphasis will be applied to troubleshooting techniques and skills. We will also introduce the student to special motor types, such as VFDs, stepper motors, and inverter type motors. This course will build upon the knowledge gained in REFG 122. This class may require participation in several field trips for further understanding of the profession. Prerequisite: Satisfactory completion of REFG 122. (S)
Credits 3
Component
LAB

REFG 202 : Refrigeration Technology

This course will provide a study of commercial refrigeration systems from a service and installation perspective. This will include studies of heat pumps, supermarket systems, ice making equipment and restaurant/food service equipment. The course emphasis will include system charging techniques, for peak efficiency, maintenance, and troubleshooting. Prerequisite: REFG 201. (S)
Credits 3
Component
LEC

REFG 211 : Commercial Refrigeration I

REFG 201 is a lecture-lab combination course. Students will spend time both in theory lectures using academic course materials and in lab settings applying skills learned in theory. This course with have an in-depth analysis of the refrigeration cycle. Pressure/Enthalpy diagrams will be used to learn how dynamically the system operates. Proper piping and pipe sizing techniques will be studied and applied. The efficiency of the refrigeration system will be the focus. Applications of refrigerant controls will be applied. This class may require participation in several field trips for further understanding of the profession.
Credits 3

REFG 212 : Commercial Refrigeration II

This is a 2-hour long lecture/lab combination class. Some of the time will be spent lecturing using academic course materials. The rest of the time will be spent in a lab setting practicing the application of skills learned in theory. This course will provide a study of commercial refrigeration systems from a service and installation perspective. This will include studies of supermarket systems, ice making equipment and restaurant/food service equipment. The course emphasis will include system charging techniques, maintenance, and troubleshooting. Prerequisite: REFG 201. (S)
Credits 3
Component
LAB

REFG 226 : Building System Controls

REFG 226 will be a 3-hour long lecture-lab combination class. Some of the time will be spent lecturing, using academic course materials. The rest of the time will be spent in a lab setting, practicing the application of skills learned in theory. This course will begin with a review of electrical theory, relay logic, schematic diagram interpretation and troubleshooting. It will then introduce students to different automatic control systems used in the HVAC/R industry. The course will begin with electromechanical controls and then proceed to pneumatics, Residential and Commercial direct digital controls, and variable frequency drives. This class may require participation in several field trips for further understanding of the profession.
Credits 3

REFG 231 : Comfort Cooling

REFG 231 will be a 2-hour long lecture-lab combination class. Some of the time will be spent lecturing, using academic course materials. The rest of the time will be spent in a lab setting, practicing the application of skills learned in theory. The class covers comfort and psychrometrics, system efficiency, EER, SEER, COP, AFUE, forced air duct design, lay out, and balancing. When available balancing will take place on site utilizing real buildings. The course includes classroom, traditional lab, and homework. Prerequisites: 1st year curriculum in HVAC-R or equivalent. Study will encompass the foundational theory that allows a technician in the HVAC/R industry to understand load on an air-conditioning system. In addition, the course will prove the efficiency of lab equipment on a given day. This shows students how they can determine the capacity of a system in an eventual customer building. We will construct a duct system in the lab and take measurements with air diagnostic equipment. This class may require participation in several field trips for further understanding of the profession.
Credits 3
Component
LEC

REFG 232 : Advanced Residential Systems

This is a 2-hour long lecture-lab combination class. Some of the time will be spent lecturing using academic course materials. The rest of the time will be spent in a lab setting practicing the application of skills learned in theory. This class covers installation practices, energy auditing, and heating loss/gain on structures. The class will discuss and calculate load on forced air heating and cooling systems and determine required equipment for specific buildings. The course includes classroom, homework, and some computer lab and building location work. Study will encompass the age-old questions. How big is big enough? How does one properly determine heating and cooling system size? With the energy efficient equipment that is available to us today in the HVAC industry, there comes the responsibility to size the equipment to the building energy loss or gain. Why size it correctly? Customer comfort, equipment life span, and trouble-free energy efficient performance are a few of the many good reasons. This course will provide a working knowledge of the basics necessary to see HVAC system installation from sizing, planning and layout, selecting equipment, material list, to the completed balanced forced air system. This class may require participation in several field trips for further understanding of the profession. Prerequisites: 1st year curriculum in HVAC/R or equivalent and REFG 231.(S)
Credits 3
Component
LEC

REFG 253 : Gas Heating

This is a 2-hour long lecture-lab combination class. Some of the time will be spent lecturing, using academic course materials. The rest of the time will be spent in a lab setting, practicing the application of skills learned in theory. This class will provide a broad exposure to gas heating equipment. It will include their construction, operation, troubleshooting, installation and service needs. Equipment will be explored, taken apart, reassembled, and manipulated. We will discuss the gas heating equipment as well as the mechanical, fuel combustion, and electrical service in depth. This course ties together how the installation of this equipment affects the efficiency, all-around performance, and length of service this equipment will have for the end user. This class may require participation in several field trips for further understanding of the profession. Prerequisites: 1st semester HVAC/R, or 1st year Electrical. (S)
Credits 3
Component
LEC

REFG 254 : Heat Pump Technology

REFG 254 will be a 2-hour long lecture-lab combination class. Some of the time will be spent lecturing, using academic course materials. The rest of the time will be spent in a lab setting, practicing the application of skills learned in theory. This course will explore air source and geothermal heat pumps. Students will spend time analyzing control systems, refrigeration components and the air requirements of heat pump systems. Time will be spent investigating how the refrigerant circuit differs from an air conditioner. The student will explore and wire different systems that employ back-up heat systems, dual-fuel systems, and off-peak options. The heat pump will be examined from both the installation and service technician's perspective. Due to the importance of energy efficiency, systems will also be analyzed and adjusted to ensure design performance efficiencies. This class may require participation in several field trips for further understanding of the profession.
Credits 3

REFG 255 : Electric and Oil Heating

This is a 2-hour long lecture/lab combination class. Some of the time will be spent lecturing, using academic course materials. The rest of the time will be spent in a lab setting, practicing the application of skills learned in theory. This class will provide a broad exposure to electric and oil heating equipment. It will include their construction, operation, troubleshooting, installation and service needs. Equipment will be explored, taken apart, reassembled, and manipulated. We will discuss the mechanical, fuel combustion, and electrical service in depth. This course ties together how the installation of this equipment affects the efficiency, all-around performance, and length of service this equipment will have for the end user. This class may require participation in several field trips for further understanding of the profession. (S)
Credits 3
Component
LAB

REFG 256 : Hydronic Heating Systems

This is a 2-hour long lecture/lab combination class. Some of the time will be spent lecturing using academic course materials. The rest of the time will be spent in a lab setting practicing the application of skills learned in theory. This course covers Hydronic heating from boiler operation to Hydronic heating systems forced air, convection, radiant, and Solar Hydronic applications. Study includes classroom and laboratory assignments. Hydronic Heating Systems will provide a working knowledge of the three types of hydronic heating types and features design and installation of hydronic heating systems. This class may require participation in several field trips for further understanding of the profession. Prerequisite: REFG 231 or equivalent. (S)
Credits 3
Component
LEL

REFG 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

REFG 297 : Cooperative Education

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

REFG 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Robotics, Automation and Mechatronics Technology

RAMT 101 : Science of Success

This is a practical one-credit course that provides the tools and skills necessary to get a strong start with the transition for new students at NDSCS. This course will introduce students to campus resources, policies and procedures and cover topics such as time management, study skills, goal setting, wellness, financial literacy, and professional development. (F, S, O)
Credits 1
Component
LEC

RAMT 102 : Applied DC Theory

This course examines the basic components used in electrical circuits using Ohm's Law and Kirchhoff's Laws. The course stresses the appropriate terminology, units and uses of the various components in DC (direct current) environment only. Circuit analysis is stressed with circuits connected in series, parallel and series/parallel configurations, as well as R-L and R-C circuits.
Credits 4

RAMT 103 : Applied AC Theory

This course examines the fundamentals and applications of AC electrical systems. Electromagnetism, RLC series and parallel circuits, power factor, AC transformers, and motors will be covered in this course. Prerequisite: RAMT 101.
Credits 4
Component
LEC
Prerequisite Courses
RAMT 101: Science of Success

RAMT 107 : Mechanical Drives and Maintenance I

This combined lecture/lab course will explore the use of basic mechanical systems and components and their applications to industrial machinery. Emphasis is given to how these components work, their use in mechanical systems, and proper installation and maintenance procedures. Topics to be covered will include: precision measurement, belt drives, bearings/seals, chain drives, gear drives, and couplings. (F)
Credits 2
Component
LEC

RAMT 109 : Mechanical Drives and Maintenance II

This course will expose the student to multiple predictive maintenance technologies used in industry. The course will cover the theory behind, and application of, the following technologies in use: thermography, ultrasonic detection, vibration analysis, oil/grease analysis, stroboscopic analysis, and motor circuit analysis. The course will also explore current best practices in precision machine alignment, including belt/chain alignment and rotating machinery alignment. The student will use the textbook, case studies from industry, and some hands-on exercises to explore these topics. Prerequisite: RAMT 107. (S)
Credits 2
Component
LEC

RAMT 120 : 3D Modeling and Design

This is a lecture and laboratory class dealing with the theory and application of Computer Aided Drafting (CAD) and additive manufacturing techniques (also knows as 3D printing). Using CAD software and Makerbot 3D printers, students will learn how to design and create basic parts and items using common 3D printer materials. Emphasis will be placed on designing parts with the minimum amount of printer materials required and minimizing printing time. (F)
Credits 3
Component
LEL

RAMT 124 : Robotics Systems I

This combined lecture and lab class will cover basic robotic handling and operations as delivered through Fanuc Robotics C.E.R.T. curriculum. Students will also become familiar with the theory, setup, and operation of robotic vision systems, as well as basic electrical and mechanical maintenance/troubleshooting of industrial robots. Students will be involved in lectures, discussions, and hands-on equipment labs. (S)
Credits 3
Component
LEL

RAMT 125 : Digital and Pneumatic Systems

This is a lecture/lab course that will cover digital electronics and the principles of fluid power systems. (S)
Credits 2
Component
LEL

RAMT 137 : Print Reading, Drafting and Safety

This is a lecture and laboratory class dealing with the theory and application of Computer Aided Drafting (CAD), using CAD software, as well as reading and interpretation of prints, schematics and the use of symbols. The OSHA 10 hour safety course for general industry will be completed as part of this class. (F)
Credits 2
Component
LAB

RAMT 143 : PLC's I

This is a lecture and laboratory course using Siemen's platform programmable logic controls systems. The class will address the theory, construction, application, installation, and introductory programming of PLC's. (S)
Credits 3
Component
LEL

RAMT 202 : PLC's II

This is a lecture and laboratory course dealing with the theory, construction, application, installation, and programming of microprocessor-based programmable controllers. Logic networks solving typical industrial control problems are developed and programmed into a variety of controllers to learn the limitation and capabilities of each machine. This course is an 8 week class. Prerequisite: ECAL 243. (F)
Credits 3
Component
LEC

RAMT 203 : Machine Safety and Panel Building

This course will cover the terms, theory, and practical applications of machine safety systems and panel building requirements in modern automated equipment. (F)
Credits 3
Component
LEC

RAMT 208 : Information Technology for Technicians

This course will cover the terms, theory, IP addressing, Ethernet concepts, and practical applications of networks. (S)
Credits 2
Component
LEC

RAMT 221 : Robotics II

This course is a combined lecture and lab class which will cover advanced robotics programming, troubleshooting, maintenance, and interfacing the robots to other peripheral equipment. Areas of focus for this course will include programming, integrating, troubleshooting, and repairing of robotic systems. Students will be involved in lectures, discussions, and hands-on equipment labs. Prerequisite: ECAL 224. (F)
Credits 3
Component
LEC

RAMT 222 : Solid State Systems I

This course covers the foundations of electronics, the devices used in electronic circuits, how they function, and the proper handling of electronic components. The course covers the proper operation and use of test equipment such as multi-meters and oscilloscopes used in industry for testing and troubleshooting equipment. RAMT students - Corequisite: RAMT 223.
Credits 2

RAMT 223 : Solid State Systems II

This course covers the foundation of electronics, the devices used in electronic circuits, how they function, and the proper handling of electronic components. The course covers the proper operation and use of test equipment such as multi-meters and oscilloscopes used in industry for testing and troubleshooting equipment. This course also covers relays, timers, and sensors. RAMT Students - Corequisite: RAMT 222. (F)
Credits 2

RAMT 240 : Principles of Project Management

This course will cover the theory and practical application of project management. The student will be assigned a project and the student will develop drawings, develop material lists, calculate cost inputs, and develop a project timeline. (S)
Credits 2
Component
LEC

RAMT 244 : Capstone Project

This course is the culmination of 2 years in the RAMT program. Students, in groups, will be assigned a capstone project. The teams and projects will be assigned by the instructors. Requirements for each project will be provided by the instructors. The projects will involve different elements from the coursework completed over the course of the program. All documentation, including operational instructions and drawings, will also be completed. The projects will be planned during RAMT 240: Principles of Project Management course and built during this course. Students will make a final presentation of their projects at the end of the course. Prerequisites: RAMT 240. (S)
Credits 2
Component
LEC

RAMT 246 : Quality Assurance Standards and Methods

This course is a lecture course that will introduce the student to the concept of statistical analysis and quality assurance as applied to the manufacturing and maintenance environment. Through lecture, discussion, case studies from industry, and exercises, the student will gain a basic understanding on how data is collected, analyzed, and used in the day-to-day operations of a modern facility for process improvement, defect/waste elimination, and risk/hazard assessment. The course will also explore the following Lean Manufacturing and Maintenance Management tools and their application: Kaizen, Six Sigma, 5S, 5 Why, Root Cause Analysis, and Wrench Time Studies. (S)
Credits 3
Component
LEC

RAMT 250 : Drives and Servo Systems

This combined lecture/lab course will explore the commissioning and operation of Siemens variable frequency drives and servo control systems. Students will gain an understanding of the operational theory of these components, the usage of these systems in industrial settings, and basic programming protocols. (S)
Credits 2
Component
LAB

RAMT 294 : Capstone Project

This course is the culmination of 2 years in the RAMT program. Students, in groups, will be assigned a capstone project. The teams and projects will be assigned by the instructors. Requirements for each project will be provided by the instructors. The projects will involve different elements from the coursework completed over the course of the program. All documentation, including operational instructions and drawings, will also be completed. The projects will be planned during RAMT 240: Principles of Project Management course and built during this course. Students will make a final presentation of their projects at the end of the course. Prerequisites: RAMT 240. (S)
Credits 2
Component
LEC
Prerequisite Courses
RAMT 240: Principles of Project Management
Semester Offered
Spring

RAMT 297 : Internship

This internship course provides students with supervised, hands-on work experience in their chosen career field. The internship course reinforces technical and professional skills gained in the classroom through real-world application in a workplace setting. Students will develop industry-specific competencies, enhance problem-solving and communication skills, and gain insight into workplace expectations. Faculty and industry professionals will provide guidance and evaluation to ensure meaningful learning outcomes. Upon completion, students will be able to demonstrate increased proficiency in their field, apply critical thinking to job-related tasks, and reflect on their professional growth.
Credits 4
Component
INT

Soil Science

SOIL 210 : Introduction to Soil Science

Physical, chemical and biological properties of soils as related to use, conservation and plant growth. (F) ND:SCI
Credits 3
Component
LEC

SOIL 222 : Soil Fertility and Fertilizers

Principles of plant nutrition and soil nutrient availability; soil testing and fertilizer recommendations and management. Macronutrient emphasis. Prerequisite: SOIL 210. (S)
Credits 3
Component
LEC

SOIL 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

Technology

AUTO 109 : Air Conditioning

This lecture/lab type course covers various air conditioning and heating units used on modern vehicles and other equipment. The student will learn principles of air-conditioning along with repair procedures; leak detecting, evacuation and trouble-shooting procedures. This is a half semester course. (F, S)
Credits 2
Component
LEL

TECH 112 : Applied Transportation Electronics

A lecture, demonstration and performance course covering the basic fundamentals of electronics. Included is the study of Ohm¿s Law, series and parallel circuits, test instruments and various semiconductors. Also included is the study of electrical symbols and wiring diagrams of accessory circuits as found in manufacturers service manuals. This is a half-semester course. It is offered the first and second halves of both semesters.
Credits 3
Component
LEC

TECH 121 : Engine Fundamentals

A theory and lab course covering basic engine operating principles, cylinder and piston service, valve service, crankshaft and bearing service, lubrication systems, rebuilding procedures, measurement fundamentals and basic engine troubleshooting. This is a half-semester course. (F, S)
Credits 3
Component
LEC

TECH 130 : Industrial Safety

A basic study covering occupational safety standards and codes with emphasis on applications to typical industrial, construction and shop situations. Topics include: the role of OSHA and other regulatory agencies, fire protection, hazardous materials, personal protection, operational and construction safety, as well as the study of accident causation and prevention. (As needed)
Credits 2
Component
LEC

TECH 192 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

TECH 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

TECH 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Unmanned Aircraft Systems

UAS 111 : Introduction to UAS

This course will take a look into the utilization of Unmanned Aircraft Systems (UAS) in various industries. Students will learn pre-flight policies and procedures, flight operation, data collection, and post-flight data processing utilizing Pix4D software. (F)
Credits 2
Component
LEC

UAS 112 : Unmanned Aircraft Systems Certification

This course will prepare students for the FAA certification exam for the use of Unmanned Aircraft Systems (UAS) in business and industry. Students will learn the rules and regulations regarding UAS operation, as well as basic aeronautical knowledge required by the FAA. (F)
Credits 2
Component
LEC

UAS 121 : Data Collection I

Students will learn the advanced principles of photogrammetry and the utilization of UAS for surface mapping and 3D modeling of structures. Also covered in this course is the understanding and use of thermal imaging; light detection and ranging (LiDAR); normalized difference vegetation index (NDVI); and other advanced data collection. Prerequisite: UAS 111.
Credits 2
Component
LEC

UAS 122 : Photography and Videography

Students will learn advanced aerial photography, videography, aerial inspections, and thermal imaging utilizing UAS. Photo and video editing using Adobe Photoshop and Premiere Pro will also be covered in the course. Prerequisite: UAS 111. (S)
Credits 2
Component
LEC

UAS 132 : Advanced Flight I

Students will learn advanced pre-flight preparations and flying techniques for UAS with and without navigation aid. Students will learn the techniques for flying UAS to obtain the best data collection including cinematic movements. Troubleshooting techniques will also be covered in the course. Prerequisite: UAS 111. (S)
Credits 2
Component
LEC

UAS 192 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

UAS 221 : Data Collection II

Students will learn about advanced sensor payloads such as LiDAR and Thermal Imaging. Also covered in this course will be the understanding of how to collect these types of data as well as process and analyze that data. Prerequisite: UAS 121.
Credits 2
Component
LEC

UAS 222 : Data Collection III

Students will learn about different advanced sensor payloads such as Multispectral and Hyperspectral imaging. Also included in the course is the understanding of how to collect these different types of data as well as process and analyze the data. Prerequisite: UAS 121.
Credits 2
Component
LEC

UAS 223 : Capstone Project

Students will utilize everything they have learned to build a final capstone project for their UAS emphasis area. Students will create their own company, create a marketing video and brochure applying principals covered in UAS 122, and then will collect data and analyze data for a project in their emphasis area. Prerequisites: UAS 122, UAS 221, and UAS 222.
Credits 2
Component
LEC

UAS 232 : Advanced Flight II

Students will learn advanced flying techniques without sensor assistance in fully manual flight situations. Students will also learn FPV (First Person View) flying techniques for cinematic video collection. Troubleshooting techniques and care/maintenance will also be covered in the course. Prerequisite: UAS 132. (S)
Credits 2
Component
LEC

Welding

MFGT 135 : Basic Metallurgy

This course will study the basic fundamentals of metallurgy. We will discuss the behavior of metals and how they relate to the field of welding. Topics include identification, classification and properties of ferrous metals, nonferrous metals, alloys, heat treatment, destructive and non-destructive tests, cast iron and plastics. (F)
Credits 2
Component
LEC

WELD 111 : Gas Metal Arc Welding Lab

This welding lab course introduces the processes of Gas Metal Arc Welding (GMAW) with hands on instruction for the beginner to advanced level using carbon steel plate. Topics include: GMAW safety, GMAW principles, GMAW maintenance, GMAW electrodes and gases. This course will also include shop industrial shop safety, thermal cutting processes including oxy fuel and carbon arc methods. Safety for the students such as Personal Protection Equipment (PPE) and safe welding practices in the welding shop are emphasized. Welding and cutting equipment, selection of welding supplies, and materials that are used in industry.
Credits 5
Component
LAB

WELD 120 : Gas Tungsten Arc Welding Theory

This theory course introduces the processes of Gas Tungsten Arc Welding (GTAW) to students to successfully weld on carbon steel, stainless steel and aluminum plate. Topics include: GT AW safety, GTAW principles, GTAW equipment, GTAW gasses and electrodes, and GTAW technique. This course will also include shop industrial shop safety, thermal cutting processes including oxy fuel and carbon arc methods. Safety for the students such as Personal Protection Equipment (PPE) and safe welding practices in the welding shop are emphasized. Welding and
cutting equipment, selection of welding supplies, and materials that are used in industry.

Credits 2

Component

LEC

WELD 121 : Gas Tungsten Arc Welding Lab

This welding lab course introduces the processes of Gas Tungsten Arc Welding {GTAW} with hands on instruction for the beginner to advanced level using carbon steel, stainless steel and aluminum alloys. Topics include: GTAW safety, GTAW principles, GTAW maintenance, GTAW electrodes and gasses. This course will also include shop industrial shop safety, thermal cutting processes including oxy fuel and carbon arc methods. Safety for the students such as Personal Protection
Equipment (PPE} and safe welding practices in the welding shop are emphasized. Welding and cutting equipment, selection of welding supplies, and materials that are used in industry.

Credits 5

Component

LAB

WELD 130 : Shielded Metal Arc Welding Theory

This theory course introduces the processes of Shielded Metal Arc Welding (SMAW) to produce welds on carbon steel plate. Topics include: SMAW safety, SMAW principles, SMAW electrodes, SMAW techniques. This course will also include shop industrial shop safety, thermal cutting processes including oxy fuel and carbon arc methods. Safety for the students such as Personal Protection
Equipment (PPE) and safe welding practices in the welding shop are emphasized. Welding and cutting equipment, selection of welding supplies, and materials that are used in industry.

Credits 2

Component

LEC

WELD 131 : Shielded Metal Arc Welding Lab

This welding lab course introduces the processes of Shielded Metal Arc Welding (SMAW) with hands on instruction for the beginner to advanced level using carbon steel plate. Topics include: SMAW safety, SMAW principles, SMAW maintenance, and SMAW electrodes and gasses. This course will also include shop industrial shop safety, thermal cutting processes including oxy fuel and carbon arc methods. Safety for the students such as Personal Protection Equipment (PPE) and safe welding practices in the welding shop are emphasized. Welding and cutting equipment, selection of welding supplies, and materials that are used in industry.

Credits 5

Component

LAB

WELD 140 : Flux Core Arc Welding Theory

This theory course introduces the processes of Flux Core Arc Welding (FCAW) to produce welds on carbon steel plate. Topics include: FCAW safety, FCAW principles, FCAW electrodes, and FCAW techniques. This course will also include shop industrial shop safety, thermal cutting processes including oxy fuel and carbon arc methods. Safety for the students such as Personal Protection Equipment (PPE) and safe welding practices in the welding shop are emphasized. Welding and cutting equipment, selection of welding supplies, and materials that are used in industry.

Credits 2

Component

LEC

WELD 141 : Flux Core Arc Welding Lab

This welding lab course introduces the processes of Flux Core Arc Welding (FCAW) with hands on instruction for the beginner to advanced level using carbon steel plate. Topics include: FCAW safety, FCAW principles, FCAW maintenance, and FCAW electrodes and gasses. This course will also include shop industrial shop safety, thermal cutting processes including oxy fuel and carbon arc methods. Safety for the students such as Personal Protection Equipment {PPE) and safe welding practices in the welding shop are emphasized. Welding and cutting equipment, selection of welding supplies, and materials that are used in industry.

Credits 5

Component

LAB

WELD 151 : Welding Theory I

This theory course introduces the processes of, Gas Tungsten Arc Welding (GTAW), Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), and Oxy-Fuel Cutting (OFC). Safety for the student such as Personal Protection Equipment (PPE) and safe welding practices in the welding shop are emphasized. Welding and cutting equipment, selection of welding supplies and materials that are used in industry are introduced. The use of welding symbols and blueprint reading will be discussed and put into practice. This class may also require the need to attend field trips that include industry tours outside of the classroom. Corequisite: WELD 153. (F)
Credits 2
Component
LEC

WELD 152 : Welding Theory II

This theory course focuses on advanced lessons in Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW), Shielded Metal Arc Welding (SMAW), and Oxy-Fuel Cutting (OFC). Flux Core Arc Welding (FCAW) and Plasma Arc Cutting (PAC) are also introduced. The course will also study welding symbols, drawings, nonferrous welding applications, welding codes, specifications and tests with special emphasis on the American Welding Society (AWS) welder qualifications. In addition, a resume and mock job interview process will be required and evaluated. This class may require the need to attend field trips that include industry tours outside of the classroom. Prerequisite: WELD 151. Corequisite: WELD 154. (S)
Credits 2
Component
LEC

WELD 153 : Welding Lab I

This course gives beginning instructions in laboratory safety, use of Personal Protection Equipment (PPE), with a strong emphasis on the safe handling of welding and cutting equipment. Basic hands-on instruction in Gas Tungsten Arc Welding (GTAW), Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Oxy-Fuel Cutting (OFC) on various thicknesses of metal, and the techniques used. Also covered are welding supplies and equipment maintenance. This class may also require the need to attend field trips that include industry tours outside of the classroom. Corequisite: WELD 151. (F)
Credits 7
Component
LAB

WELD 154 : Welding Lab II

Instruction will consist of perfecting skilled welding on plate steel in all positions using Shield Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW), and Flux-Core Arc Welding (FCAW). The cutting processes of Carbon Arc Cutting-Air (CAC-A) and Plasma Arc Cutting (PAC) will be practiced. Students will practice and weld plates in accordance to the American Welding Society (AWS) certification guidelines. This course will also have planned industry field trips, welding competitions (state and local), and career fairs when scheduled. Prerequisite: WELD 153. Corequisite: WELD 152. (S)
Credits 7
Component
LAB

WELD 201 : Welding Theory III

This course will provide the student with technical understanding in advanced welding theory which includes the study of electricity for the different welding and cutting processes. It will provide the student with a theoretical understanding of welding and cutting processes when using mechanical and computer controlled (CNC) equipment. It will provide the student with theory for writing Numerical Control (NC) programming. The course will also provide the student with theory on metallurgy pertaining to welding and cutting. A student portfolio will be designed. Prerequisite: WELD 152. Co-requisite: WELD 211. (F)
Credits 2
Component
LEC

WELD 202 : Welding Theory IV

This course provides theory to develop welding skills necessary to make certified welds according to the American Welding Society (AWS), American Society of Mechanical Engineers (ASME), or American Petroleum Institute (API) Codes. Weld-ability of ferrous and non-ferrous metals, metal identification, nondestructive and destructive testing, industrial safety, and OSHA regulations will be covered. This course will also provide the student with a technical understanding of weld procedures and the advanced operation of welding equipment including robotic applications. The student will learn various advanced welding certification and inspection applications which include what it takes to become a Certified Welding Inspector and a CWI's inspection duties. Prerequisite: WELD 201. Corequisite: WELD 212. (S)
Credits 2
Component
LEC

WELD 211 : Welding Lab III

This course provides the student an opportunity to learn various advanced welding applications for pipe welding which include Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW) and Gas Metal Arc Welding (GMAW). The student will also learn about qualifications and certifications from various national welding codes and standards including an unlimited thickness qualification. This course will also provide the student with the technical understanding of calculating material and use of proper procedures for the completion of pipe and heavy plate weldments. The student will also learn a technical understanding of machine control cutting and robotic welding operations which include Numerical Control (NC) programming and teach pendant control. Prerequisites: WELD 152, WELD 154, MFGT 101, MFGT 123, MFGT 135, MFGT 137. Corequisite: WELD 201. (F)
Credits 10
Component
LAB

WELD 212 : Welding Lab IV

This course provides the student an opportunity to use on projects a variety of advanced welding applications which include Gas Metal Arc Welding- Pulse (GMAW-P), Flux Cored Arc Welding (FCAW), Gas Tungsten Arc Welding (GTAW) and Shielded Metal Arc Welding (SMAW). The student will learn advanced CNC plasma cutting, robotic welding, shear, and press brake controls to correctly operate fabrication equipment needed for the completion of projects. This course will provide the student with a technical understanding of tacking and welding techniques for completing projects to reflect industry standards. This course will provide the student with a technical understanding of calculating material and use of proper procedures for the completion of projects manufactured in the lab. Prerequisite: MFGT 140 and WELD 211. Corequisite: WELD 202. (S)
Credits 10
Component
LAB

WELD 213 : Fabrication Welding

This course provides the student an opportunity to learn additional advanced welding applications which include Gas Metal Arc Welding- Pulse (GMAW-P), Flux Cored Arc Welding (FCAW), Gas Tungsten Arc Welding (GTAW) and Shielded Metal Arc Welding (SMAW). The student will also learn additional advanced CNC cutting and robotic operations to correctly operate fabrication equipment. Prerequisite: WELD 211. Co-requisite: WELD 202. (S)
Credits 7
Component
LAB

WELD 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

WELD 297 : Cooperative Education

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

WELD 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Weld 110 : Gas Metal Arc Welding Theory

This theory course introduces the processes of Gas Metal Arc Welding (GMAW).
Topics included: GMAW Safety, GMAW Principles, GMAW Maintenance, and GMAW Metal Arc Transfers including Short Circuit, Spray arc and Pulse. This course will also include shop industrial shop safety, thermal cutting processes including oxy fuel and carbon arc methods. Safety for the students such as Personal Protection Equipment {PPE) and safe welding practices in the welding shop are emphasized. Welding and cutting equipment, selection of welding supplies, and materials that are used in industry.
Credits 2
Component
LEC

Academic Services Center

ASC 60 : English Language & Grammar Skills

This course teaches grammar, punctuation, mechanics, spelling, and vocabulary based on individual needs. Emphasis is on grammar and usage in sentence structure. Upon recommendation of the instructor, this course may be repeated for additional credit. (F, S, Su)
Credits 1
Component
LEC

ASC 67 : English As A Second Language

This course helps students who speak English as a second language or other language to communicate more effectively in academic and daily life. Areas of study include emphasis on speaking and listening. Upon recommendation of the instructor, this course may be repeated for additional credit. (F, S, Su)
Credits 1
Component
LEC

ASC 82 : Effective Reading

Introduces strategies for developing college level reading skills with emphasis on improving reading efficiency by building vocabulary and improving basic reading and study skills. (F, S, Su, O)
Credits 2
Component
LEC

ASC 84 : Critical Reading

Develops critical reading comprehension and thinking skills through interpretation of selected reading materials and by building vocabulary. Includes distinguishing between fact and opinion, drawing inferences and conclusions, analyzing the organization of material, and seeing relationships. (F, S, Su, O)
Credits 2
Component
LEC

ASC 85 : English of Foundations

English Foundations is a college prep course designed to improve students' reading and writing skills simultaneously. The course begins with a focus on the fundamentals of writing and reading, such as building vocabulary, crafting clear sentences, and understanding main ideas in paragraphs. The course then progresses to analyzing challenging real-world texts and producing well-supported, MLA formatted, research-based essays. This course serves as a transition to entry-level English composition courses.
Credits 3
Component
LEC

ASC 88 : Writing Skills

To provide supplemental and developmental instruction for students taking an English course. It is taken the same semesters as the English course. Instruction is based on student need with time allowed for application to the English assignments. This course may be repeated when additional English courses are taken.
Credits 1
Component
LEC

ASC 90 : Math Foundations

The course supports students in developing skills, strategies, and reasoning needed to succeed in mathematics, including communication and appropriate use of technology. Topics include the study of numeracy and the real number system; proportional reasoning, algebraic concepts, notation, and reasoning; quantitative relationships; probability, sets, interpreting tables and graphs; mathematical models; and problem solving.
Credits 3
Component
LEC

ASC 91 : Mathematics in Society Co-Requisite

This class is a co-requisite course for MATH 110, Mathematics in Society, which supports success through student-centered instruction. Topics to be covered are those prerequisite skills necessary to learn the content of MATH 110, such as numeracy, proportional reasoning, equations/formulas, graphs and skills for academic success. Corequisite: MATH 110.
Credits 1
Component
LEC

ASC 92 : Statistics Co-Req

A review of the core prerequisite skills, competencies, and concepts needed in statistics. Intended for students who are concurrently enrolled in MATH 210, Elementary Statistics. Topics include concepts from arithmetic, elementary algebra, and descriptive statistics that are needed to understand the basics of college-level statistics. Additional emphasis is placed on just in time skills and concepts.
Credits 1
Component
LEC

ASC 93 : College Algebra Co-Req

This class is a co-requisite course for MATH 103, College Algebra. This course is designed to support the content covered in MATH 103 by addressing prerequisite skills required for the topics in MATH 103. Topics include concepts from arithmetic and elementary and intermediate algebra. Additional emphasis is placed on just in time skills and concepts, solving and graphing linear equations and modeling with linear functions.
Credits 2
Component
LEC

ASC 95 : Trigonometry Corequisite

This course will review the core prerequisite skills, competencies, and concepts needed in trigonometry. Intended for students who are concurrently enrolled in MATH 105, Trigonometry. It includes topics such as angle measurements, trigonometric functions, identities, equations, and general applications. Additional emphasis is placed on just in time skills and concepts. This does not satisfy any graduation requirements. It is offered only through Academic Services. Corequisite: MATH 105.
Credits 1
Component
LEC

ASC 99 : Special Topics

A course designed to meet special departmental needs. Upon recommendation of the instructor, this course may be repeated for additional credit.
Credits 1
Component
LEC

ASC 180 : Prior Learning Assessment

This course is designed for the adult learner to assemble their knowledge from work experiences, leisure, independent study, etc. into a portfolio for faculty evaluation of potential college academic credits.
Credits 1
Component
LEC

ASC 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

Accounting

ACCT 102 : Fundamentals of Accounting

This course is designed for non-accounting majors. Coverage includes elements of the financial statements and the full accounting cycle. (F-F-online)
Credits 3
Component
LEC

ACCT 118 : Applied Accounting

This course is designed for non-accounting majors and has a special emphasis on the applications of accounting software. The course introduces students to the accounting cycle, basic accounting policies and procedures, and exposes students to accounting software applications. QuickBooks Pro is used to give students some direct experience with setting up and working with accounting software. (S/S-online)
Credits 3
Component
LEC

ACCT 200 : Elements of Accounting I

This course is a study of financial accounting concepts. Topics include the reporting of current and fixed assets, current liabilities, income and expense recognition, and the financial statements. (F/F-online)
Credits 3
Component
LEC

ACCT 201 : Elements of Accounting II

The emphasis of this course is on managerial and financial accounting issues. Topics include the reporting of long-term liabilities and investments; the accounting for corporations, partnerships and LLCs; the statement of cash flows; and the use of accounting information for analysis and decision making. Prerequisite: ACCT 200. (S/S-online)
Credits 3
Component
LEC

ACCT 215 : Business in the Legal Environment

The legal environment of business, governmental regulation, contracts and property. The study of the legal and regulatory environment in which business firms operate. Topics include contract, environmental, criminal, tort law, business ethics and social issues. (F/F-online)
Credits 3
Component
LEC

ACCT 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

ACCT 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Biology

BIOL 109 : The Living World

This is an introductory level biology course that has no lab. The class is not for biology majors. Includes: Basic concepts in Biology, Natural History, Sociobiology, Human Bio-Social interaction. (S)
Credits 3
Component
LEC

BIOL 111 : Concepts of Biology

Concepts of Biology is an introductory level non-majors transferable class. It is designed to meet the requirements of a lab science. The class focuses on basic science literacy including the topics of cellular and molecular biology, genetics, evolution, taxonomy, and environmental biology. (S) ND:LABSC
Credits 3
Component
LEC

BIOL 111L : Concepts of Biology Lab

Concepts of Biology Lab is an introductory level non-majors transferable class. It is designed to meet the requirements of a Lab Science. The class focuses on basic science literacy including the topics of cellular and molecular biology, genetics, evolution, taxonomy, and environmental biology. (S) ND:LABSC
Credits 1
Component
LAB
Corequisite Courses
BIOL 111: Concepts of Biology

BIOL 115 : Concepts of Anatomy and Physiology

A one-semester course that integrates the structure and function of the human body and is an introduction to basic chemistry, the cell, tissues, and all major organ systems. (F, S, O) ND:LABSC
Credits 3
Component
LEC

BIOL 115L : Concepts of Anatomy and Physiology Lab

A one-semester course that integrates the structure and function of the human body. This course is a hands-on experience utilizing a variety of learning tools, and is an introduction to basic chemistry, the cell, tissues, and all major organ systems. (F, S, O) ND:LABSC
Credits 1
Component
LAB
Corequisite Courses
BIOL 115: Concepts of Anatomy and Physiology

BIOL 124 : Environmental Science

Relation of humans to their environment. Emphasis is placed on understanding current environmental issues from a scientific standpoint. (F, O) ND:LABSC
Credits 3
Component
LEC

BIOL 124L : Environmental Science Lab

Relation of humans to their environment. Emphasis is placed on understanding current environmental issues from a scientific standpoint. Laboratory activities will address: climate change, energy, natural resource consumption/management, pollution, population growth, sustainability, and waste management. (F, O) ND:LABSC
Credits 1
Component
LAB
Corequisite Courses
BIOL 124: Environmental Science

BIOL 150 : General Biology I

A two-semester sequenced study of the fundamental topics of biology with an emphasis on cellular biology. The course is designed for science majors. (F) ND:LABSC
Credits 3
Component
LEC

BIOL 150L : General Biology I Lab

A two-semester sequenced study of the fundamental topics of biology with an emphasis on cellular biology. The course is designed for science majors. (F) ND:LABSC
Credits 1
Component
LAB
Corequisite Courses
BIOL 150: General Biology I

BIOL 151 : General Biology II

A two-semester sequenced study of the fundamental topics of biology, with an emphasis on organismal biology. The course is designed for science majors and focuses on evolution, taxonomy, and ecology. Prerequisites: BIOL 150 (S) ND:LABSC
Credits 3
Component
LEC
Prerequisite Courses
BIOL 150: General Biology I

BIOL 151L : General Biology II Lab

A two-semester sequenced study of the fundamental topics of biology, with an emphasis on organismal biology. The course is designed for science majors and utilizes a variety of learning tools to study evolution, taxonomy, and ecology. (S) ND:LABSC
Credits 1
Component
LAB
Corequisite Courses
BIOL 151: General Biology II

BIOL 170 : General Zoology

A survey of the animal kingdom, from simple to complex. Major invertebrate and vertebrate animal groups will be covered with emphasis on structure, function, life history characteristics and evolutionary advancements of each. Topics of animal ecology, with emphasis on regional species, concludes the course. Three one-hour lectures per week. Prerequisite: BIOL 150 or BIOL 151. (S-even years) ND:LABSC
Credits 3
Component
LEC

BIOL 170L : General Zoology Lab

The structure and function of representatives of all major animal groups will be examined. Dissection and use of the microscope will be emphasized. The course will include a field trip to local terrestrial and aquatic habitats. One two-hour lab per week. ND:LABSC
Credits 1
Component
LAB
Corequisite Courses
BIOL 170: General Zoology

BIOL 213 : General Pathology

A general overview of the disease process and the mechanisms by which the human body copes with disease. Also a survey of the more common diseases affecting various body systems. Prerequisite: BIOL 115 or Corequisite: BIOL 221. (S, O)
Credits 3
Component
LEC

BIOL 220 : Anatomy & Physiology I

The first semester in the study of structure and function of the human body as an integrated whole. (F, S, Su, O)
ND:LABSC
Credits 3
Component
LEC

BIOL 220L : Anatomy & Physiology I Lab

A self-directed laboratory study of structure and functions of the human body that examines the general plan of body cells, tissues, and the skeletal, muscular, and nervous systems. This course emphasizes actual "hands-on" learning utilizing a variety of learning tools. This is the first semester of a two-semester course. (F, S, Su, O)
ND:LABSC
Credits 1
Component
LAB
Corequisite Courses
BIOL 220: Anatomy & Physiology I

BIOL 221 : Anatomy & Physiology II

The second semester in the study of structure and function of the human body as an integrated whole. (F, S, Su, O)ND:LABSC
Credits 3
Component
LEC
Prerequisite Courses
BIOL 220: Anatomy & Physiology I

BIOL 221L : Anatomy & Physiology II Lab

A self-directed laboratory study of structure and functions of the human body that includes the anatomy and physiology of the endocrine, circulatory, respiratory, digestive, urinary, and reproductive systems. This course emphasizes actual "hands-on" learning utilizing a variety of learning tools. This is the second semester of a two-semester course. (F, S, Su, O) ND:LABSC
Credits 1
Component
LAB
Corequisite Courses
BIOL 221: Anatomy & Physiology II

BIOL 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

BIOL 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Biotechnology

BIOT 101 : Introduction to Biotechnology I

This course is the first part of a two course sequence designed to serve as an introduction to the field of biotechnology, it¿s historical development, it¿s current and future status and the technologies used to achieve the progress to date. All aspects of biotechnology¿s impacts on our society are explored including the agriculture, medical, food science, pharmaceutical and environmental segments. The course covers the science behind the developments, the ethical challenges and societal implications associated with the past, current and future developments. Specific focus is given to developing a foundational understanding of the vocabulary and basic science associated with this field along with an appreciation for the extent the biotechnology field plays in the US and world economies. (O)
Credits 3
Component
LEC

BIOT 102 : introduction to Biotechnology II

This course is the second part of a two course sequence designed to serve as an introduction to the field of biotechnology, it¿s historical development, it¿s current and future status and the technologies used to achieve the progress to date. All aspects of biotechnology¿s impacts on our society are explored including the agriculture, medical, food science, pharmaceutical and environmental segments. The course covers the science behind the developments, the ethical challenges and societal implications associated with the past, current and future developments. Specific focus is given to developing a foundational understanding of the vocabulary and basic science associated with this field along with an appreciation for the extent the biotechnology field plays in the US and world economies. Prerequisite: BIOT 101. (O)
Credits 3
Component
LEC

BIOT 210 : Biotechnology Methods I

This course is the first semester of a two semester sequence of courses designed to train laboratory technicians in the fundamental technologies, procedures and processes utilized within the biotechnology industry. This course will emphasize technical skills development, record keeping and communication skills, compliance with federal regulations and conformity to cGMP/cGLP standards. The course will meet for one hour of lecture and four hours of lab each week. Additional lab time may be required for completion of certain units.
Credits 3
Component
LEC

BIOT 220 : Biotechnology Methods II

This course is the second semester of a two semester sequence of courses designed to train laboratory technicians in the fundamental technologies, procedures and processes utilized within the biotechnology industry. This course will emphasize technical skills development, record keeping and communication skills, compliance with federal regulations and conformity to cGMP/cGLP standards. The course will meet for one hour of lecture and four hours of lab each week. Additional lab time may be required for completion of certain units. Prerequisite: BIOT 210. (O)
Credits 3
Component
LEC

BIOT 230 : Fundamentals of Bioprocessing

This course is designed to train laboratory technicians in the fundamental technologies, procedures and processes utilized within the biotechnology industry in the manufacturing/bioprocessing of biologically derived products. The course will emphasize the basic science, cellular metabolism and growth techniques used in the industry, specific examples of bioprocessed products currently on the market, compliance with federal regulations and conformity to cGMP/cGLP standards. Prerequisite: BIOT 210, BIOT 220. (O)
Credits 3
Component
LEC

BIOT 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

BIOT X92 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

Business Administration and Management

BADM 103 : Leadership Techniques

This course provides students with the opportunity to develop or hone their leadership skills through the Collegiate DECA, a national organization of college students preparing for a variety of career areas. Activities promoted by DECA integrate with and enhance the student's college curriculum. Students will participate in leadership activities and conferences. Membership in Collegiate DECA is a requirement. (S)
Credits 1
Component
FLD

BADM 201 : Principles of Marketing

This course is an overview of marketing and distribution and all activities that direct the flow of goods from producer to consumer. The course focuses on the components of the marketing mix - product, price, place, and promotion - and examines the consideration that needs to be made to effectively implement a marketing plan. The student will take learned knowledge and translate it into a marketing plan for an existing or fictitious business. (F, O)
Credits 3
Component
LEC

BADM 202 : Principles of Management

This course is a study of the management activities of planning, organizing, directing, and controlling. Various internal and external factors which affect business will be explored, including how marketing and management decisions can contribute to the overall success of a business venture. (S, O)
Credits 3
Component
LEC

BADM 205 : Supervisory Management

Introduction to management theory and applications intended to increase supervisory effectiveness. Topics include planning, leading, organizing, controlling, coordinating and decision-making at the supervisory level. (As needed)
Credits 3
Component
LEC

BADM 217 : Promotion and Advertising

This is a study of the integrative role of the use of promotion to inform, persuade, or remind consumers of the business or organization. This includes a discussion on how to utilize the elements of promotion (advertising, publicity, sales promotion, personal selling) in a coordinated way to meet organizational objectives. Students will develop and present an advertising/ promotional campaign for a product or business as a culminating course activity. (F, O)
Credits 3
Component
LEC

BADM 230 : Marketing Information Analysis

This course will present students with the fundamentals of marketing research for understanding the role of research in managerial strategic planning, defining the problem, designing research instruments, and analyzing data to make the proper recommendations. (S/S-online)
Credits 3
Component
LEC

BADM 234 : Customer Service

Students will learn how to build a loyal, long-term customer relationship by meeting the needs and wants of customers, handling difficult customers with tact and skill, respecting diversity, and providing superior customer service in person, online and via telephone in a variety of customer service environments. (F-online)
Credits 1
Component
LEC

BADM 240 : Sales

A basic course in the principles and psychology of selling with an emphasis on techniques and human relations in the selling situation. The steps of a sale including feature-benefit analysis, handling objections, and closing the sale are included. Students participate in exploring product knowledge, understanding and analyzing the consumer, and investigating the competition using experiential exercises. (F, S, O)
Credits 3
Component
LEC

BADM 241 : Sales Management

Professional sales management integrates sales and marketing management. Emphasis is on relationship selling, which seeks to establish long-run partnerships with customers based on trust, quality and mutual respect. More attention is given to industrial sales than to consumer sales, selling products and services to businesses. This includes planning and organizing the sales force, estimating the market potential and developing, directing, motivating and leading the sales force, as well as consideration of controlling and evaluating sales performance. Prerequisite: BADM 240. (As needed)
Credits 3
Component
LEC

BADM 244 : Sales Seminar

This course is designed to address the direct, industrial and professional salesperson's approach to problem-solving and understanding the buyer's needs and communicating that understanding to the buyer. The student will develop an awareness of the selling process toward mutual satisfaction for both the seller and buyer of goods and/or services. (S, O)
Credits 3
Component
LEC

BADM 251 : Personal Finance

Personal Finance studies the economic management of personal finances. The course provides an overview of various decision-making concepts, tools and practical knowledge to assist the student in effective management of personal financial affairs. Topics include: budgeting, borrowing, career choices, consumer credit, financial statements, insurance, real estate, retirement planning, tax planning, transportation, savings and investing. (S-online)
Credits 3
Component
LEC

BADM 281 : Organizational Behavior

Organizational Behavior is a study that investigates the impact that individuals, groups, and structure have on behavior within an organization, and then applies that knowledge to make organizations work more effectively. The course will focus on how managers can improve productivity, reduce absenteeism and turnover, and increase employee citizenship and job satisfaction. (S, O)
Credits 3
Component
LEC

BADM 282 : Human Resource Management

A course that is a survey of human resource management, including job analysis, recruitment, selection, performance appraisal, compensation, training and labor relations. The impact of environmental influences, such as legislation, court decisions and unions on human resource activities are addressed. (F, O)
Credits 3
Component
LEC

BADM 291 : Career Seminar

The student has the opportunity to participate in various projects and activities to demonstrate and perhaps improve his/her competency level in regard to desired student outcomes of the Business Management program. Activities will consist of a number of topics utilizing team interactions, role-playing, problem identification, problem-solving, creative thinking, decision-making, verbal and written communications and other personal and professional development exercises necessary for successful employment in business. (S, O)
Credits 3
Component
LEC

BADM 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

BADM 297 : Cooperative Education

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

BADM 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

CIS 110 : eCommerce Websites

The students will explore and learn the theory and practice of conducting business over the Internet and World Wide Web. They will learn about strategies, technologies, marketing, and improving efficiency and reducing costs. The students will also explore the use of social networking, mobile commerce, and operating auction sites, the legal, ethical, and tax issues, electronic commerce software and hardware, security issues, along with payment systems utilized. (O)
Credits 3

Business Management

BUSN 120 : Fundamentals of Business

An introduction to the basic principles of business organizations and enterprises in society which provide a function for personal business and entrepreneurial decision-making. Beneficial for individuals as employees or entrepreneurs. Explores the American business system, ownership forms, labor management relations, banking and finance, risk management, the legal environment and the government's role in business. (F/F-Online)
Credits 3
Component
LEC

BUSN 170 : Entrepreneurship

This is an introductory course focusing on understanding the characteristics and role of the entrepreneur in the free-market economy. Students will develop an awareness of the opportunities for business ownership and develop some of the skills needed to effectively run a business. A capstone project will allow students to develop a business plan for a venture of their choosing. (S/S-online)
Credits 3
Component
LEC

BUSN 254 : Financial Statement Analysis

A course that interprets and analyzes accounting data and the financial statements with the use of Microsoft Excel. Topics include ratio analysis, budgeting and forecasting, time value of money, and capital budgeting. Prerequisite: CIS 101 or CSCI 116. (S)
Credits 3
Component
LEC

BUSN 282 : Professional Development

This course will address professional skills which are necessary for students in their future role as both employees and supervisors. It aims to stimulate enthusiasm, interest and preparations for interpersonal skills and leadership development. Membership in Collegiate DECA is a requirement and this organization is the vehicle used to enable students to put into action the skills they have acquired. There will be an overnight excursion to attend a leadership conference. (F)
Credits 1
Component
LEC

BUSN 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

BUSN 297 : Internship

The development of business skills through work experience. A required total of 180 hours of supervised work at an approved business organization. Students will perform tasks as established in a training agreement between the business and the college. Two total semester credits required (by arrangement 2 credits per semester). (F, S, Su as arranged)
Credits 2
Component
FLD

BUSN 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Business, Office and Technology Education

BOTE 108 : Business Mathematics

Review of mathematical fundamentals witih emphasis on business applications and problem-solving. The fundamentals of the four basic operations involving whole numbers, fractions and decimal numbers and proceeding into business computations involving bank records, payroll, simple and compound interest, percentages, promissory notes, markups, puchasing, selling, present value and annuities. Note: This course may not be used with MATH 123 to fulfill mathematics requirements for the associate of applied science degree. (F, S, O)
Credits 3
Component
LEC

BOTE 192 : Experimental Course

Credits 1
Component
LEC

BOTE 277 : Medical Office Procedures

Explore the concepts, processes and procedures encountered in the physician office management setting, including professionalism, interpersonal skills, ethics and the law, managing the office environment, health records, billing and coding procedures, and financial and practice management. Application of concepts using technology. Web-based instruction. (F, O)
Credits 3
Component
LEC

BOTE 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

BOTE 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Chemistry

CHEM 110 : Survey of Chemistry

Course designed for non-science majors who wish to obtain a basic understanding of chemistry as applied in the world today. (S)
Credits 3
Component
LEC

CHEM 110L : Survey of Chemistry Laboratory

CHEM 110L is the laboratory component of CHEM 110. Course designed for non-science majors who wish to obtain a basic understanding of chemistry as applied in the world today. It is designed to provide hands-on experience with the concepts discussed in the lecture portion, and to provide an introduction to standard practices in the chemistry laboratory, such as safety, techniques and documentation of experimental work. Corequisite: CHEM 110. (S)
Credits 1
Component
LAB

CHEM 115 : Introductory Chemistry

Introductory chemistry is a one-semester course designed to be an introduction to fundamental concepts used in general chemistry. The course topics include measurement, atomic theory, chemical bonding, ionic and covalent compounds, naming, shape, intermolecular forces, states of matter, solutions, reaction rates, equilibrium and acid-base chemistry. Prerequisite: ACT math score, appropriate placement test score, or ASC 90. (F) ND:LABSC
Credits 3
Component
LEC

CHEM 115L : Introductory Chemistry Lab

Chem 115L is the laboratory component of Chem 115. It is designed to provide hands-on experience with the concepts discussed in the lecture portion, and to provide an introduction to standard practices in the chemistry laboratory, such as safety, techniques, and documentation of experimental work.Laboratory to accompany Chemistry 115. Corequisite: CHEM 115. (F) ND:LABSC
Credits 1
Component
LAB

CHEM 116 : Introduction to Organic and Biochemistry

This course is a one-semester course designed to be an introduction to organic chemistry and biochemistry. The course topics include alkanes, alkenes, alkynes, aromatics, alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, amines, amides, carbohydrates, lipids, amino acids, proteins, nucleic acids, enzymes and metabolism. Prerequisite: CHEM 115. (S) ND:LABSC
Credits 3
Component
LEC

CHEM 116L : Introduction to Organic & Biochemistry Laboratory

Chem 116L is the laboratory component of Chem 116. It is designed to provide hands-on experience with the concepts discussed in the lecture portion, and to provide an introduction to standard practices in the organic and biochemistry laboratory, such as safety, techniques, and documentation of experimental work. Prerequisite: CHEM 115L. Corequisite: CHEM 116. (S) ND:LABSC
Credits 1
Component
LAB

CHEM 121 : General Chemistry I

This course is the first semester of a two-semester sequence in general chemistry. General Chemistry I is focused on the fundamental concepts of chemistry, such as measurement, matter, molecules, ions chemical equations, ideal gases, atomic structure, ionic and covalent bonding, periodicity and molecular geometry. Corequisite: MATH 103 or department approval. (F) ND:LABSC
Credits 4
Component
LEC

CHEM 121L : General Chemistry I Laboratory

Chem 121L is the laboratory component of Chem 121. It is designed to provide hands-on experience with the concepts discussed in the lecture portion, and to provide an introduction to standard laboratory practices, such as safety, techniques, and documentation of experimental work. Corequisite: CHEM 121. (F) ND:LABSC
Credits 1
Component
LAB

CHEM 122 : General Chemistry II

This course is the second semester of a two-semester sequence in general chemistry. General Chemistry II involves the applications of the first semester topics toward the study of intermolecular forces, solutions, reaction rates, equilibrium, solubility and complex ions, acids and bases, thermodynamics, electrochemistry and nuclear chemistry. Prerequisite: CHEM 121. (S) ND:LABSC
Credits 4
Component
LEC

CHEM 122L : General Chemistry II Laboratory

Chem 122L is the laboratory component of Chem 122. It is designed to provide hands-on experience with the concepts discussed in the lecture portion, and to provide additional experience with standard laboratory practices, such as safety, techniques, and documentation of experimental work. Prerequisite: CHEM 121L. Corequisite: CHEM 122. (S) ND:LABSC
Credits 1
Component
LAB

CHEM 241 : Organic Chemistry I

This course is the first semester of a two-semester sequence in organic chemistry intended for students in the sciences and pre-professional programs. Organic Chemistry I is focused on the study of structure and properties of organic compounds, with an emphasis on structure and bonding, nomenclature, stereochemistry, reactions, mechanisms, and synthesis. Prerequisite: CHEM 121 and 122. (F) ND:LABSC
Credits 4
Component
LEC

CHEM 241L : Organic Chemistry I Laboratory

Chem 241L is the laboratory component of Chem 241. It is designed to provide hands-on experience with the concepts discussed in the lecture portion, and to provide an introduction to standard practices in the organic laboratory, such as safety, techniques, reactions, product analysis and documentation of experimental work. Prerequisites: CHEM 121L and 122L. Corequisite: CHEM 241. (F) ND:LABSC
Credits 1
Component
LAB

CHEM 242 : Organic Chemistry II

This course is the second semester of a two-semester sequence in organic chemistry intended for students in the sciences and pre-professional programs. Organic Chemistry II is further focused on the relationship of reactivity of organic compounds, with an emphasis on reactions, synthesis, mechanisms, and spectroscopic methods. Prerequisite: CHEM 241. (S) ND:LABSC
Credits 4
Component
LEC

CHEM 242L : Organic Chemistry II Laboratory

Chem 242L the laboratory component of Chem 242. It is designed to provide hands-on experience with the concepts discussed in the lecture portion, and to provide further experience with standard practices in the organic laboratory, such as safety, techniques, reactions, multi-step syntheses, product analysis, and documentation of experimental work. Corequisite: CHEM 242. Prerequisite: CHEM 241L. (S) ND:LABSC
Credits 1
Component
LAB

CHEM 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

CHEM 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Communication

COMM 110 : Fundamentals of Public Speaking

The theory and practice of public speaking with emphasis on content, organization, language, delivery and critical evaluation of messages. (F, S, Su, O) ND:COMM
Credits 3
Component
LEC

COMM 112 : Understanding Media and Social Change

Explore the purpose, function, and impact of media on society. (F)
Credits 3
Component
LEC

COMM 200 : Introduction to Media Writing

Introduction to writing in the styles and forms required in journalism, advertising, broadcasting, and public relations.
Credits 3
Component
LEC

COMM 210 : Advanced Public Speaking

An advanced course in the art of oral discourse.
ND:COMM
Credits 3
Component
LEC

COMM 212 : Interpersonal Communication

Introduces fundamental concepts of communication between individuals. Explores
aspects of self-expression and relationship communication (F, S, Su) ND:SS
Credits 3
Component
LEC

COMM 216 : Intercultural Communication

Exploration of the definition, models, and verbal processes of communication between
different cultural groups.
Credits 3
Component
LEC

COMM 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

COMM 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Computer Information Systems

CIS 101 : Digital Literacy

This course equips students with essential digital literacy skills to succeed in today's workplace. Through real-world applications, students will develop competencies in computer usage, ethical technology practices, file management, cybersecurity, professional communication, word processing, spreadsheets, and the responsible use of emerging technologies, preparing them for a variety of career paths in an increasingly digital workplace. (Credit awarded for CIS 101 or CSCI 116, not both.) (F, S, Su, O)
ND:COMPSC
Credits 2
Component
LEC

CIS 110 : eCommerce Websites

The students will explore and learn the theory and practice of conducting business over the Internet and World Wide Web. They will learn about strategies, technologies, marketing, and improving efficiency and reducing costs. The students will also explore the use of social networking, mobile commerce, and operating auction sites, the legal, ethical, and tax issues, electronic commerce software and hardware, security issues, along with payment systems utilized. (O)
Credits 3
Component
LEC

CIS 128 : IT Essentials I

This course covers the fundamentals of computer hardware and software. This course helps students prepare for the CompTIA A+ Essentials exam (220-1001), which covers the fundamentals of computer technology, networking, and security, and validates the communication skills and professionalism required of all entry-level IT professionals. Students who complete this course will be able to describe the internal components of the computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software. Students will also be able to connect to the Internet and share resources in a networked environment. Topics included are laptops and portable devices, wireless connectivity, security, safety and environmental issues, and communication skills. Hands-on activities are essential items of the course. Virtual learning tools are integrated into the course. (F, O)
Credits 3
Component
LEC

CIS 129 : IT Essentials II

This course covers the advanced concepts of computer hardware and software. It is designed to build on the knowledge and skills attained in CIS 128. This course helps students prepare for the CompTIA A+ Practical Application exam (220-1002). It implements more of a hands-on orientation and scenarios in which troubleshooting and tools must be applied to resolve problems. Prerequisite: CIS 128. (S, O)
Credits 3
Component
LEC

CIS 142 : Cyber Security Operations

Today's organizations are challenged with rapidly detecting cybersecurity breaches and effectively responding to security incidents. Teams of people in Security Operations Centers (SOCs) keep a vigilant eye on security systems, protecting their organizations by detecting and responding to cybersecurity threats. CCNA Cybersecurity Operations prepares candidates to begin a career working with associate-level cybersecurity analysts within security operations centers. (S, O)
Credits 4
Component
LEC

CIS 164 : Networking Fundamentals I

The course introduces the architectures, models, protocols, and networking elements that connect users, devices, applications, and data through the internet and across modern computer networks - including IP addressing and Ethernet fundamentals. By the end of the course, students can build simple local area networks (LANs) that integrate IP addressing schemes, foundational network security, and perform basic configurations for routers and switches. (F, O)
Credits 4
Component
LEC

CIS 165 : Networking Fundamentals II

The course focuses on switching technologies and router operations that support small-to-medium business networks and includes wireless local area networks (WLANs) and security concepts. Students learn key switching and routing concepts. They can perform basic network configuration and troubleshooting, identify and mitigate LAN security threats, and configure and secure a basic WLAN. Prerequisite: CIS 164. (S, O)
Credits 4
Component
LEC

CIS 166 : Windows Support

In this course the student will develop skills to support Windows including setup, configuration, customization, optimization, network integration, administration, troubleshooting, messaging and other support issues. (As needed)
Credits 3
Component
LEC

CIS 180 : HTML and CSS

This course will introduce students to HTML, XHTML, and CSS. The students will learn how to write HTML code. The student will be able to identify and apply various codes and styles when creating a Web page. This will include writing HTML and CSS code for color, links, images, alignment, text styles, tables, forms, formatting values, frames, and adding multimedia content such as sound, and video files. Correct design aspects will be used along with learning about planning a Web site, typography, promoting and maintaining a Web site and ways to attract visitors to your site. (F, O)
Credits 3
Component
LEC

CIS 181 : Web Authoring Software

This course will introduce students to Web authoring software. Students will learn how to utilize this software package to create and design Web pages and Web sites. The student will be able to identify and apply various tools associated with the software when creating a Web page. Students will utilize tools in the software package to develop Web pages with color, links, images, alignment, text styles, tables, forms, formatting, and frames.
Prerequisite: CIS 180. (S, O)
Credits 3
Component
LEC

CIS 182 : Image Editing Software

This course will introduce students to graphic editing software. Students will learn how to utilize this software package to create and edit images for Web pages and Web sites. The student will be able to identify and apply various tools associated with the software such as layers, slices, incorporating color techniques, using painting tools, special effects, clipping masks and transforming type.
Prerequisite: CIS 180. (S, O)
Credits 3
Component
LEC

CIS 183 : Social Media Marketing

This course provides students with the concepts to observe an organization's current presence and competition on the social web, followed by the establishment of realistic social media goals and effective strategies to achieve them. Students will learn how to define an organizations target market on the social web and identify the social media platforms with the highest concentrations of its target audiences and determine how they are participating on those platforms and to select the optimal social media platforms for reaching its target audiences. In addition, students will also learn how to monitor and measure the progress made in reaching social media goals. (F, O)
Credits 3
Component
LEC

CIS 188 : Application Design

This course provides an introduction to the field of human-computer interaction (HCI). Students will learn practical principles and guidelines needed to develop high quality interface designs-ones that users can understand, predict, and control. Students explore theoretical foundations, design processes, examples of direct manipulation, menu selection, and form fill-in to gain an understanding of excellence in design. Current HCI topics are explored with balanced emphasis on mobile devices, Web, and desktop platforms. It addresses the profound changes brought by user-generated content of text, photo, music, and video and the raised expectations for compelling user experiences. (F, S)
Credits 3
Component
LEC

CIS 191 : First Year Seminar

This course provides students with the knowledge and opportunity to create an online portfolio where they can showcase their education and skills to obtain employment in their field of study. Students use tools in an online portfolio environment to create a product that includes their resume, documentation of their employment and education history, along with references. The goal is to create a useable and easily accessible platform for students to demonstrate their employability skills to prospective employers. (S, O)
Credits 1
Component
LEC

CIS 197 : Internship

Students need to have completed one full semester of course work prior to taking this class. The internship is an industry work experience for the student. The student will work with/for an NDSCS industry partner. The length of the internship will be determined by the industry partner.
Prerequisite: First-year core classes. (F, S, Su)
Credits 1
Component
FLD

CIS 212 : Microsoft Windows Operating System Client

The purpose of this course is to offer all the critical information students need to successfully move into a role as an IT professional and support Windows Client OS in a business environment. Many hands-on exercises are included which allow students to practice skills as they are learned. (F)
Credits 3
Component
LEC

CIS 215 : Implementing a Microsoft Windows Server Environment

This course provides students with the knowledge and skills necessary to install and configure Microsoft Windows Client computers that are part of a workgroup or domain. In addition, this course provides the skills and knowledge necessary to install and configure Windows Server to create file, print, Web and terminal servers. (F, O)
Credits 4
Component
LEC

CIS 216 : Implementing a Microsoft Windows Network Infrastructure

This course teaches students, through lectures, discussions, scenarios, demonstrations, chapter review questions, textbook exercises, and classroom labs, the skills and knowledge necessary to configure, manage, and troubleshoot a Windows network infrastructure. (S, O)
Credits 4
Component
LEC

CIS 232 : Graphics Design

The students will explore and learn the concepts and skills behind a comprehensive vector-draw software application. They will learn how to apply smart design principles to multimedia products such as dynamic graphics, animation, and Web sites. Students will create everything from simple graphics, icons, and text to complex and multi-layered illustrations, all of which can be used within a page layout, in a multimedia presentation or on the Web. (F, O)
Credits 3
Component
LEC

CIS 234 : Networking (Windows NT)

This class will teach students how to configure, customize, optimize, integrate and troubleshoot Microsoft Windows NT operating systems in a single domain environment, focusing on implementing intranets and using Microsoft technology. (As Needed)
Credits 4
Component
LEC

CIS 241 : IT Forensics I

This course introduces the student to the fundamental concepts of digital forensics. Labs using primarily open source, free software and a variety of hardware reinforce the concepts discussed in classroom instruction. This class is primarily a hands-on experience. (F, O)
Credits 4
Component
LEC

CIS 242 : IT Forensics II

This course teaches the student to apply the concepts of digital forensics. Labs using primarily open source, free software and a variety of hardware reinforce the concepts discussed in classroom instruction. This class is primarily a hands-on experience. The student will create a digital forensics workstation and will apply digital forensic analysis techniques to process and analyze digital evidence. (S, O)
Credits 4
Component
LEC

CIS 244 : Web Server Management

This course provides the student with an introduction to the basics of a Web server management role. The textbook covers installation, configuration, and administration of Web servers. The student will be exposed to topics for both Linux and a Microsoft Windows server environments. They will work with Microsoft Windows Server and/or Red Hat Linux, Internet Information Services (IIS), Apache Web Server, Microsoft SQL Server, MySQL, Microsoft Exchange Server, sendmail, and more. (Assumes students have a basic background in networking.) (S, O)
Credits 3
Component
LEC

CIS 267 : Intermediate Networking I

The course describes the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks. This course covers wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access. The course also introduces software-defined networking, virtualization, and automation concepts that support the digitalization of networks. Students gain skills to configure and troubleshoot enterprise networks and learn to identify and protect against cybersecurity threats. They are introduced to network management tools and learn key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation. Prerequisites: CIS 164, CIS 165. (F, O)
Credits 4
Component
LEC

CIS 268 : Infrastructure Automation (DEVNET ASC)

In the DEVASC course curriculum, Cisco Networking Academy participants develop workforce readiness skills and build a foundation for success in automation related careers and degree programs. With the support of video and rich media, participants learn, apply, and practice programming and infrastructure automation knowledge and skills through a series of in-depth hands-on experiences that reinforce their learning. Upon completion of the DEVASC course, learners will be prepared to take the Cisco DEVASC certification exam. (S, O)
Credits 4
Component
LEC

CIS 279 : Security Awareness and Policy

This course is intended to provide a basic survey of the importance of IT security awareness and data confidentiality. This security awareness-training course walks users through every aspect of Information Security in a very broad, easy to understand way and explains to them the value of securing data, both for themselves and the organization. The class will introduce legislation, local, state and federal privacy policies and liability of individuals and institutions related to data confidentiality and integrity, to include HIPAA and Gramm Leach Bliley act. This course will introduce basic concepts of risk management, security policies, common threats and countermeasures. Best practices in access control and password policies will also be covered (F, O)
Credits 1
Component
LEC

CIS 280 : Fundamentals of Network Security I

Introduction to Network Security course focusing on the overall security processes with particular emphasis on hands-on skills in the following areas: security policy design and management; security technologies, products and solutions; secure router design, installation; configuration and maintenance; AAA implementation using routers; Intrusion Detection (IDS) implementation using routers; and Virtual Private Networks implementation using routers. Prerequisite: CIS 164. (S,O)
Credits 4
Component
LEC

CIS 282 : Computer System Security

This course introduces the basics of network security. The student will be introduced to computer network vulnerabilities and threats and how to safeguard computer networks from those vulnerabilities and threats. This course will expose the student to network security planning, network security technology, network security organization and the legal and ethical issues associated with network security. (F, O)
Credits 4
Component
LEC

CIS 284 : Managing Network Security

Increases the scope and depth of the skills and knowledge acquired in Network Security Fundamentals by focusing on the advanced capabilities of network defense strategies including Virtual Private Networks (VPN), Host Intrusion Detection Systems (HIDS) and Network Intrusion Detection Systems (NIDS). Students will learn the evolution and current best practices of applying these technologies, which are universally deployed in networks of all sizes. (S, O)
Credits 4
Component
LEC

CIS 285 : Web Technologies

Students will explore areas, specified by the instructor, related to emerging technologies in their program areas through independent study, tutorials, and research of technologies emerging in their degree program. This will allow the student to enhance their knowledge and skills beyond the foundations taught in their program of study and to gain an understanding of how to continue learning beyond completion of their degree. (S)
Credits 2-3
Component
LEC

CIS 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

CIS 297 : Cooperative Education

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

CIS 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Computer Science

CIS 220 : Operating Systems

This course will focus on the Linux operating system. Students will learn how to use basic Linux command-line commands as well as various Linus graphical user interfaces. Students will also work with and learn basic system administration for Linux. (F, S, O)
Credits 3
Component
LEC

CSCI 101 : Software Apps and Digital Literacy

This course prepares students for success in developing essential software applications and digital literacy skills that are transferable to educational and career environments. Through real-world projects and practical exercises, students will gain proficiency in word processing, spreadsheets, presentations, and the responsible use of AI and emerging technologies. Emphasizing workplace applications, this course builds the essential skills required to navigate and succeed in today's evolving digital landscape. ND:COMPSC
Credits 3
Component
LEC

CSCI 102 : Fundamentals of CyberLaw

This course addresses issues which have arisen as a result of the explosive growth of the Internet and World Wide Web. It covers the following topics: copyright and trademark issues, defamation, privacy, liability, electronic contracts, tax issues, and the ethics of the Internet. (S, O)
Credits 3
Component
LEC

CSCI 133 : Database Concepts I (SQL)

This course provides students with an introduction to database concepts. The students will use the select statement to query databases and produce the correct outcomes. Students will use functions, join multiple tables and create sub-queries. (F, O)
Credits 3
Component
LEC

CSCI 134 : Database Design and Management

This course focuses on the steps used for designing a relational database. Students will design and implement a relational database. (F, S)
Credits 3
Component
LEC

CSCI 135 : Web Programming

This course will introduce students to JavaScript and Principles of Web design. The students will learn about using JavaScript to affect the appearance and characteristics of a Web page. The student will also be able to identify and apply various scripting languages such as HTML, Cascading Style Sheets (CSS), and JavaScript. Students will also learn to author Web pages utilizing principles of Web design. The students will learn how to apply CSS rules and properties to enhance and create tables, forms, frames, images, colors, etc. Prerequisite: CIS 180. (S, O)
Credits 3
Component
LEC

CSCI 160 : Computer Science I

An introduction to computer science including problem-solving, algorithm development and structured programming in a high-level language. Emphasis on design, coding, testing and documentation of programs using accepted standards of style. An introductory course in applying structured computer programming logic and concepts. A structured, systematic approach will be used in program development including problem analysis, structured logic design, program coding, program testing, debugging and documenting. An object-orientated language will be for programming projects. Concepts of programming will include screen generation, keyboard and file input, data validation of input data, arithmetic formulas and functions, logical operations, and design and production of organized output. (F, O) ND:COMPSC
Credits 4
Component
LEC

CSCI 161 : Computer Science II

Advanced concepts in computer science including data structures, algorithm analysis, and standard problems such as searching and sorting and memory management issues. A continuation of CSCI 160. Programming concepts to be demonstrated and utilized within programs include: using output screens with menus, various looping structures, file input and output, writing and utilizing functions, using arrays, multidimensional arrays, structures and pointer data types, and searching and sorting using array data structures. Program efficiency and debugging techniques will be included. Prerequisite: CSCI 160. (S) ND:COMPSC
Credits 4
Component
LEC

CSCI 162 : Web Application Programming

This course uses concepts learned in CSCI 160 and CSCI 161 to develop web applications suitable for use by today's mobile users. This course will introduce students to JavaScript. The students will learn about using JavaScript to affect the appearance and characteristics of a Web page. JavaScript allows you to create dynamic content and make the Web page interactive. The student will also be able to identify and apply various scripting languages such as HTML, Cascading Style Sheets (CSS), and JavaScript. (S, O)
Credits 3
Component
LEC

CSCI 183 : Database Concepts II (SQL)

Continuation of CSCI 133. The students will design databases, create and modify the tables, create views, create stored procedures, and create cursors. Prerequisites: CSCI 133 (S, O)
Credits 3
Component
LEC

CSCI 230 : Web Database I

This course teaches beginning and intermediate students the fundamentals of Web applications. This includes the concepts and theories of creating and building Web applications. Students will learn about database planning, designing, and programming. To practice and demonstrate their learning of web application fundamentals, students will create programs using PHP. (F, O)
Credits 3
Component
LEC

CSCI 231 : Web Database II

This course introduces the student to concepts of creating dynamic Web sites by using ColdFusion Markup Language. The students will learn how to extract information from databases to provide current information about products and services. They will also learn how to add and change database records based on user selections, keep information up-to-date, and enhance their Web-based skills. (Prior knowledge base: Internet, HTML, Microsoft Access 2000, Netscape Navigator or Internet Explorer, and relational database concepts.) (S)
Credits 3
Component
LEC

CSCI 263 : Computer Science III

This course is a continuation of CSCI 160 and CSCI 161. Programming concepts to be demonstrated and utilized with Java programs include: graphics, class inheritance, Java swing components, layout managers, exception handling, file input/output, and multithread animation. Prerequisites: CSCI 160, CSCI 161. (F, O)
Credits 3
Component
LEC

CSCI 290 : Programming Capstone

This course is a summative course. Students taking this class will be required to combine skills gained from previous CIS/CSCI classes. This class will require the student to use the following languages and tools: SQL, Visual Basic.NET, ASP.NET, Java, HTML. Prerequisites: CSCI 160/161, CSCI 122/172, CSCI 133/183 (S)
Credits 4
Component
FLD

CSCI 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

CSCI 297 : Internship

The development of computer skills through work experience (440 hours of work in a computer center environment). Prerequisite: Department approval. (F, S, Su)
Credits 3
Component
FLD

CSCI 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

MATH 103 : College Algebra

Relations and functions, equations and inequalities, complex numbers, polynomial, rational, exponential and logarithmic functions, and systems of equations. Emphasis on using real-data and analyzing the data using symbolic, numerical, and graphical methods. Prerequisite: ACT math score or appropriate placement test score. Based on ACT or placement test scores and the course placement policy, a corequisite of ASC 93 may be required. (F, S, Su, O)
ND:MATH
Credits 3
Component
LEC

Computer Science

CIS 110 : eCommerce Websites

The students will explore and learn the theory and practice of conducting business over the Internet and World Wide Web. They will learn about strategies, technologies, marketing, and improving efficiency and reducing costs. The students will also explore the use of social networking, mobile commerce, and operating auction sites, the legal, ethical, and tax issues, electronic commerce software and hardware, security issues, along with payment systems utilized. (O)
Credits 3

CIS 120 : Introduction to Data Science

This introductory course takes you inside the world of data science. You will explore the basic aspects of what data science, data analytics, and data engineering are and understand how machine learning is shaping the future. Students will also learn how to combine the science of data with the art of storytelling utilizing data, narrative, and visuals.
Credits 2
Component
LEC

CIS 122 : Data Analytics Essentials

This data analytics essentials course teaches students the fundamental tools of a data analyst. You will learn to transform, organize, and visualize data with spreadsheet tools and how to query data from a relational database. Students will also explore how to improve data presentations utilizing powerful business intelligence tools.
Credits 2
Component
LEC

CIS 283 : Cybersecurity Advanced (Penetration Testing)

In this course, learners develop ethical hacking and penetration testing skills that build a foundation for success in the cybersecurity industry. With the support of video and rich interactive media, participants learn, apply, and practice ethical hacking skills in meaningful ways through a series of realistic hands-on lab experiences (S, O)
Credits 4
Component
LEC

Cooperative Education

COOP 197 : Cooperative Education

Cooperative Education provides you the opportunity to explore career interests and develop professional skills through work experiences that are designed to unite career, social and personal growth in your education. This program requires supervision of the employer and program coordinator.
Credits 1
Component
FLD

COOP 297 : Cooperative Education

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

Economics

ECON 105 : Elements of Economics

An introductory survey of basic economic principles including supply and demand, national income analysis, business cycles, money and the monetary system, and an analysis of competitive and imperfect market structures; as well as a review of selected contemporary economic issues. (F, O) ND:SS
Credits 3
Component
LEC

ECON 201 : Principles of Microeconomics

Nature, method, and scope of economic analysis; economic scarcity, resources, specialization of labor; supply-demand analysis; production and cost analysis; product and resource market structures, distribution of income; international trade. (F, S) ND:SS
Credits 3
Component
LEC

ECON 202 : Principles of Macroeconomics

Aggregate income and employment analysis; business cycles, unemployment, inflation and economic growth; fiscal policy; money and monetary policy; the U.S. economy and the world economy. (S) ND:SS
Credits 3
Component
LEC

ECON 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

ECON 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Engineering

ENGR 212 : Fundamentals of Visual Communications

Orientation of job functions in an engineering department along with learning tools of the engineering and technical management professions. Emphasis on hand sketching, print reading, drafting standards, engineering changes and revision documentation for manufacturing and industry. Create visual communications of designs for manufacturing. Understand all phases of design and how to develop three dimensional models using SolidWorks. Emphasis on sketching, parametric modeling of parts, assemblies and critical dimensioning of orthographic drawings for manufacturing and industry. (F)
Credits 3
Component
LEC

ENGR 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

ENGR 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

English

ENGL 105 : Technical Communications

This course concentrates on business correspondence, informal report writing, technical communication, job preparation, and oral presentation. Prerequisite: Placement test. (F, S, Su-O)
Credits 3
Component
LEC

ENGL 110 : College Composition I

An introduction to college-level writing as a process of drafting, revising, and editing. This course emphasizes critical reading, writing, thinking, and research skills as students write for a variety of audiences and purposes. Students will receive guided instruction in the writing process as they begin writing based on personal experiences. An introduction to proper crediting of source material and research will occur toward the end of the course. Prerequisite: Placement test. (F, S, Su, O) ND:ENGL
Credits 3
Component
LEC

ENGL 120 : College Composition II

Continued practice of college-level writing process and strategies, building on skills learned in English 110. This course refines critical reading, writing, thinking, and research skills. Students will practice summary and analysis of texts, as well as synthesizing information from primary and secondary sources. Writing assignments will emphasize logical argument, persuasion, and collaboration. Major assignments will require proper crediting of source material and research. Prerequisite: English 110. (F, S, Su, O) ND:ENGL
Credits 3
Component
LEC

ENGL 125 : Introduction to Professional Writing

Advanced practice in college-level writing which emphasizes writing and research in professional settings. Prerequisite: English 110. (F, S-O, Su-O) ND:ENGL
Credits 3
Component
LEC

ENGL 207 : Language Studies: Conversational English and American Studies

Assistance in improving English language skills, including listening, speaking, reading and writing for non-native speakers. Also meant to introduce non-native speakers to the culture of the United States through literature, history, music and art. Most important will be the development of spoken English language skills. (F)
Credits 3
Component
LEC

ENGL 211 : Introduction to Creative Writing

A flexible, introductory workshop course that will introduce students to various genres of creative writing including fiction, poetry, drama and many of the genres found in creative nonfiction. This course concentrates on the techniques, the process and the products valuable to writers of creative writing by providing creative literary works for students to read, respond to, and discuss. (S-O) ND:HUM
Credits 3
Component
LEC

ENGL 213 : Literary Publications

This introductory course will familiarize students with the knowledge to understand how a small, college publisher operates. By the end of the semester, students will gain the knowledge to produce a literary magazine that is compiled with works from students and alumni across the genres. Students will learn how to solicit manuscripts for a magazine; screen, select, and edit pieces; and edit, design, and publish a literary publication. ENGL 213 focuses on preliminary planning for the literary magazine, which includes establishing a campus and web presence, building the foundation for production, creating and publicizing the call for entries, judging and selection of work, and design and production of the publication.
Credits 3

ENGL 220 : Introduction to Literature

Introduction to Literature studies conventions and characteristics of three genres of literature (fiction, poetry, and drama) and is particularly recommended for students new to the study of literature. Students study terminology and literary concepts in order to interpret, analyze, and critically evaluate selections from stories, poems, and plays. (As needed) ND:HUM
Credits 3
Component
LEC

ENGL 225 : Introduction to Film

This introductory course to film is intended to help students become more active, critical viewers of films and to be able to communicate this understanding in writing. Movies, like works of literature, are texts that can be analyzed and interpreted; this process adds to our understanding and enjoyment. Students will view several films from different time periods, genres, and artistic approaches, and they will learn about narrative and stylistic elements used by filmmakers. Students will study the films themselves, but also the writing and research that goes along with them. With this, students will be able to read through a screenplay of a number of films and genres while understanding screenwriting terminology, focus, and details of why writers choose to write in this medium.
Credits 3
Component
LEC
Semester Offered
Fall

ENGL 232 : Mythology

The study of representative myths, legends, and folklore from various cultures with emphasis upon the literary aspects of myth. Standard Greek and Roman myths will be covered as well as significant myths from other cultures. (S) ND:HUM
Credits 3
Component
LEC

ENGL 238 : Children's Literature

This course is an introductory survey of literature for children from infancy through puberty, with emphasis on the analysis of literary characteristics which determine age-appropriateness. Through the readings of picture books. poetry, folklore, fantasy, realistic fiction, biography, and informational books, students will gain an awareness of the history, genre, and theme in children's literature. In their reading, students will also develop a familiarity with important authors and illustrators as they confront such issues as racism, sexism, multiculturalism, and censorship. (F) ND:HUM
Credits 3
Component
LEC

ENGL 240 : World Literature Masterpieces

World Literature explores the literature of varied cultures from ancient to modern times. Readings include selected works from many cultures, genres, and epochs including selections from India, Asia, Africa, Europe, and the Americas. (F-O) ND:HUM
Credits 3
Component
LEC

ENGL 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

ENGL 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

First Year Experience

FYE 101 : Science of Success

This is a practical one-credit course that provides the tools and skills necessary to get a strong start with the transition for new students at NDSCS. This course will guide students through the process of exploring careers and transfer considerations. Students will learn to navigate NDSCS resources and technologies as well as learn skills and techniques used by successful college students.
Credits 1
Component
LEC

Geology

GEOL 292 : Experimental Course
A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

Health/Physical Education/ Recreation

HPER 100 : Concepts of Fitness and Wellness
A course designed for students of all ages that teaches the facts about exercise and physical fitness. This course is designed to teach the student the role of physical activity in maintaining adequate health and improved quality of life. Also, how to assess, develop and implement a complete lifetime fitness and wellness program and its components. The course is designed to incorporate these ideas through lecture and activity. (F, S, O)
Credits 2
Component
LEC

HPER 101 : Activity: Intro Level
Credits 1
Component
LEC

HPER 110 : Sports Officiating
This course will acquaint students with the rules, qualifications, ethics, techniques, conduct, proper signals and appearance of officiating high school football, basketball and volleyball. Students will also observe and officiate. (F, S)
Credits 2
Component
LEC

HPER 111 : The Science of Well-being
This course explores the concept of happiness, overall wellness, and wellbeing from a holistic perspective, encompassing physical, mental, emotional, and social health. Students will engage in activities, discussions, and reflective practices that promote personal growth, mindfulness, healthy habits, and a positive mindset.
Credits 2
Component
LEC

HPER 150 : Varsity Athletics
The course prepares the first year student/athlete to participate at the NJCAA collegiate level. This preparation will be accomplished through daily practice and participation in intercollegiate athletics.
Credits 2
Component
LEC

HPER 151 : Varsity Athletics
The course prepares the first year student/athlete to participate at the NJCAA collegiate level. This preparation will be accomplished through daily practice and participation in intercollegiate athletics.
Credits 1
Component
LEC

HPER 167 : Esports
Course created for Tri-College purposes.
Credits 1
Component
LEC

HPER 192 : Experimental Course
Credits 1
Component
LEC

HPER 197 : Practicum in Sports Medicine I
Practicum in Sports Medicine I provides the student athletic trainer with the basic knowledge of policies and procedures of the training room facility. It introduces students to the athletic department members, college athletic team atmosphere, and athletic injury care. Students learn basic athletic injury treatment and first aid procedures through hands-on contact with varsity athletes. Students observe varsity practices and games throughout the semester. Practicum in Sports Medicine I is an arranged time schedule and takes place under the direct supervision of a Certified Athletic Trainer. (F)
Credits 1
Component
PRA

HPER 200 : Introduction to Parks and Recreation
A beginning course in the study of recreational programs including those in parks, schools, youth agencies, therapeutic institutions, camps, industry and municipal youth agencies. (F)
Credits 2
Component
LEC

HPER 201 : Introduction to Coaching

This course is designed to allow students to acquire knowledge in base fundamentals of specific skills and positions. Develop a framework of beliefs on issues within the sport. Devise a process of game plan preparation. (F, S)
Credits 2
Component
LEC

HPER 207 : Prevention and Care of Injuries

This course will provide students with the principles of athletic training. Students will learn prevention, recognition, treatment of athletic injuries, organization and administration of athletic training and basic taping techniques. (S)
Credits 3
Component
LEC

HPER 208 : Introduction to Physical Education

Designed for students who may be considering a career as a qualified teacher in physical education. Covers the history, philosophy, principles, nature and scope of the professional field of physical education. Related career opportunities in the fields of fitness and sport are also examined. (S)
Credits 2
Component
LEC

HPER 210 : First Aid & CPR (Professional/Community)

Provide students with the knowledge and skills necessary to respond to an emergency. Preparing students to identify, assess, manage and minimize consequences of injury (minor and major) and sudden illness in medical emergencies. Providing options for professional level of training, this course is outlined by the American Heart Association and will follow those guidelines. Certificate cards are given upon request and only after successfully completing the course. The student must score at or above the 84th percentile on all written exams for certifications. Training skills for the professional AHA BLS, AED, and first aid. AHA Heart Saver CPR training may be available upon request. (F, S, O)
Credits 2
Component
LEC

HPER 213 : Taping and Bracing

Taping and bracing will focus on the stabilizing procedures used to assist in the healing process of athletic injuries. A hands-on approach will be used throughout the course. (F)
Credits 2
Component
LEC

HPER 217 : Personal & Community Health

Focuses on current health attitudes and habits needed for life management skills. Proper health habits, lifestyle management, fitness, nutrition, mental health, stress management, drug usage, heart disease, cancer, human sexuality, childbirth, consumer health and health programs are covered. (S, O)
Credits 3
Component
LEC

HPER 250 : Varsity Athletics

The course prepares the second year student/athlete to participate at the NJCAA collegiate level.This preparation will be accomplished through daily practice and participation in intercollegiate athletics.
Credits 2
Component
LEC

HPER 251 : Varsity Athletics

The course prepares the second year student/athlete to participate at the NJCAA collegiate level. This preparation will be accomplished through daily practice and participation in intercollegiate athletics.
Credits 1
Component
LEC

HPER 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

HPER 297 : Practicum in Sports Medicine II

The purpose of Practicum in Sports Medicine II is to give further instruction toward the principles and practices of athletic training. The instruction will be hands-on and will take place on on-campus facilities under the direction of a Certified Athletic Trainer. Practicum schedule will be arranged individually for the entire semester. (S)
Credits 1
Component
PRA

HPER 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

History

HIST 101 : Western Civilization I

An introductory survey of early Western civilization. This course examines the ancient beginnings of civilization with emphasis given to the great civilizations of the Middle East and Southern Europe. The study includes the Byzantine Empire and the development of Western Europe, culminating with the Renaissance. (F) ND:HIST
Credits 3
Component
LEC

HIST 102 : Western Civilization II

An introductory survey of recent Western civilization. The Reformation and Modern Europe are discussed with emphasis on the religious changes, the growth of nation-states, the Napoleonic era, the Industrial Revolution and World War I and II. (S, O) ND:HIST
Credits 3
Component
LEC

HIST 103 : United States History to 1877

A survey of U.S. History to 1877 examining the discovery, colonization and establishment of the United States. This course emphasizes the reasons for European immigration and their effects on the development of the United States. Changes in the American government, the Westward movement, land acquisitions and slavery are presented. The Civil War and Reconstruction receive major coverage. (F, O) ND:HIST
Credits 3
Component
LEC

HIST 104 : U.S. History Since 1877

A survey of United States history since 1877. An introduction of America's entry into world politics and its prominence in the Industrial Revolution with a study of progressivism and political change. America's entry into World War I and its outcome also are examined as well as the New Era, the 1920s, and the events which led to economic disaster. FDR's presidency, the Depression and World War II are explored. The Cold War, the complacent years of Truman and Eisenhower, the 1960s, Vietnam and Watergate are discussed. The Reagan and Bush administrations and the new order in Eastern Europe are also presented. (F, S) ND:HIST
Credits 3
Component
LEC

HIST 207 : United States and Current World Affairs

Study of the nature of contemporary political communities around the world, with emphasis on the United States. A special focus of the course is the examination of global and multicultural issues related to the problems of specific world communities. Cross reference: POLS 103. (F) ND:HIST
Credits 3
Component
LEC

HIST 220 : North Dakota History

A survey of North Dakota history including the government and its people. Emphasis is given to geography, the early history of the state prior to statehood and modern history following statehood to the present. (S) ND:HIST
Credits 3
Component
LEC

HIST 260 : Women in America

Women in America from pre-colonial to the present. Focuses on experiences of typical women of the past, including minorities. (S) ND:HIST
Credits 3

HIST 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

HIST 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

HIST 299A : Special Topics in History

Topics in United States history and/or European history to be offered on the basis of student interest. Prerequisite: HIST 104 or HIST 102 or instructor consent. (As needed)
Credits 1
Component
LEC

Humanities

HUM 101 : Introduction to Humanities I
This course is designed to introduce beginning college students to the major disciplines of the Humanities: philosophy, history, religion, drama, music, and art. (F, S, Su)
Credits 3
Component
LEC
Semester Offered
Spring
Summer
Fall

HUM 192 : Experimental Course
A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

HUM 211 : Integrated Cultural Excursion: Regional & Cultural Studies
This course offers the student an opportunity to study and experience the culture of another region of the United States or world at large with an emphasis on history, architecture, art, literature, populace, geography, political system, and multiculturalism. The course includes pre-trip planning and lectures, itinerary, trip journals, study and research, and post-trip presentations.
Credits 1
Component
LEC

HUM 292 : Experimental Course
A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

Liberal Arts

ASC 95 : Trigonometry Corequisite
This course will review the core prerequisite skills, competencies, and concepts needed in trigonometry. Intended for students who are concurrently enrolled in MATH 105, Trigonometry. It includes topics such as angle measurements, trigonometric functions, identities, equations, and general applications. Additional emphasis is placed on just in time skills and concepts. This does not satisfy any graduation requirements. It is offered only through Academic Services. Corequisite: MATH 105.
Credits 1
Component
LEC

EDUC 250 : Introduction to Education
A collaborative course taken remotely through Mayville State University.
Credits 3

Mathematics

MATH 103 : College Algebra
Relations and functions, equations and inequalities, complex numbers, polynomial, rational, exponential and logarithmic functions, and systems of equations. Emphasis on using real-data and analyzing the data using symbolic, numerical, and graphical methods. Prerequisite: ACT math score or appropriate placement test score. Based on ACT or placement test scores and the course placement policy, a corequisite of ASC 93 may be required. (F, S, Su, O) ND:MATH
Credits 3
Component
LEC

MATH 105 : Trigonometry
Angle measure, trigonometric and inverse trigonometric functions, trigonometric identities and equations, parametric and polar coordinates, and general applications. Students cannot receive credit for both MATH 105 and 107. Prerequisite: ACT math score or appropriate placement test score. Based on ACT or placement test scores and the course placement policy, a corequisite of ASC 93 may be required. (S) ND:MATH
Credits 2
Component
LEC

MATH 107 : Pre-Calculus
Equations and inequalities; polynomial, rational, exponential, logarithmic, trigonometric and inverse functions; trigonometric identities and equations and applications. Students cannot receive credit for both MATH 105 and 107. Prerequisite: ACT math score or appropriate placement test score. (O) ND:MATH
Credits 4
Component
LEC

MATH 110 : Mathematics in Society
This course covers a broad range of mathematics that a person would encounter in their daily life. Topics include statistical interpretation, data visualization, probability, growth models, finance, politics and voting, logic and sets, and the intersection of mathematics and the arts. Throughout, appropriate use of mathematical technology will be emphasized. Prerequisite: ACT math score or appropriate placement test score. Based on ACT or placement test scores and the course placement policy, a corequisite of ASC 91 may be required.
Credits 3
Component
LEC

MATH 120 : Basic Mathematics I

A review of whole numbers, fractions and decimal numbers in conjunction with the fundamental application of ratios, rates, unit rates, proportions, and percentages in solving everyday problems. Business and consumer mathematics such as simple interest, compound interest, and purchasing. (F, S)
Credits 2
Component
LEC

MATH 123 : Basic Mathematics II

Introduction of statistical data reading and calculating. Problem solving involving length, width, and capacity in the U.S. and metric systems. Application problems involving perimeter, area, volume, and fundamental geometry. (F, S, Su)
Credits 2
Component
LEC

MATH 125 : Basic Mathematics III

Basic concepts and features of beginning algebra with an emphasis on critical thinking and problem solving. Topics include properties of real and rational numbers, arithmetic operations of numbers and expressions, translating verbal expressions/equations to variable expressions/equations, and application of word problems. (F, S)
Credits 2
Component
LEC

MATH 130 : Technical Math

A review of whole numbers, fractions and decimals using U.S. measurements. The application of ratio and proportion, direct measure, perimeter, area and volume with a construction emphasis. (F, S-online/Fargo)
Credits 2
Component
LEC

MATH 132 : Technical Algebra I

A basic algebra course for students enrolled in technology programs. Topics include properties of real numbers, algebraic expressions, solving equations, polynomials, factoring, formula manipulations and problem-solving. (F, S, O)
Credits 2
Component
LEC

MATH 134 : Technical Algebra II

A continuation of MATH 132. For students who need advanced skills in algebra for application in technical courses or as a preparation for intermediate algebra. Topics include linear and simultaneous equations, quadratic equations, logarithmic and exponential equations, decimal, binary, hexadecimal and BCD base conversions. Prerequisite: MATH 132. (S)
Credits 2
Component
LEC

MATH 136 : Technical Trigonometry

A study of the fundamentals of trigonometry. Right triangle trigonometry, the Law of Sines, the Law of Cosines and Vectors. Emphasis is placed on problem-solving for the technology fields. Prerequisite: MATH 132. (F, S, S-O)
Credits 2
Component
LEC

MATH 137 : Applied Algebra

An intermediate algebra course for students enrolled in technology programs. Topics include properties of real numbers, algebraic expressions, factoring, formula manipulation, graphing, linear equations, quadratic equations, solving systems of equations, simultaneous equations, exponents, radicals and logarithmic equations. (O)
Credits 3
Component
LEC

MATH 146 : Applied Calculus I

Credits 4

MATH 165 : Calculus I

Limits, continuity, differentiation, Mean Value Theorem, integration, Fundamental Theorem of Calculus and applications. Prerequisite: ACT score, MATH 105, MATH 107, or placement test. (F) ND:MATH
Credits 4
Component
LEC

MATH 166 : Calculus II

Applications and techniques of integration, polar equations, parametric equations, sequences and series, power series, and applications. Prerequisite: MATH 165. (S) ND:MATH
Credits 4
Component
LEC

MATH 192 : Experimental Course

Credits 1
Component
LEC

MATH 210 : Elementary Statistics

An introduction to statistical methods of gathering, presenting, and analyzing data. Topics include probability and probability distributions, confidence intervals, hypothesis testing, and linear regression and correlation. Prerequisite: ACT math score or appropriate placement test score. Based on ACT or placement test scores and the course placement policy, a corequisite of ASC 93 may be required. (F, S, O) ND:MATH
Credits 3
Component
LEC

MATH 227 : Applied Linear Algebra

Systems of linear equations, vector and matrices, mapping, linear programming, and numerical applications. Prerequisites: MATH 146 or MATH 165. (S-even years, as needed)
Credits 3
Component
LEC

MATH 265 : Calculus III

Multivariate and vector calculus including partial derivatives, multiple integration, and its applications, line and surface integrals, Green¿s Theorem, Stoke¿s Theorem. Prerequisite: MATH 166. (F, as needed) ND:MATH
Credits 4
Component
LEC

MATH 266 : Introduction To Differential Equations

Solution of elementary differential equations by elementary techniques. Laplace transforms, systems of equations, matrix methods, numerical techniques and applications. Prerequisite: MATH 265 or departmental approval. (S, as needed) ND:MATH
Credits 3
Component
LEC

MATH 277 : Mathematics for Elementary Teachers I

A mathematics content course for prospective elementary school teachers. Topics include problem solving, numeration systems, real numbers, and elementary number theory. Calculators, computers, and manipulatives are used in the course. Prerequisite: Successfully completed MATH 103. (S)
Credits 4
Component
LEC

MATH 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

MATH 299 : Special Topics

A special purpose class or activity to be used for a mathematics course in process of development, for classes occasionally scheduled to meet student needs or interests, or offered to utilize particular faculty resources. (F, S, Su)
Credits 1
Component
LEC

Microbiology

MICR 202 : Introductory Microbiology

A general survey on the characteristics and importance of microorganisms. Including the morphology and physiology of selected microbes including bacteria, viruses, protists, invertebrates, and fungi. With emphasis on the identification, control of microbes, their relations to human health and disease. (F, S, Su, O) ND:LABSC
Credits 3
Component
LEC

MICR 202L : Introductory Microbiology Lab

A general survey on the characteristics and importance of microorganisms. Including the morphology and physiology of selected microbes including bacteria, viruses, protists, invertebrates, and fungi. With emphasis on the identification, control of microbes, their relationship to human health and disease. Corequisite: MICRO 202. (F, S, Su) ND:LABSC
Credits 1
Component
LAB
Corequisite Courses
MICR 202: Introductory Microbiology

Music

MUSC 100 : Music Appreciation

Introduction to the elements, genre, media and historical and stylistic periods of music. This course is a broad overview of music and musical styles including folk, religious, jazz, popular, classical and ethnic music. It will introduce musical concepts and focus on perceptive listening to music as it exists in the world. (F, S) ND:HUM
Credits 3
Component
LEC

MUSC 101 : Fundamentals Of Music

Introduction to fundamental elements of music through the study of rhythm, pitch, harmony, and other terminology. It develops or improves skills in reading and writing (notating) music, using a piano keyboard as a reference, understanding key signatures, and harmonizing melodies. (F, S) ND:HUM
Credits 3
Component
LEC

MUSC 115 : Concert Band

Concert Band is dedicated to the rehearsal of a wide variety of music and includes several performances per semester. Rehearsals are twice a week. Additional sectional rehearsals are scheduled as needed. Course may be repeated. (F, S)
Credits 1
Component
LEC

MUSC 117 : Concert Choir

Concert Choir is dedicated to performing a wide variety of music and includes several performances per semester. Group rehearsals are two times a week. Additional sectional rehearsals are scheduled as needed. Course may be repeated. (F, S)
Credits 1
Component
LEC

MUSC 122 : Music Theory I

Understanding of musical elements and the theory of written music. Music notation, key relationships, rhythm and harmony are stressed. Required for music majors. Corequisite: MUSC 123. (F)
Credits 3
Component
LEC

MUSC 123 : Aural Skills I

Aural training in sight singing, intervals, melodic, harmonic and rhythmic dictation. Required for music majors. Corequisite: MUSC 122. (F)
Credits 2
Component
LEC

MUSC 124 : Music Theory II

A continuation of Music Theory I. A more in-depth understanding of musical elements and the theory of written music. Music notation, key relationships, rhythm and harmony are stressed. Required for music majors. Prerequisite: MUSC 122. Corequisite: MUSC 125. (S)
Credits 3
Component
LEC

MUSC 125 : Aural Skills II

Aural training in sight singing, intervals, melodic, harmonic and rhythmic dictation. Required for music majors. Prerequisite: MUSC 123. Corequisite: MUSC 124. (S)
Credits 2
Component
LEC

MUSC 138 : Jazz Band

Jazz Band is an auditioned group that performs frequently for student and public functions throughout the tri-state area. It is a select group that plays primarily popular music including jazz, rock, country and funk. Instrumentation consists of a rhythm section, trumpets, trombones, and saxes. Rehearsals are twice a week. Course may be repeated (F, S)
Credits 1
Component
LEC

MUSC 144 : Applied Music (Private Voice Lessons)

Individualized instruction with emphasis on musicianship and repertoire. One-half hour private lesson per week. Limited enrollment, see instructor. Course may be repeated. (F, S)
Credits 1
Component
LEC

MUSC 145 : Applied Music (Private Instrumental Lessons) (1/term)

Individualized instruction on concert band instruments with emphasis on musicianship and repertoire. One-half hour lesson per week. Limited enrollment, see instructor. Course may be repeated. (F, S)
Credits 1
Component
LEC

MUSC 157 : Pop-Swing Choir

Pop-Swing Choir is an auditioned group that performs for student and public functions throughout the tri-state area. It is a select group that sings primarily popular music. Rehearsals are twice a week. Course may be repeated. (F, S)
Credits 1
Component
LEC

MUSC 160 : Class Piano I

The purpose of this class is to aid music education and performance majors in the development of suitable piano skills. Proficiency at the piano is a necessary component for your growth as a musician and educator. A great deal of theory and pedagogy is integrated into this class to help you build the necessary skills to meet future expectations of competence within our profession. (F)
Credits 1
Component
LEC

MUSC 161 : Class Piano II

This class is a continuation of MUSC 160. The purpose of this class is to aid music education and performance majors in the development of suitable piano skills. Proficiency at the piano is a necessary component for your growth as a musician and educator. A great deal of theory and pedagogy is integrated into this class to help you build the necessary skills to meet future expectations of competence within out profession. (S)
Credits 1
Component
LEC

MUSC 162 : Class Voice

This course is designed to enable the student to understand the basic principles of vocal production. This will be accomplished through observation, ensemble study, and performing. Course may be repeated. (F, S)
Credits 1
Component
LEC

MUSC 182 : Technology in Music

This course surveys a variety of technology, looking at aspects of both software and hardware applications, in service of music. We will look at notations software that allows us to write music with traditional notation. In addition, we will also look at several types of software that allows us to record and manipulate sound in a variety of different ways and with different approaches to user interface. We will also explore a variety of hardware used in the recording and creating process. In every case, students will have the opportunity to facilitate and demonstrate learning through several different projects over the course of the semester, making this a "hands-on" class in the great tradition of NDSCS coursework. (F, S)
Credits 3
Component
LEC

MUSC 201 : World Music

This is a survey course in which music is studied within the context of culture. Students will learn to recognize basic instrument sounds, vocal traditions, and structural components of the music systems of a variety of cultural traditions from around the world. (F)
Credits 3
Component
LEC

MUSC 207 : History of Rock and Roll Music

This course presents a survey of popular music from 1900 to the present. The class provides a segmented review of variations in the form and the sociological impact of music. (F-Fargo, F/S-Wahpeton) ND:HUM
Credits 3
Component
LEC

MUSC 245 : Applied Music (Private Piano Lessons) (1/term)

Individualized instruction with emphasis on musicianship and repertoire. One-half hour private lesson per week. Limited enrollment, see instructor. Course may be repeated. (F, S)
Credits 1
Component
LEC

MUSC 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

MUSC 299 : Special Topics

A course designed to meet special departmental needs. (F, S)
Credits 1
Component
LEC

Philosophy

PHIL 200 : Ethics In The Workplace

Exploring ethical issues; understand and explore ethical principles appropriate to the business culture and environment. (As needed)
Credits 2
Component
LEC

PHIL 210 : Ethics

Credits 3

PHIL 215 : Contemporary Moral Issues

Introduce students to basic concepts of moral reasoning and work to apply ethical theory through examination of contemporary moral issues that confront the individuals, societies, and cultures. (F, S, O) ND:HUM
Credits 3
Component
LEC

PHIL 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

PHIL 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Physics

PHYS 192 : Experimental Course
Credits 1
Component
LEC

PHYS 211 : College Physics I
The non-calculus general physics course sequence recommended for pre-medical or pre-professional students. Topics: Newtonian mechanics and gravitation, work and energy, solids and fluids, heat and thermodynamics. The laboratory is a corequisite of this course. Prerequisite: MATH 103. (F) ND:LABSC
Credits 3
Component
LEC

PHYS 211L : College Physics I Lab
The non-calculus general physics course sequence recommended for pre-medical or pre-professional students. Topics: Newtonian mechanics and gravitation, work and energy, solids and fluids, heat and thermodynamics. Prerequisite: MATH 103. (F) ND:LABSC
Credits 1
Component
LAB

PHYS 212 : College Physics II
The non-calculus, general physics course sequence recommended for pre-medical or pre-professional students. Topics: Vibrations and waves, electricity and magnetism, light and optics, and an introduction to modern physics. The laboratory is a corequisite of this course. Prerequisite: PHYS 211. (S) ND:LABSC
Credits 3
Component
LEC

PHYS 212L : College Physics II Lab
The non-calculus, general physics course sequence recommended for pre-medical or pre-professional students. Topics: Vibrations and waves, electricity and magnetism, light and optics, and an introduction to modern physics. The laboratory is a corequisite of this course. Prerequisite: PHYS 211. (S) ND:LABSC
Credits 1
Component
LAB

PHYS 251 : University Physics I
The calculus based general physics sequence for students majoring in chemistry, physics or engineering. Topics: Newtonian mechanics and gravitation, work and energy, solids and fluids, heat and thermodynamics. The laboratory is a corequisite of this course. Prerequisites: MATH 146 or MATH 165. (F) ND:LABSC
Credits 4
Component
LEC

PHYS 251L : University Physics I Lab
The calculus based general physics sequence for students majoring in chemistry, physics or engineering. Topics: Newtonian mechanics and gravitation, work and energy, solids and fluids, heat and thermodynamics. The laboratory is a corequisite of this course. Prerequisites: MATH 146 or MATH 165. (F) ND:LABSC
Credits 1
Component
LAB

PHYS 252 : University Physics II
The calculus based general physics sequence for students majoring in chemistry, physics or engineering. Topics: Vibrations and waves, electricity and magnetism, light and optics, and an introduction to modem physics. The laboratory is a corequisite of this course. Prerequisite: PHYS 251. Corequisite: MATH 147 or MATH 166. (S) ND:LABSC
Credits 4
Component
LEC

PHYS 252L : University Physics II Lab
The calculus based general physics sequence for students majoring in chemistry, physics or engineering. Topics: Vibrations and waves, electricity and magnetism, light and optics, and an introduction to modem physics. The laboratory is a corequisite of this course. Prerequisite: PHYS 251. Corequisite: MATH 147 or MATH 166. (S) ND:LABSC
Credits 1
Component
LAB

PHYS 292 : Experimental Course
A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

PHYS 299 : Special Topics
A course designed to meet special department needs.
Credits 1
Component
LEC

Political Science

POLS 115 : American Government

Principles of American government, political behavior, institutions. A general survey of American federal government and politics with an emphasis on the history and development of the federal Constitution and the federal system. The legislative, judicial and executive branches of government and their interrelationship with each other and the bureaucracy are examined. The administration of territories, the two-party system, the media and current political issues and problems also are explored. (F, S) ND:SS
Credits 3
Component
LEC

POLS 116 : State and Local Government

Structures, politics and behavior in states and local governments. A general survey of American state and local government and politics. Topics include operations, finances, types of political subdivisions, city government, county government and relations between local and state governments. (F, S) ND:SS
Credits 3
Component
LEC

POLS 225 : Comparative Politics I

Study of the nature of contemporary political communities around the world, with emphasis on the United States. A special focus of the course is the examination of global and multicultural issues related to the problems of specific world communities. Cross reference: HIST 207. (F) ND:SS
Credits 3
Component
LEC

POLS 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

POLS 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Psychology

PSYC 100 : Human Relations in Organizations

This course focuses on building successful and effective interpersonal relationships within organizational and other social environments. It includes an examination of human relations in business and industry with emphasis on how people can work effectively in groups to satisfy both organizational and personal goals. Motivation, emotional and mental health, communication techniques, and coping with stress are explored. Activities are used to encourage the application of concepts to enhance personal growth and insight and to increase social skills. (F, S, Su-as needed, O) ND:SS
Credits 2
Component
LEC

PSYC 103 : Addictions and Alternatives

This course offers an introduction to addiction, addictive behaviors and the physical, mental and emotional effects on the individual and the family. Topics include theoretical perspectives on abuse, pharmacological characteristics of commonly abused substances, and stages of dependence and addiction. Alternative healthy behaviors and lifestyle choices will also be empahsized. (S)
Credits 2
Component
LEC

PSYC 111 : Introduction to Psychology

An introductory survey of the scientific study of human behavior and mental processes. The course will consist of an examination of psychology as a science and a profession. It will explore the biological foundations of behavior, sensing and perceiving the physical world, and normal and altered states of consciousness. The course will examine forms of learning, language and higher cognitive processes such as memory, thinking and problem-solving. This lecture course will focus on motivation, emotion, life span development, theoretical views of personality, personality assessment, stress and coping, health and behavior, abnormal behavior and its treatment, and social psychology. (F, S, O) ND:SS
Credits 3
Component
LEC

PSYC 230 : Educational Psychology

This course focuses on current psychological principles as they apply to teaching and learning. Using human development as a framework, the student will investigate learning theory and practice, motivation, classroom management, planning and effective teaching, and the evaluation of students. Prerequisite: PSYC 111. (S, O) ND:SS
Credits 3
Component
LEC

PSYC 240 : Industrial/Organizational Psychology

An introduction to the application of the principles and methods of psychology to the workplace. Specific topics include employee selection, training, organizational behavior, leadership, conflict and cooperation, motivation, job satisfaction and morale, performance appraisal and stress in the workplace. Prerequisite: PSYC 111. (As needed) ND:SS
Credits 3
Component
LEC

PSYC 250 : Developmental Psychology

A survey of the psychology of human life span development. The emotional, intellectual, physical, perceptual and social development of the individual from conception to death is examined. (F, S, Su, O) ND:SS
Credits 3
Component
LEC

PSYC 255 : Child and Adolescent Psychology

An introduction to the emotional, intellectual, physical, perceptual, and social development of the child from conception to adolescence. The relationship between development and parenting also will be explored. (F, S, O) ND:SS
Credits 3
Component
LEC

PSYC 265 : Motivational Interviewing

This course will include basic emphasis on case management, important issues in working with clients, and learning practical skills regarding communication. The course is based on the premise of empowering clients through collaboration with appropriate providers. (S)
Credits 3
Component
LEC

PSYC 270 : Psychological Disorders and Treatment

A survey of the classification, symptoms, and etiology of psychology disorders. Focus is on the historical and modern theoretical approaches to understanding psychological disorders, with special attention given to the scientific basis for diagnostic classification and treatment of psychological disorders. Prerequisite: 3 credits in psychology. (F, S, O) ND:SS
Credits 3
Component
LEC

PSYC 290 : Volunteer Internship

Supervised placement in local agencies, organizations, and educational institutions to give the student experience in and to cultivate civic duty, volunteerism and the assistance of those in need. Students may also intern at a career-related site to evaluate and validate their vocational choice. (F,S, Su)
Credits 1
Component
FLD

PSYC 291 : Volunteer Internship

Supervised placement in local agencies, organizations, and educational institutions to give the student experience in and to cultivate civic duty, volunteerism, career exploration and the assistance of those in need. Students may also intern at a career-related site to evaluate and validate their vocational choice. (F, S, Su)
Credits 1
Component
FLD

PSYC 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

PSYC 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Sociology

SOC 110 : Introduction to Sociology

An introductory analysis of the nature of society, the interrelationship of its component groups and the process whereby society persists and changes. The concept of culture, the process of socialization, social inequalities (such as class, gender, age and race), minority groups, the family and social change are the main topics discussed. (F, S, O) ND:SS
Credits 3
Component
LEC

SOC 115 : Social Problems

A sociological analysis of major social problems. Emphasis is placed on crime and justice, race relations, drug and alcohol abuse, wealth and poverty, and the environmental themes of population and pollution. (F, S, O) ND:SS
Credits 3
Component
LEC

SOC 220 : Family

A sociological examination of the institution of the family with focus on courtship, marriage and the family. Practical problems in communication and child rearing are explored. (F) ND:SS
Credits 3
Component
LEC

SOC 221 : Minority Relations

Minority relations is a study of the relations between advantaged and disadvantaged groups in American society. Minorities are understood as ¿those with less than their fair share of access to wealth and power.¿ The experience and present status of minorities such as Native Americans, Blacks, Hispanics, women, homosexuals, and the poor are discussed. (S) ND:SS
Credits 3
Component
LEC

SOC 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

SOC 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

SOCI 192 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

SOCI 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

SOCI X92 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

Theater

THEA 201 : Theatre Practicum

Participation in various activities of theatrical production. May be repeated. (F, S)ND:FA
Credits 1
Component
LEC

THEA 270 : Stagecraft

An introduction to the crafts and technologies of theater production. May be repeated. (F, S) ND:FA
Credits 1
Component
LEC

THEA 292 : Experimental Course

Credits 1
Component
LEC

Transfer

ART TRN : Art Transfer

Credits 0
Component
LEC

BIOL TRN : Biology Transfer

Credits 0
Component
LEC

COMM TRN : Communications Transfer

Credits 0
Component
LEC

ENGL TRN : English Transfer

Credits 0
Component
LEC

GEOG TRN : Geography Transfer

Credits 0
Component
LEC

GEOG TRN : Geography Transfer

Credits 0
Component
LEC

HIST TRN : History Transfer/General Education

Credits 0
Component
LEC

MUSC TRN : Music Transfer
Credits 0
Component
LEC

PHIL TRN : Philosophy Transfer
Credits 0
Component
LEC

THEA TRN : Theatre Transfer
Credits 0
Component
LEC

Auto Body Repair and Refinishing Technology

ABOD 101 : Basic Auto Body Repair Techniques Lab
This is a laboratory course covering the basic fundamentals of auto body repair. Emphasis is placed on learning the basic repair methods, stressing the quality of the repair. Lab tasks are performed on donated salvage vehicle. Tasks are consistent with NATEF (National Automotive Technicians Education Foundation) and I-CAR (Inter-Industry Conference on Auto Collision Repair) standards. Co-requisites: ABOD 113 (F)
Credits 4
Component
LAB
Corequisite Courses
ABOD 113: Basic Auto Body Repair Techniques I
Semester Offered
Fall

ABOD 102 : Basic Auto Body Production Lab I
This laboratory course applies the basic procedures learned in ABOD 101 to live production vehicles. The student will repair collision damaged vehicles, non-structural repairs and refinishing techniques will be stressed. Prerequisite: ABOD 101 and ABOD 113 (F)
Credits 4
Component
LAB
Prerequisite Courses
ABOD 101: Basic Auto Body Repair Techniques Lab
ABOD 113: Basic Auto Body Repair Techniques I
Semester Offered
Fall

ABOD 103 : Basic Auto Body Production Lab II
This laboratory course is a continuation of ABOD 102 and applies the basic procedures learned in ABOD 101 to live production vehicles. The student will repair collision damaged vehicles, non-structural repairs and refinishing techniques will be stressed. Prerequisite: ABOD 102 and ABOD 115 (S)
Credits 4
Component
LAB
Prerequisite Courses
ABOD 102: Basic Auto Body Production Lab I
ABOD 115: Basic Auto Body Repair Techniques II
Semester Offered
Spring

ABOD 104 : Basic Auto Body Production Lab III
This laboratory course is a continuation of ABOD 103 and applies the basic procedures learned in ABOD 101 to live production vehicles. The student will repair collision damaged vehicles, non-structural repairs and refinishing techniques will be stressed. Prerequisite: ABOD 103 and ABOD 116 (S)
Credits 4
Component
LAB
Prerequisite Courses
ABOD 103: Basic Auto Body Production Lab II
ABOD 116: Refinishing Equipment/Plastic Repair
Semester Offered
Spring

ABOD 113 : Basic Auto Body Repair Techniques I
This is a lecture and demonstration course covering the basic fundamentals of auto body repair. Emphasis is placed on learning the basic repair methods, stressing the quality of the repair. (F)
Credits 2
Component
LEC

ABOD 115 : Basic Auto Body Repair Techniques II
This lecture course covers non-structural repair techniques based on I-CAR Non-Structural curriculum. Upon completion of course content and final certification testing students will become I-CAR Certified. Prerequisite: ABOD 101 and ABOD 113. (F)
Credits 2
Component
LEC
Prerequisite Courses
ABOD 101: Basic Auto Body Repair Techniques Lab
ABOD 113: Basic Auto Body Repair Techniques I
Semester Offered
Fall

ABOD 116 : Refinishing Equipment/Plastic Repair

This lecture course covers refinishing techniques based on I-CAR Refinishing curriculum and plastic repair techniques based on Polyvance nitrogen plastic welding curriculum. Upon completion of course content and final certification testing students will become I-CAR and Polyvance Certified. Prerequisite: ABOD 102 and ABOD 115. (S)
Credits 2
Component
LEC
Prerequisite Courses
ABOD 102: Basic Auto Body Production Lab I
ABOD 115: Basic Auto Body Repair Techniques II
Semester Offered
Spring

ABOD 117 : Refinishing Materials

This lecture course covers refinishing materials based on PPG Partners in Education Refinishing curriculum. All paint products used during the refinishing process and associated application techniques will be covered. Prerequisite: ABOD 103 and ABOD 116. (S)
Credits 2
Component
LEC
Prerequisite Courses
ABOD 103: Basic Auto Body Production Lab II
ABOD 116: Refinishing Equipment/Plastic Repair
Semester Offered
Spring

ABOD 200 : Mechanical/Electrical Components

This course is a practical introduction to steering, suspension and wheel alignment, electrical and electronic systems, brake systems, air conditioning systems, cooling system, drive train and restraint systems. It also involves the understanding and usage of various types of equipment used to perform these tasks. Prerequisites: All ABOD 100-level courses. (F)
Credits 3
Component
LEC

ABOD 201 : Structural Repair Equipment

This lecture course covers the setup and usage of equipment used to measure, anchor and repair full frame, unibody and structural parts on today's vehicles. Prerequisites: All ABOD 100-level courses. (F)
Credits 2
Component
LEC
Prerequisites
All ABOD 100 level courses.
Semester Offered
Fall

ABOD 202 : Structural Repair Techniques

This lecture course covers tasks and techniques used to repair and replace frame, unibody and structural parts on today's vehicles. Various types of frame repair equipment will be used in this course. Prerequisites: All ABOD 100-level courses. (F)
Credits 2
Component
LEC
Prerequisites
All ABOD 100-level courses.
Semester Offered
Fall

ABOD 203 : Advanced Damage Analysis Lab I

This lab course will provide the student practical application in advanced repair methods. This will include frame, body, suspension, glass, refinishing, and related procedures. Prerequisites: ABOD 100-level courses. (F)
Credits 8
Component
LAB

ABOD 204 : Estimating and Job Costing

This lecture course covers common practices when estimating vehicles that have been involved in a collision. Manual estimating, computer estimating, paint time calculations, vehicle value and job costing will be covered. Prerequisites: ABOD 201, ABOD 202, ABOD 203 (S)
Credits 2
Component
LEC
Prerequisite Courses
ABOD 201: Structural Repair Equipment
ABOD 202: Structural Repair Techniques
ABOD 203: Advanced Damage Analysis Lab I
Semester Offered
Spring

ABOD 206 : Advanced Damage Analysis Lab II

This lab course will continue to provide the student practical application in advanced repair methods. This will include frame, body, suspension, glass, refinishing, and related procedures. Prerequisites: ABOD 201, ABOD 202, ABOD 203. (S)
Credits 8
Component
LAB

ABOD 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

ABOD 297 : Cooperative Education

Cooperative Education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

ABOD 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

CET 101 : Introduction to Collision Repair

This is a lab/lecture course covering the basic fundamentals of auto body repair. Emphasis is placed on learning the basic repair methods, stressing the quality of the repair. Lab tasks are performed on donated salvage vehicles while learning the theory in the classroom. Tasks are consistent with NATEF (National Automotive Technicians Education Foundation) and I-CAR (Inter-Industry Conference on Auto Collision Repair) standards. (F)
Credits 5
Component
LEL

CET 102 : Internship I

This internship is to follow CET101. The student will maintain a daily log book. The intern shop will provide a mentor for the student. During the course of the internship period, an evaluation will be completed between the mentor, instructor, manager, and student. (F)
Credits 4
Component
INT

CET 103 : Refinishing I

This is a theory class that involves the introduction of refinishing equipment, terminology, and what all is involved in the refinishing side of the collision repair industry. Priming, masking, prep work of panels for primer and paint, and basic refinishing tasks will be introduced in class and practiced in a lab setting as well.
Credits 3
Component
LEC

CET 104 : Non-Structural I

This is a lab/lecture class that will be going over more of the terminology in industry, identification of parts on vehicles, process of teardowns, and writing/reading basic estimates. This course will also cover glass repairs (movable and non-moveable) and plastic repairs (thermoset, thermoplastic, and composites).
Credits 3
Component
LEL

CET 105 : Internship II

This internship is to follow CET103 and CET104. The student will maintain a daily log book. The intern shop will provide a mentor for the student. During the course of the internship period, an evaluation will be completed between the mentor, instructor, manager, and student. (S)
Credits 4
Component
INT

CET 106 : Non-Structural II

This is a lab/lecture class that goes over aluminum and steel repairs on vehicles. Introducing different repair methods on how to remove the damage and filling the damage after it has been properly repaired. Replacement, removal, and installation of bolt on parts will be taught as well. PDR, paintless dent removal, will be introduced in this class and practiced.
Credits 3
Component
LEL

CET 107 : Refinishing II

This is a lab/lecture class that introduces the students to the application of paint products, specifically solvent based, and how they are done in industry. PPG online modules are introduced as well with hands on tasks. Vehicle detailing and paint correction is introduced and practiced. Students will be able to learn and work on custom painted panels towards the end of the 8 week class.
Credits 3
Component
LEL

Automotive Technology

AUTO 103 : Power Trains/Brakes

A lecture, demonstration, and performance type course covering brakes, driveshafts, differentials, clutches, standard transmissions and transaxles. Included in the course is the study of operation, construction differences, and repair procedures and use of special tools. This is a half semester course. (F, S)
Credits 3
Component
LEC

AUTO 109 : Air Conditioning

This lecture/lab type course covers various air conditioning and heating units used on modern vehicles and other equipment. The student will learn principles of air-conditioning along with repair procedures; leak detecting, evacuation and trouble-shooting procedures. This is a half semester course. (F, S)
Credits 2
Component
LEL

AUTO 133 : Power Trains I

An applied automotive course intended for the student who is interested in pursuing a career in automotive technology or related fields. This course is a lecture, demonstration, and performance course that covers the basic mechanical principles and fundamentals of operation, disassembly, and adjustment procedures of the following components: manual transmissions, transaxles, clutches, driveshafts, u-joints, half shafts and CV joints. (F, S)
Credits 1
Component
LEC

AUTO 134 : Power Trains II

An applied automotive course intended for the student who is interested in pursuing a career in automotive technology or related fields. This course is a lecture, demonstration, and performance course that covers the basic mechanical principles and fundamentals of operation, disassembly, and adjustment procedures of the following components: differentials, transfer cases, and automatic transmissions. (F, S)
Credits 1
Component
LEC

AUTO 143 : Steering, Suspension, and Wheel Alignment

A lecture, demonstration and performance type course covering steering gears, power steering pumps, steering linkage, suspension systems, two- and four-wheel alignment and wheel balancing. Included in the course is the study of the operation, construction differences, diagnosing and repair procedures of the steering, suspension and wheel alignment systems, and driveshafts and driveshaft servicing. This is a half-semester course. (F, S)
Credits 3
Component
LEC

AUTO 155 : Brakes I

An applied automotive course intended for the student who is interested in pursuing a career in automotive technology or related fields. This course is a lecture, demonstration, and performance course that covers the principles of operation, disassembly, and adjustment procedures of the following components: brake system hydraulics, boost systems, drum and disc brake systems. (F, S)
Credits 1
Component
LEC

AUTO 161 : Automotive Electronic Systems

This is a lecture, demonstration, and performance type of course which covers the principles of electricity as it applies to electrical circuits along with wire schematic reading, and component and connector locations to locate and find electrical faults. This includes the study of Ohms Law, Snap-On Multi-meter and Ethos certification. (F, S)
Credits 2
Component
LEC

AUTO 163 : Automotive Charging & Starting

This is a lecture, demonstration, and performance type of course which covers the principles of electricity and applies it to electrical circuits, batteries, starters, and alternators. It will include Ohm¿s Law, schematic reading, test instruments, starter testing and repair, alternator testing and repair and learning electrical fundamentals as well as troubleshooting starter and alternator electrical problems. (F, S)
Credits 3
Component
LEC

AUTO 165 : Automotive Electrical and Electronics

This is a lecture, demonstration, and performance type of course which covers the principles of electricity as it applies to electrical circuits, schematics, batteries, starters, and alternators. This includes the study of Ohm¿s Law, Multi-meter functions and faults found in electrical circuits along with many hands on practices, and Multi-meter certification. This is a half semester course. (F, S)
Credits 5
Component
LEC

AUTO 168 : Hybrid and Electrical Vehicle Systems

A lecture, demonstration and performance type course covering the fundamentals of hybrid and electric vehicles. Includes the study of history, safety, regulations and equipment required for vehicle service. High and low voltage systems, powertrains, brakes, HVAC and cooling systems will be covered. Prerequisites: AUTO 165. (S)
Credits 1
Component
LEC

AUTO 188 : Driveability Procedures I

A lecture, demonstration and performance type course covering the basics of engine diagnosis in the areas of engine condition, fuel delivery, ignition systems, emission control and scan tool diagnostic procedures to include hands-on training in all of these areas. This will also include industry-based training and operations of Snap On scan tools. This is a half semester course. Prerequisites: AUTO 165. (F, S)
Credits 5
Component
LEC

AUTO 206 : Chassis Repair/Body Electrical

This course covers the operation, testing/diagnosing, servicing of the chassis mechanical and electrical system. The systems covered will be anti-lock braking, four-wheel alignment, supplemental restraints, 4WD and AWD, automatic climate control, anti-theft systems, cruise control and other chassis related systems. The course will begin with a review of fundamentals of the systems mentioned and lead to how the system operates on the vehicle along with diagnosis/servicing system components. This is a half semester course. Prerequisites: AUTO 103, AUTO 143, AUTO 165, and TECH 109.
Credits 7
Component
LEC

AUTO 209 : Advanced Chassis Repair and Body Electrical

A production lab class where the student works on customer owned vehicles. The students are in charge of writing repair orders, diagnosing vehicle problems, repair of the vehicle and figuring labor time of the individual labor charges for the services they performed. Lab work will be performed on the following units: brakes, alignment, suspension and steering, electrical accessories, instrumentation, air conditioning, standard transmissions/ transaxles, clutches, differentials, and many other areas which pertain to the chassis. Prerequisites: AUTO 103, AUTO 165, AUTO 143, TECH 109, AUTO 206 and AUTO 207. Must be arranged with Automotive Department chair(F, S)
Credits 4
Component
LEC

AUTO 216 : Engine Repair

Theory and lab course covering the rebuilding of gas and diesel engines. Topics covered are: proper removal, installation, cleaning, valve grinding, cylinder head servicing, engine bearings, hydraulic lifters, camshaft servicing, cooling, oiling systems and engine noises. This course is offered both fall and spring semesters. Prerequisites: MFGT 110, AUTO 165, and AUTO 188. (F, S)
Credits 7
Component
LEC

AUTO 219 : Advanced Engine Rebuilding

An advanced course in engine rebuilding including complete cylinder head service, camshaft degreeing and other related areas. This is a half-semester course. Must be arranged with Automotive Department chairman. Prerequisite: AUTO 216.
Credits 4
Component
LEC

AUTO 226 : Automatic Transmissions/Transaxles

A lecture and lab type course that covers automatic transmissions and automatic transaxles. A study of torque converters, planetary gears, hydraulic and electronic controls, oil circuits, valve body assemblies, linkage and band adjustments, pressure checks, hydraulic, electrical and mechanical diagnostic procedures for transmission failures. Student will also learn in lab hands-on operation, procedures and repair of various types of automatic transmissions and transaxles including removal, disassembly, measuring various components, reassembly, and installation back into the vehicle.This is a half semester course. Prerequisites: AUTO 103, AUTO 143, AUTO 165, and MFGT 110.
Credits 7
Component
LEC

AUTO 229 : Advanced Automatic Transmissions/ Automatic Transaxles

An advanced course in automatic transmission/transaxles service, including overhaul procedures, and hydraulic and electrical diagnosis procedures. Computer controlled shifting and clutches will be diagnosed using volt/ ohmmeters and scan tools. Diagnosis and repair will be performed on current models. This is a half-semester course. Must be arranged with Automotive Department program coordinator. Prerequisite: AUTO 226.
Credits 4
Component
LEC

AUTO 286 : Driveability Procedures

This course covers the operation, diagnosis and testing of the following: emission controls, ignition systems and fuel systems on domestic and foreign passenger vehicles. The student will be instructed in using diagnostic equipment to test various vehicles. This is a half semester course. Prerequisites: AUTO 165 and AUTO 188. (F, S)
Credits 7
Component
LEC

AUTO 289 : Electronic & Computer Systems

An advanced automotive electronics course emphasizing the diagnosis and repair of the computerized systems currently found in the automotive industry. The course offers extensive training in the various electronic ignitions, fuel injection, emission, electronic instrumentation and other electronic control devices now being used by most automobile manufacturers. Students will be working on a wide variety of current model automobiles. This is a half-semester course. Must be arranged with Automotive Department program coordinator. Prerequisite: AUTO 286.
Credits 4
Component
LEC

AUTO 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

AUTO 297 : Internship

This internship course provides students with supervised, hands-on work experience in their chosen career field. The internship course reinforces technical and professional skills gained in the classroom through real-world application in a workplace setting. Students will develop industry-specific competencies, enhance problem-solving and communication skills, and gain insight into workplace expectations. Faculty and industry professionals will provide guidance and evaluation to ensure meaningful learning outcomes. Upon completion, students will be able to demonstrate increased proficiency in their field, apply critical thinking to job-related tasks, and reflect on the professional growth.
Credits 4
Lecture Hours 320
Component
FLD

AUTO 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Case IH

CIH 106 : Case IH Shop Service Management

This course covers operational policies followed by the dealership service department. Included will be discussion on shop service management, publications, tech manuals, ASIST (Technical Information Reference Tool) and eTIM (Electronic Technical Information Manual).
Credits 2
Component
LAB

CIH 110 : Case IH Internship I

The student will receive on-the-job experience at a Case IH dealership. This will consist of performing basic repair procedures in the service department. This internship will occur the fourth 8-weeks of the first year. (S)
Credits 4
Component
FLD

CIH 210 : Case IH Internship II

The student will receive on-the-job experience at a Case IH dealership. This will consist of performing basic repair procedures in the service department. This internship will occur the first 8-weeks of the second year. (F)
Credits 4
Component
FLD

CIH 215 : Case IH Engine Rebuild

A theory and lab course covering Case IH engine operating principles, cylinder and piston service, valve service, crankshaft and bearing service, lubrication systems, rebuilding procedures, measurement fundamentals and basic engine troubleshooting. Prerequisite: DTEC 115 (F)
Credits 6
Component
LEC

CIH 216 : Case IH Equipment Operation and Adjustments

This course will cover the operation, adjustments and repair of Case IH harvesting and planting equipment. Equipment inspections and calibration is included in this course. Students may operate and make field adjustments to this equipment for optimum performance, conditions permitting. (Su)
Credits 4
Component
LEC

CIH 225 : Case IH Power Trains

A lab/lecture course covering the power train systems used in Case IH equipment. Mechanical shift, power shift and CVT transmissions will be covered in this course. Students will disassemble, reassemble, adjust and test these components found on Case IH equipment. (Su)
Credits 4
Component
LAB

CIH 255 : Case IH Electrical/Electronics Diagnostics

This course involves the understanding of electrical sensors, actuators, and computer operation which is applied to Case IH equipment. Techniques of circuit diagnostics will be demonstrated and practiced using the electrical diagnostic manual, DVOM, test light, and special manufactures tools. Electrical work will involve the Case IH equipment which utilizes electronics to control mechanical operation. The student will perform hands-on testing, computer diagnostics, and calibration of various Case IH components and equipment.
Credits 5
Component
LEC

CIH 260 : Case IH Advanced Farming Systems (AFS)

A lab/lecture course designed to introduce the student to the Case IH Advanced Farming Systems (AFS). Basic GPS equipment guidance systems, operation and diagnostics will be utilized. Types of GPS signals and their applications currently used by Case IH Accuguide systems will be covered. AFS display setup and applications used on current Case IH equipment will be performed.
Credits 3
Component
LEC

CIH 265 : Case IH Hydraulic Systems

A lab/lecture course covering the diagnostics, service and repair of the hydraulic functions on Case IH agricultural and mobile equipment. Open-center, closed-center and load sensing systems are covered as well as steering, hydrostatic drives and hydraulic functions of Case IH equipment.
Credits 5
Component
LEC

Caterpillar Dealer Service Technician

DCAT 110 : Caterpillar Engine Fundamentals

A lecture/lab course covering engine operating principles, cylinder and piston service, valve service, crankshaft and bearing service, lubrication systems, rebuilding procedures and measurement fundamentals on Caterpillar engines. Caterpillar engines are used for lab disassembly and assembly.
Credits 4
Component
LEC

DCAT 111 : Introduction to Caterpillar Service

This course introduces the student to the Caterpillar organization history and the different parts of the company. Instruction and lab experiences in the shop include safety, shop operation and a major emphasis on how to obtain information using CAT Specific Software Systems.
Credits 2
Component
LEC

DCAT 112 : Fundamentals of Hydraulics

A lecture/lab course designed to teach the basic hydraulic fundamentals. Identification and function of the various components used in Caterpillar hydraulic systems will include vane pumps, gear pumps and piston pumps. Also covered is ISO hydraulic symbol identification and tracing oil flows used in Caterpillar hydraulic systems. Lab exercises include disassembly and assembly of Caterpillar hydraulic components.
Credits 3
Component
LEC

DCAT 113 : Caterpillar Fuel Systems

A lecture/lab course introducing the student to fuel systems used on Caterpillar engines. Combustion chamber design, injectors and injection pumps are covered in this class. Also covered are diagnosing faults in fuel injection and combustion systems, and lab exercises include disassembly and assembly of fuel components used in Caterpillar fuel systems.
Credits 3
Component
LEC

DCAT 114 : Fundamentals of Electricity

A lecture/lab course that introduces the student to basic electrical and electronic fundamentals needed by a technician to properly diagnose and repair the complex electrical systems installed on Caterpillar machines. Included is the study of Ohm;s law, series and parallel circuits, test instruments and various components found on Caterpillar equipment. The course does not teach specific machine systems.
Credits 3
Component
LEC

DCAT 115 : Air Conditioning Fundamentals

A lecture, discussion and lab-type course covering the basic theory and operating principles of air-conditioning systems as they relate to Caterpillar equipment. Lab exercises consist of leak detecting, evacuation, reclaiming, charging, component repair and use of test equipment to diagnose and repair malfunctions. (Su)
Credits 3
Component
LEC

DCAT 116 : Fundamentals of Transmission/Torque Converters

A lecture/lab course that covers the basic components, clutches, torque converters, and various transmissions used in Caterpillar equipment. This course also covers constant mesh, sliding gear, hydrostatic synchromesh, and power shift transmissions involving planetaries. At the completion of this course, the student will have working knowledge of basic power train theory. (Su)
Credits 3
Component
LEC

DCAT 117 : Machine Hydraulic Systems

A lecture/lab course designed for inspecting, testing, servicing and diagnosing Caterpillar hydraulic systems and components. Students will conduct testing and adjusting procedures on Caterpillar equipment, utilizing Caterpillar service procedures and test equipment. (Su)
Credits 3
Component
LEC

DCAT 150 : Internship I

This internship is to follow DCAT 111, DCAT 113, and DCAT 114. The student will maintain a daily log book. The intern dealer will provide a mentor for the student. During the course of the internship period an evaluation will be completed between the mentor, instructor, manager, and student. (F)
Credits 4
Component
FLD

DCAT 151 : Internship II

This internship is to follow DCAT 110 and DCAT 112. The student will maintain a daily logbook submitted weekly to instructor. The dealer will provide a mentor for the student during the internship period. An evaluation will be completed by student and mentor on weeks 2 and 6. An evaluation will be completed between the mentor, service manager, lead person, and student on weeks 4 and 8. Instructor will perform one store visit around week 4 or 5. Prerequisite: DCAT 150.
Credits 4
Component
FLD

DCAT 200 : Undercarriage/Final Drives

A lecture/lab course that introduces the student to undercarriage and drive systems used on the many different types of Caterpillar track machines. Also covered are final drives and braking systems used in Caterpillar track and wheel equipment. This course is a continuation of DCAT 116 Fundamentals of Transmissions and Torque Converters.
Credits 3
Component
LEC

DCAT 201 : Machine Electronic Systems

A lecture/lab course that covers the electronic systems used on Caterpillar Equipment. This course provides the background needed to diagnose and repair the electronics and computerized circuits found on Caterpillar equipment and engines. Basic electronic concepts, component function and system operation are covered. Caterpillar;s procedures are taught to identify malfunctions and to test the system properly.
Credits 3
Component
LEC

DCAT 202 : Engine Performance

A lecture/lab course that teaches the skills necessary to make CAT engines run at peak performance. The student will be provided with a thorough understanding of the necessary diagnostic skills required for troubleshooting Caterpillar engines and fuel systems. Emphasis will be placed upon knowledge and skills necessary to assure product reliability and performance.
Credits 2
Component
LEC

DCAT 203 : Diagnostic Testing

A lecture/lab course that teaches the skills necessary to make CAT engines run at peak performance. The student will be provided with a thorough understanding of the necessary diagnostic skills required for troubleshooting Caterpillar engines and fuel systems. Emphasis will be placed upon knowledge and skills necessary to assure product reliability and performance.
Credits 2
Component
LEC

DCAT 204 : Machine Specific Systems

This course is designed to expose the student to different types of specialty equipment used for various operations, utilizing CAT equipment. Testing and adjustment of this equipment will also be covered as per Caterpillar service procedures.
Credits 3
Component
LEC

DCAT 250 : Internship III

This internship is to follow DCAT 115, DCAT 116, and DCAT 117. The student will maintain a daily log book. The intern dealers will provide a mentor for the student. During the course of the internship period an evaluation will be completed between the mentor, instructor, manager and student. (F)
Credits 4
Component
FLD

DCAT 251 : Internship IV

This internship is to follow DCAT 200 and DCAT 201. The student will maintain a daily log book submitted weekly to instructor on Blackboard. The dealer will provide a mentor for the student. During the course of the internship period an evaluation will be completed between the student and mentor on weeks 2 and 6. An evaluation will be completed between the mentor, service manager, lead person, and student on weeks 4 and 8. A self-evaluation will be submitted at the completion of week 8. Instructor will perform one store visit around week 4 or 5. Prerequisites: DCAT 150, DCAT 151, and DCAT 250. (S)
Credits 4
Component
FLD

Diesel Technology

DTEC 109 : Air Conditioning for Diesel Technology

A lecture, discussion and lab-type course covering the design and principles of operations of various air conditioning systems, including agriculture, construction and trucking equipment. Work in lab consists of leak detecting, evacuation, reclaiming, charging, component comprehension, electrical systems and troubleshooting for various units.
Credits 2
Component
LAB

DTEC 110 : Diesel Equipment Maintenance

A theory and lab course covering general maintenance and service procedures performed on diesel powered equipment. This course includes instructions for safe operation of various types of diesel powered equipment for the technician to perform general service procedures required by the manufacturer. Proper use of shop tools, equipment, safety techniques and industry standards will be covered. This is a 3 credit 8-week course, 80 hour class. (F, S)
Credits 3
Component
LAB

DTEC 115 : Introduction to Light and Medium Duty Engines

A theory and lab course covering rebuilding of heavy duty gas and light- and medium-duty diesel engines. Students will troubleshoot, disassemble, rebuild and assemble an engine during this class. Learning modules include: measurement fundamentals, basic engine operating principals, cylinder and piston service, cylinder head rebuilding and valve reconditioning, crankshaft and bearing service, and lubrication and cooling systems. Engines designed for the use of alternative fuels such as LPG and CNG are also covered. This class is a prerequisite for DTEC 215, CIH 215 and JDAT 215.
Credits 4
Component
LEC

DTEC 125 : Intro to Heavy Duty Drive Systems

A lecture and lab type course which provides the student with theory and hands-on operation and repair of shop safety, operation, bearings-seals, heavy duty steer axles, drive axles, medium and heavy duty truck suspension, wheel end assemblies. This is a 3 credit, 8-week course and 80-hour class. (F, S)
Credits 3
Component
LEC

DTEC 135 : Medium/Heavy Duty Brake Systems

A theory and lab course covering the operation and repair of air and hydraulic brake systems used in light, medium, heavy duty trucks and diesel powered equipment. This course covers all brake systems, diagnosis and repair of power, manual, anti-lock brakes and parking brakes. DOT inspection procedures are also covered in this class. This is a 2 credit, 8-week course and a 64-hour class. (F, S)
Credits 2
Component
LAB

DTEC 155 : Electricity for Diesel Technology

An introductory lab/theory class in electrical fundamentals. A practical approach to the study of electricity including Ohm's Law, power, series and parallel circuits, direct and alternating current, with strong emphasis on diagrams and troubleshooting. This class is designed for technicians in the Diesel Technology field. (F, S)
Credits 4
Component
LEC

DTEC 164 : Introduction to Mobile Hydraulics

This course is a study of hydraulic system fundamentals and various components used in a typical mobile hydraulic system. Component disassembly and reassembly will take place to aid in the understanding of component and system operation. Various components will be tested on a test bench to help the student understand how the components contribute to the overall operation of the system and will be used to evaluate the students' performance. Experiments will be performed on lab equipment to aid in the understanding of mobile hydraulic principles.
Credits 4
Component
LAB

DTEC 185 : Diesel Fuel Injection Systems

This course introduces students to diesel fuel injection systems. The students will study the design and operation of a variety of diesel fuel systems. Students will be required to inspect, disassemble, assemble, performance test, adjust fuels system components. This is a 3 credit 8-week course. and 80-hour class. (F, S)
Credits 3
Component
LAB

DTEC 192 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1-9
Component
LEC

DTEC 215 : Heavy Duty Diesel Engines

A lecture and lab type course of current heavy-duty diesel engines. Students gain knowledge in operation, troubleshooting, rebuilding and tuning all types of diesel engines. Work includes disassembly, assembly, injection timing and adjustment common to diesel engines used in the agricultural, transportation and industrial industries.
Credits 7
Component
LEC

DTEC 225 : Heavy Duty Drive Systems

A lecture and lab type course which provides the student with theory and hands-on operation and repair of the latest types of heavy-duty drive systems that the agricultural, transportation and industrial industries use on their equipment.
Credits 7
Component
LEC

DTEC 255 : Heavy Duty Chassis Electrical Systems

A lecture and lab type course covering the theory of operation, repair and diagnostic procedures used on heavy-duty truck and tractor electrical systems, electronic engines and transmissions. This is a half-semester course. (F, S)
Credits 7
Component
LEC

DTEC 265 : Mobile Hydraulic Systems Diagnostics and Repair

DTEC 265 is a lab/lecture course covering the service diagnostics and repair of the hydraulic functions on agricultural and industrial equipment. Open center, closed center, and closed center load sensing systems are covered as well as steering, hydrostatic drives, 3 point hitches, and hydraulic functions of today's equipment. Prerequisite: DTEC 164.
Credits 7
Component
LAB

DTEC 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

DTEC 297 : Internship

This internship course provides students with supervised, hands-on work experience in their chosen career field. The internship course reinforces technical and professional skills gained in the classroom through real-world application in a workplace setting. Students will develop industry-specific competencies, enhance problem-solving and communication skills, and gain insight into workplace expectations. Faculty and industry professionals will provide guidance and evaluation to ensure meaningful learning outcomes. Upon completion, students will be able to demonstrate increased proficiency in their field, apply critical thinking to job-related tasks, and reflect on their professional growth.
Credits 4
Lab Hours 320
Component
FLD

DTEC 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

John Deere Tech

JDAT 105 : Internship I

The student will receive on-the-job experience at a John Deere dealership prior to the first-semester on-campus. This will mainly consist of shadowing personnel in many areas of the service, parts, and sales department. This will expose the student to the many facets of a John Deere dealership. This work experience will be supervised by the NDSCS John Deere Tech coordinator. (Su)
Credits 3
Component
FLD

JDAT 106 : John Deere Time Service Management

This course covers operational policies followed by the dealership service department. Included will be discussion on time service management, publications, tech manuals, DTAC and service advisor.
Credits 2
Component
LEC

JDAT 110 : Internship II

The student will receive on-the-job experience in a John Deere dealership. This will allow the student to practice and utilize the skills and knowledge learned during the previous on-campus instructional periods. This work experience will be supervised by the NDSCS John Deere Tech coordinator. This course will follow NDSCS academic calendar.
Credits 4
Component
FLD

JDAT 114 : Internship III

The student will receive on-the-job experience in a John Deere dealership. This will allow the student to practice and utilize the skills and knowledge learned during the previous on-campus instructional periods. This work experience will be supervised by the NDSCS John Deere Tech coordinator. This course will follow NDSCS academic calendar.
Credits 4
Component
FLD

JDAT 116 : John Deere Equipment Operation & Adjustment

This course will cover the operation and adjustment of various types of John Deere equipment. Students will operate and field adjust this equipment for optimum performance.
Credits 4
Component
LEC

JDAT 155 : Introduction to Electrical/Electronics

A lab, lecture, demonstration and performance type of course, which covers the principles of electricity These types of learning styles will be applied to electrical circuits, batteries, starters and alternators It will include Ohm's Law, schematic reading, test instruments, starter testing and repair, and the alternator testing and repair. Applications and testing of solid state devices will be covered in this course. The student will have hands-on approach to learning electrical fundamentals as well as repairing and troubleshooting electrical problems on John Deere equipment.
Credits 4
Component
LEC

JDAT 165 : Introduction to John Deere Hydraulic Systems

This course is a study of hydraulic system fundamentals and various components used in a typical John Deere hydraulic system. Disassembly and reassembly of John Deere components will take place to aid in the understanding of component and system operation. Various John Deere components will be bench tested to help the student understand how the components contribute to the overall operation of the system and will be used to evaluate the students' performance. Experiments will be performed on lab equipment to aid in the understanding of basic hydraulic principles. Online delivery methods from John Deere Company along with table exercises and/or machine tests will be utilized to prepare student for John Deere University Hydraulic Systems Certification.
Credits 4
Component
LAB

JDAT 215 : John Deere Engine Rebuild

A lab/lecture course covering diesel engines used in John Deere equipment. Students will disassemble, reassemble, adjust and test these engines. The proper use of technical manuals will be stressed.
Credits 6
Component
LEC

JDAT 225 : John Deere Powertrains

A lab/lecture course covering the power train used in John Deere tractors. Students will disassemble, reassemble, adjust and test these components. Proper use of technical manuals will be stressed. (Su)
Credits 7
Component
LEC

JDAT 255 : John Deere Electrical/Electronics

A lab/lecture course covering electrical and electronic fundamentals applied to John Deere equipment. This course includes the study of Ohm's Law and series and parallel circuits. The proper use of digital multimeters and other testing equipment also will be covered. Techniques of circuit diagnosis will be demonstrated with electrical schematics. The function, operation and testing of semiconductors and transistors are covered. Microprocessor operation, including inputs and outputs, are explained and studied. Tractor circuits including lighting, accessory, safety, instrumentation and gauges are tested. Electronic monitoring systems for planting and harvesting equipment are covered. Prerequisite: JDAT 155.
Credits 5
Component
LEC

JDAT 260 : Introduction to Ag Management Solutions (AMS)

A lab/lecture course designed to introduce the students to John Deere's Ag Management Solution systems (AMS). Basic GPS equipment guidance systems operation and diagnostics will be utilized. Types of GPS signals and their applications currently used by John Deere equipment will be performed. Prerequisties: JDAT 255.
Credits 3
Component
LEC

JDAT 265 : John Deere Tractor Hydraulic Systems Diagnosis

A lab/lecture course covering the operation, testing, diagnosis, and repair of the hydraulic systems found on John Deere utility, row-crop and four-wheel-drive tractors.
Credits 5
Component
LEC

JDAT 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

JDAT 299 : Special Topics

A course designed to meet special departmental needs.
Credits 1
Component
LEC

Komatsu

KMTS 106 : Introduction to Komatsu Service

A theory and lab course introducing students to Komatsu and the operational policies followed by its distributors. This will include an introduction to the history of Komatsu, the Komatsu Global Portal, and their online LMS. Navigation of service and parts literature, work order writing, and utilization of photos to document warranty repairs on Komatsu equipment will be a major focus of this course. The students will plan a class trip to the Komatsu Training Center at Cartersville, GA to be scheduled sometime in their second year of study. (Su)
Credits 3
Component
FLD

KMTS 110 : Komatsu Internship I

The student will receive on the job experience at a Komatsu dealership. This will consist of performing basic repair procedures in the service department. This internship will occur the last 8 weeks of the first year (2nd 8 weeks spring semster).
Credits 4
Component
FLD

KMTS 116 : Komatsu Machine Structure and Work Equipment

A theory and lab course covering maintenance and repair of Komatsu equipment. Instruction and lab experience will include safe rigging and cribbing practices, servicing lubrication points, proper application and installation of aftermarket components, and general repair procedures of the work equipment and machine. (Su)
Credits 3
Component
LEL
Semester Offered
Summer

KMTS 210 : Komatsu Internship II

The student will receive on the job experience at a Komatsu dealership. This will consist of performing basic repair procedures in the service department. This internship will occur the first 8 weeks of the second year (1st 8-weeks fall semester).
Credits 5
Component
FLD

KMTS 215 : Komatsu Engine and Fuel Systems

A theory and lab course covering the construction, operating principals, cylinder and piston service, valve service, crankshaft and bearing service, lubrication systems, rebuilding procedures, measurement fundamentals, performance and engine troubleshooting associated with Komatsu engines. Fuel system identification, theory of operation and troubleshooting of fuel systems will also be covered in this course. This is an 8 week course. Prerequisite: DTEC 115. (F)
Credits 5
Component
LEC

KMTS 220 : Komatsu Internship III

The student will receive on the job experience at a Komatsu dealership. This will consist of performing basic repair procedures in the service department. This internship will occur the third 8 weeks of the second year (1st 8-weeks spring semester).
Credits 5
Component
FLD

KMTS 225 : Komatsu Powertrains and Undercarriage

A lab/lecture course covering the powertrain systems used in Komatsu equipment. Mechanical shift and power shift transmissions will be covered in this course. Students will disassemble, reassemble, adjust and test these components found on Komatsu construction equipment. The course also introduces the student to undercarriage and drive systems used on different Komatsu Track Machines. Also covered are final drives and braking systems used in Komatsu track and wheel equipment. (Su)
Credits 4
Component
LEC

KMTS 255 : Komatsu Electrical/Electronics

A lab/lecture course covering electrical and electronic systems for the engine, hydraulics, machine controls and Tier 4 emission systems as applied to Komatsu construction equipment. Techniques of circuit diagnostics will be demonstrated with electrical schematics. The function, operation and testing of Komatsu equipment will be covered with the Electronic Service tools. Microprocessor operation including inputs and outputs are explained and covered. Circuits including lighting, accessory, safety instrumentation and gauges are tested. This course will include all Komatsu construction equipment. (S)
Credits 4
Component
LEC

KMTS 265 : Komatsu Advanced Hydraulic Systems

A lab/lecture course covering the diagnostics, service and repair of the hydraulic functions on Komatsu construction equipment. Open-center, closed center and load sensing systems are covered as well as steering, hydrostatic drives and hydraulic functions of Komatsu equipment. (S)
Credits 4
Component
LEC

Powersports Technology

PST 101 : Outdoor Power Equipment Technology

A combination theory and lab course covering basic tools and service equipment, operating principles and construction of outdoor power equipment engines. Instruction includes tune-up and service procedures for lawn and garden equipment, engine rebuilding, troubleshooting, and diagnostic procedures for outdoor power equipment engines and accessory support systems. Students will use manufacturers' recommended overhaul procedures and special tools to service outdoor power equipment. This is a half-semester course. (F, first half of semester)
Credits 5
Component
LEC

PST 102 : Snowmobile Technology I

A combination theory and lab course covering two stroke operating principles as well as complete service and troubleshooting of the snowmobile engine and its accessory systems. Discussion will cover engine diagnostic and overhaul procedures, as well as carburetion, lubrication systems, cooling systems, and other related items. This is a half-semester course. Prerequisite: PST 101 or completion of an NDSCS Automotive or Diesel AAS degree. (F, second half of semester)
Credits 5
Component
LEC

PST 104 : Motorcycle and ATV Technology I

A theory and lab combination course covering fundamental motorcycle and ATV engine theory and service practices. Instruction will include engines, transmissions and clutches. This is a half semester course. Prerequisite: PST 103 or a diploma/AAS in NDSCS Automotive Technology or Diesel Technology. (S, second half of semester)
Credits 5
Component
LEC

PST 105 : OPE and Snowmobile Fuel Systems

A theory and lab combination course on outdoor power equipment and snowmobile carburetion and focusing primarily on fuel injection systems. (S, first half of semester)
Credits 2
Component
LAB

PST 110 : Powersports Technology Internship I

The student will receive on-the-job experience at a small engine or powersports dealership. This will consist of performing basic repair procedures in the service department. This internship will occur the second 8 weeks of the first year. (F)
Credits 6
Component
INT

PST 122 : Fundamentals of Electricity

This is a lecture, demonstration, and performance course which covers the principles of electricity and applies it to electrical circuits, batteries, and other electrical components. It will include Ohm's Law, schematic reading, and test instruments, as well as the testing of commonly used electrical components. The student will have a hands-on approach to learning electrical fundamentals, as well as repairing and troubleshooting electrical problems. This is a half semester course. (F-second 8 weeks)
Credits 3
Component
LEC

PST 150 : Outdoor Power Equipment I

A combination theory and lab course covering basic tools and service equipment, operating principles and construction of outdoor power equipment engines. Instruction includes tune-up and service procedures for lawn and garden equipment. This course is offered as a dual credit option for Early Entry students only. This is a semester course. (F)
Credits 3
Component
LEC

PST 151 : Outdoor Power Equipment II

A combination theory and lab application of engine rebuilding, troubleshooting and diagnostic procedures for outdoor power equipment engines and accessory support systems. Students will use manufacturers' recommended overhaul procedures and special tools to service outdoor power equipment. This course is offered as a dual credit option for Early Entry students only. This is a semester course. (S)
Credits 2
Component
LEC

PST 152 : Snowmobile Technology I

A combination theory and lab course covering two stroke operating principles, as well as complete service and troubleshooting of the snowmobile engine and its accessory systems. Discussion will cover engine diagnostic and overhaul procedures, cooling systems, and other related items. Students will use manufacturers' recommended procedures and specifications to properly service various makes and models of snowmobiles. This course is offered as a dual credit option for Early Entry students only. This is a semester course. (F)
Credits 3
Component
LEC

PST 153 : Snowmobile Technology II

A combination theory and lab course covering two stroke operating principles, as well as complete service and troubleshooting of the snowmobile engine and its accessory systems. Discussion will cover engine diagnostic and overhaul procedures, as well as carburetion, lubrication systems, and other related items. Students will use manufacturers' recommended procedures and specifications to properly service various makes and models of snowmobiles. This course is offered as a dual credit option for Early Entry students only. This is a semester course. (S)
Credits 2
Component
LEC

PST 201 : Motorcycle and ATV Technology II

This course will study basic theory and offer a hands-on lab application of service procedures for motorcycles and ATV's. Systems included will be engine, drive train, suspension, wheel, tire and fuel systems. Service department management procedures will be introduced. This is a half-semester course. Prerequisite: PST 104. (F, first half of semester)
Credits 5
Component
LAB

PST 202 : Outboard Technology

This course will study basic theory and offer a hands-on lab application of service and troubleshooting of outboard marine engines. Systems included will be powerheads, gearcases, mid-section and electrical. This is a half-semester course. Prerequisite: PST 104. (S, first half of semester)
Credits 5
Component
LAB

PST 203 : Stern Drive Technology

This course will study basic theory and offer a hands-on lab application of service and troubleshooting procedures of various inboard marine engines and drives. Systems included will be engines, transom assemblies, vertical drives, hydraulic accessory systems, propellers and winterization. This is a half-semester course. Prerequisite: PST 202. (S, second half of semester)
Credits 5
Component
LAB

PST 205 : Outboard Fuel Systems

This course will study basic theory, service and troubleshooting of outboard marine engine fuel systems. Systems included will be electrical, fuel, lubrication and diagnostics. This is a half semester course. Prerequisite: PST 104, 105. (S, first half of semester)
Credits 2
Component
LEC

PST 210 : Powersports Technology Internship II

The student will receive on-the-job experience at a small engine or powersports dealership. This will consist of performing basic repair procedures in the service department. This internship will occur the second 8 weeks of the second year. (F)
Credits 6
Component
INT

PST 292 : Experimental Course

A course designed to meet special departmental needs during new course development. It is used for one year after which time the course is assigned a different number.
Credits 1
Component
LEC

PST 297 : Cooperative Education

Cooperative education offers students the opportunity to integrate career, social and personal development into the educational process. The cooperative education program allows students to integrate classroom study with a paid work experience related to their fields of study. It is recommended that a student has successfully completed one year of academic study.
Credits 1
Component
FLD

PST 299 : Special Topics

A class or activity designed or customized to meet the special needs of the student or to utilize faculty resources.
Credits 1
Component
LEC

Faculty

Gary Abbott

Department Academic Affairs
Position Dean of Liberal Arts and Educational Innovations
Degree
Ed.D.

Year Hired 2023

Miranda Andel

Department Nursing
Position Instructor
Degree B.S.N., R.N.
Year Hired 2024

Gregory Anderson

Department Business Administration & Management
Position Associate Professor/ Program Coordinator
Degree
M.S.

Year Hired 2000

Patrick Anderson

Department Diesel Technology
Position Assistant Professor
Degree
A.A.S.

Year Hired 2019

Dana Anderson

Department Performing Arts and Communication
Position Associate Professor
Degree
M.A.

Year Hired 2024

Kyle Anderson

Department Emergency Medical Services
Position Instructor
Year Hired 2024

Kyle Armitage

Department Career and Technical Education
Position Dean of Career and Technical Education
Professor
Degree
M.A.

Year Hired 2003

Levi Bachmeier

Department State Board of Higher Education
Position West Fargo
Term Expires June 30, 2029

Thomas Bakewell

Department Diesel Technology
Position Instructor
Degree
A.A.S.

Year Hired 2023

Karl Bakkum

Department Academic Services
Position Associate Professor
Degree
M.F.A.

Year Hired 2020

Curtis Biller

Department State Board of Higher Education
Position Fargo
Term Expires June 30, 2027
Degree
B.S.

Hometown Fargo
Year Hired

Michael Bitz

Department Automotive Technology
Position Assistant Professor/
Program Coordinator
Degree
A.A.S.

Year Hired 2022

Amanda Bjerken

Department Nursing
Position Instructor/NDSCS-Fargo Program Coordinator
Degree
M.S.N., R.N.

Year Hired 2024

Kevin Black

Department State Board of Higher Education
Position Minot, ND
Term Expires June 30, 2026
Hometown State Board of Higher Education
Term Expires 2026-06-30

Susan Bornsen

Department Mathematics & Science
Position Associate Professor
Degree Ph.D
Year Hired 2011

Margaret Brady

Department Mathematics & Science
Position Associate Professor
Degree
M.S.

Year Hired 2011

Casey Buskohl

Department Welding Technology
Position Instructor
Degree
A.A.S.

Year Hired 2023

Danita Bye

Department State Board of Higher Education
Position Stanley
Term Expires June 30, 2026
Hometown Stanley
Term Expires 2026-06-30

Robert Cade

Department Welding Technology
Position Instructor
Degree
Certificate

Year Hired 2024

Donald Campbell

Department State Board of Higher Education
Position Term Expires June 30, 2028

Jeri Christiansen

Department Nursing
Position Associate Professor/ P.N. Program Coordinator
Degree
M.S.N., R.N.

Year Hired 2015

Jacob Christopherson

Department Electrical Technology
Position Instructor
Degree
A.A.S.

Year Hired 2024

Kim Dassenko

Department Executive Vice President of Academic Affairs
Position Executive Assistant
Degree
B.U.S.

Year Hired 2003

Tyler DeKrey

Department Emergency Medical Services
Position Instructor/Paramedic Program Coordinator
Year Hired 2022

Cindy Lee Deuser

Department Academic Services
Position ASC/ELL Associate Professor
Degree
M.A.

Year Hired 2014

Mark Eback

Department Electrical Technology
Position Associate Professor
Degree
A.A.S.

Year Hired 2004

Traci Eklund

Department Academic Services
Position Associate Professor/ Program Coordinator
Degree
B.A., B.S.

Year Hired 2011

Ryan Engelmann

Department Diesel Technology
Position Instructor
Degree
Diploma

Year Hired 2025

James Erdahl

Department Collision Engineering Technology
Position Associate Professor/ Program Coordinator
Degree
B.S.

Year Hired 1997

Danielle Erickson

Department Allied Dental Education Department
Position Associate Professor
Degree B.S., R.D.H., C.D.A
Year Hired 2016

Maxwell Eriksrud

Department State Board of Higher Education
Position Student Member
Term Expires June 30, 2025

Marilyn Evenson

Department Social & Behavioral Sciences
Position Associate Professor
Degree Ph.D
Year Hired 2011

Trina Fear

Department Nursing
Position Associate Professor/ R.N. Program Coordinator
Degree
M.S.N., R.N.

Year Hired 2016

Jaymes Feil

Department Emergency Medical Services
Position Instructor/EMT Program Coordinator
Degree
A.A.S.

Year Hired 2021

Linda Fink

Department Computer Science
Position Associate Professor
Degree B.S
Year Hired 1995

Slade Fitzgerald

Department Electrical Technology
Position Associate Professor
Degree
A.A.S

Year Hired 2002

Rod Flanigan

Department President's Office
Position President
Degree
Ph.D.

Year Hired 2022

Eugene Floersch

Department Diesel Technology
Position Associate Professor
Degree B.S.
Year Hired 2013

Barry Frank

Department Diesel Technology
Position Associate Professor
Degree A.A.S
Year Hired 2012

Clinton Gilbertson

Department Fire Science
Position Professor/ Program Coordinator
Degree
M.S.

Year Hired 2007

Larissa Gilbertson

Department Academic Services
Position Associate Professor
Degree M.S.
Year Hired 2011

Crystal Graening

Department Nursing
Position Assistant Professor
Degree
M.S.N., R.N.

Year Hired 2020

McKenna Graf

Department Nursing
Position Assistant Professor
Degree
M.S.N., R.N.

Year Hired 2021

Kara Gruenberg

Department Electrical Technology
Position Associate Professor/ Accreditation Liaison
Degree
B.S.

Year Hired 1992

Brandy Gustavus

Department Health Information
Position Associate Professor/ Program Director
Degree
M.S.

Year Hired 2024

Brian Hagelstrom

Department Mathematics & Science
Position Associate Professor
Degree M.S.
Year Hired 2000

Jeff Hart

Department Social & Behavioral Sciences
Position Associate Professor
Degree M.A.
Year Hired 2007

Vance Harthun

Department Welding Technology
Position Associate Professor
Degree
B.S

Year Hired 2007

James Hartzell

Department Diesel Technology
Position Assistant Professor
Degree A.A.S
Year Hired 2020

Chad Hinkley

Department Diesel Technology
Position Instructor
Year Hired 2024

Jeremy Hoesel

Department Construction & Design Technology
Position Associate Professor/
Building Construction Technology Program Coordinator
Degree
B.S.

Year Hired 2018

Anissa Hoffman

Department Agriculture
Position Associate Professor/
Precision Agriculture Program Coordinator
Degree
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Year Hired 2006

Kelsey Hoffman

Department Agriculture
Position Assistant Professor/
Adult Farm Management-Fargo
Degree
B.S.

Year Hired 2019

Adam Hollingsworth

Department Performing Arts and Communication
Position Associate Professor
Degree Ph.D
Year Hired 2016

Kijia Homes

Department President's Office
Position Executive Assistant
Degree
B.A.

Year Hired 2009

Alexia Hought

Department Nursing
Position Instructor
Degree
B.A.

Year Hired 2023

Clifford Howey

Department Diesel Technology
Position Instructor
John Deere Technician
Degree
Certificate

Year Hired 2023

Eric Issendorf

Department Health, Physical Education & Recreation
Position Head Football Coach/Aquatics Coordinator
Degree M.S.
Year Hired 2018

LeAnne Jaenisch

Department Robotics, Automation and Mechatronics Technology
Position Associate Professor/ Program Coordinator
Degree
B.S.

Year Hired 2014

Jeff Jelinek

Department Construction & Design Technology
Position Associate Professor/
Land Surveying and Civil Engineering Technology
Program Coordinator
Degree
A.A.S., R.L.S.

Year Hired 1998

Mitchell Jobe

Department Powersports Technology
Position Associate Professor
Degree
B.S

Year Hired 1988

Steve Johnson

Department Precision Machining Technology
Position Associate Professor/
Program Coordinator
Degree
A.A.S

Year Hired 1992

Daryl Johnson

Department HVAC/R Technology
Position Instructor/Program Coordinator
Degree
Diploma

Year Hired 2022

Michael Johnson

Department Nursing
Position Instructor
Degree
B.S.N.

Year Hired 2025

Joel Johnson

Department Welding Technology
Position Associate Professor
Degree
M.S.

Year Hired 1994

Lisa Karch

Department Executive Vice President
Position Executive Vice President of Academic Affairs
Degree
Ph.D.

Year Hired 2021

Taylor Karger

Department Occupational Therapy Assistant
Position Assistant Professor
Degree
MOT

Year Hired 2023

Luke Kasowski

Department Powersports Technology
Position Associate Professor/ Program Coordinator
Degree
B.S.

Year Hired 2005

Shannon King

Department Mathematics & Science
Position Associate Professor
Degree
M.S.

Year Hired 1999

Wade King

Department English
Position Associate Professor
Degree
M.A.

Year Hired 1996

Jan Kompelien

Department Mathematics & Science
Position Associate Professor
Degree
M.Ed

Year Hired 2020

Melissa Krava

Department Pharmacy Technician
Position Associate Professor/ Program Director
Degree
B.S.

Year Hired 2018

John Kroshus

Department Computer Science
Position Associate Professor
Degree B.S.
Year Hired 1996

Jennifer Krueger

Department Social & Behavioral Sciences
Position Associate Professor
Degree
M.S.

Year Hired 2019

Chandra Langseth

Department Agriculture
Position Assistant Professor/
Precision Ag Tech Program Coordinator
Degree
M.S.

Year Hired 2020

Ron Lawler

Department Emergency Medical Services (EMS)
Position Program Director
Degree
B.U.S.

Year Hired 2014

Michael Learn

Department Social & Behavioral Sciences
Position Assistant Professor
Degree Ph.D.
Year Hired 2020

Lara Lekang

Department Construction & Design Technology
Position Associate Professor/ Program Coordinator
Architectural Modeling and Design Technology
Degree
B.A.

Year Hired 2017

Abbie Lill

Department English
Position Instructor
Degree
M.F.A.

Year Hired 2024

Nathan Longlet

Department Construction & Design Technology
Position Assistant Professor/
Architectural Modeling and Design Technology
Degree
A.A.S.

Year Hired 2022

Jennifer Lundblad

Department Occupational Therapy Assistant
Position Outreach Therapist
Degree A.A.S.
Year Hired 2021

Ivan Maas

Department Electrical Technology
Position Associate Professor
Degree
B.S. Ed.

Year Hired 1985

Leah Maertens

Department Agriculture
Position Instructor/Adult Farm Management-Wahpeton
Degree
A.A.S.

Year Hired 2024

Chanel Malone

Department Allied Dental Education Department
Position Associate Professor/
Dental Assisting Program Coordinator
Degree
B.A., R.D.H., C.D.A

Year Hired 2014

Ronda Marman

Department English
Position Associate Professor
Degree
M.S

Year Hired 2011

Kathy Marquette

Department Business Administration & Management
Position Associate Professor
Degree M.A.
Year Hired 1995

Amy Medhaug

Department Nursing
Position Assistant Professor
Degree
M.S.N., R.N.

Year Hired 2020

Evan Meier

Department Diesel Technology
Position Associate Professor
General Diesel Tech/Komatsu Program Director
Degree
A.A.S

Year Hired 2019

Tim Mihalick

Department State Board of Higher Education
Position Vice Chair
Minot
Term Expires June 30, 2027
Hometown Minot

Lisa Montplaisir

Department State Board of Higher Education
Position Faculty Advisor
Fargo
Term Expires June 30, 2025
Degree
Ph.D.

Hometown Fargo
Term Expires 2023-06-30

Kiumarce Mortezaee

Department Robotics, Automation and Mechatronics Technology
Position Instructor
Degree
M.Ed.

Year Hired 2023

Cale Mouser

Department Diesel Technology
Position Instructor
Degree
A.A.S.

Year Hired 2024

Cowan Nathan

Department Aviation Maintenance Technology
Position Instructor/Program Coordinator
Degree
B.S.

Year Hired 2025

Emily Nelson

Department Nursing
Position Assistant Professor
Degree
M.S.N., R.N.

Year Hired 2022

Kelsey Norstog

Department Nursing
Position Instructor
Degree
M.S.N., R.N.

Year Hired 2024

Tanner Oliphant

Department Plumbing
Position Instructor/
Program Coordinator
Year Hired 2021

Matthew Omodt

Department Collision Engineering Technology
Position Assistant Professor
Degree
A.A.S.

Year Hired 2022

Stacy Owens

Department Allied Dental Education Department
Position Associate Professor/
Allied Dental Program Director
Degree
M.Ed., R.D.H., C.D.A

Year Hired 2011

Jane Passa

Department Health, Physical Education & Recreation
Position Assistant Professor/ Program Coordinator
Head Coach
Volleyball/Fitness Center Manager
Degree
M.Ed.

Year Hired 1999

Vanessa Pierce

Department Nursing
Position Instructor
Degree
B.S.N., R.N.

Year Hired 2024

Nicole Podliska

Department Nursing
Position Assistant Professor
Degree
M.S.N., R.N.

Year Hired 2022

Bryan Poyzer

Department Performing Arts and Communication
Position Associate Professor/
Program Coordinator
Degree
M.Ed.

Year Hired 2015

Sybil Priebe

Department English
Position Associate Professor/ Program Coordinator
Degree
M.A

Year Hired 2005

Melanie Priebe

Department Health Information Technician
Position Instructor
Degree
B.S.

Year Hired 2025

Michael Redding

Department Transportation Department
Position Associate Dean
Degree
A.A.S

Year Hired 2011

Mallory Regan

Department Allied Dental Education Department
Position Associate Professor
Degree B.S., R.D.H., R.D.A., C.D.A.
Year Hired 2018

Scott Ripplinger

Department Automotive Technology
Position Instructor/ Program Coordinator
Degree
A.A.S.

Year Hired 2024

Brent Sanford

Department State Board of Higher Education
Position Interim Chancellor
Degree
B.A.

Leah Schauer

Department Academic Services
Position Assistant Professor
Degree
M.F.A.

Year Hired 2020

Bonnie Schillinger

Department Computer Science
Position Associate Professor/ Program Coordinator
Degree
M.M.

Year Hired 1991

Jay Schimelfenig

Department Precision Machining Technology
Position Associate Professor
Degree
A.A.S

Year Hired 2002

Lucas Schmaltz

Department Agriculture
Position Instructor
Degree
M.Ed.

Year Hired 2024

Curt Schreiber

Department Business Administration & Management
Position Associate Professor
Degree M.B.A.
Year Hired 2007

Char Schuler

Department Social & Behavioral Sciences
Position Associate Professor
Degree
M.S.W.

Year Hired 2005

Michael Seedorf

Department Diesel Technology
Position Associate Professor/
CAT Dealer Service Technician Program Coordinator
Degree
A.A.S

Year Hired 2018

Kayla Shaw

Department Emergency Medical Services
Position Instructor
Year Hired 2022

William Shay

Department Mathematics & Science
Position Professor/Program Coordinator
Degree
Ph.D

Year Hired 2006

Zachary Sheeley

Department Electrical Technology
Position Assistant Professor/ Program Coordinator
Degree
A.A.S.

Year Hired 2021

Pete Shervey

Department Diesel Technology
Position Instructor
Degree
A.A.S.

Year Hired 2024

Seth Simonson

Department Construction & Design Technology
Position Associate Professor/ UAS Lead
Land Surveying and Civil Engineering Technology
Degree
A.A.S.

Year Hired 2014

Tyler Slettedahl

Department Diesel Technology
Position Associate Professor/
John Deere Tech Program Coordinator
Degree
A.A.S.

Year Hired 2009

Candi Smith

Department Lactation Consultant
Position Instructor
Degree
M.S.N.

Year Hired 2025

Debra Smith

Department Nursing
Position Associate Dean of Allied Health/Nursing Program Director
Degree
M.S.N., R.N.

Year Hired 2019

Patrick Sogard

Department State Board of Higher Education
Position Williston
Term Expires June 30, 2029
Hometown

Randy Stach

Department Construction & Design Technology
Position Associate Professor/ Program Director
Degree
M.S.

Year Hired 1996

Ethan Tallakson

Department HVAC/R Technology
Position Instructor
Degree
A.S.

Year Hired 2024

Brooke Thomas

Department Culinary Arts
Position Instructor
Degree
A.A.S.

Year Hired 2024

Lincoln Thompson

Department Precision Machining Technology
Position Associate Professor
Degree
A.A.S.

Year Hired 2007

Danette Trautmann

Department Nursing
Position Instructor
Degree
M.S.N., R.N.

Year Hired 2024

John Travis

Department Electrical Technology
Position Associate Professor
Degree
B.S.

Year Hired 2006

Missi Twidwell

Department Occupational Therapy Assistant
Position Associate Professor/ Program Director
Degree
M.Ed., OTR/L

Year Hired 2003

Mitchell Van Vleet

Department Welding Technology
Position Associate Professor/ Program Coordinator
Welding Technology-Fargo
Degree
A.A.S.

Year Hired 2014

Benjamin Whitmore

Department Culinary Arts
Position Associate Professor/ Program Coordinator
Degree
M.A.

Year Hired 2019

Sara Wilson

Department Nursing
Position Instructor
Degree
B.S.N., R.N.

Year Hired 2024

Lisa Wixo

Department Business Administration & Management
Position Instructor
Degree
M.B.A.

Year Hired 2024

Kelly Wolf

Department Social & Behavioral Sciences
Position Associate Professor
Degree Ph.D.
Year Hired 2005

Bryan Wolfgram

Department Construction & Design Technology
Position Associate Professor/
Building Construction Technology Program Coordinator
Degree
B.S.

Year Hired 2001

Jessica Woods

Department Welding Technology
Position Instructor/ Program Coordinator
Welding Technology-Wahpeton
Degree
A.A.S.

Year Hired 2023

Craig Zimprich

Department Agriculture
Position Associate Professor
Degree
M.S.

Year Hired 2008