

Career Outlook

36th Edition • 2018-2019



ACKNOWLEDGEMENTS

The Career Outlook is a publication of the North Dakota Department of Career and Technical Education's Career Resource Network (CRN).

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Distribution

North Dakota Army National Guard

***Thank you to all who
have contributed to the
production of this year's
Career Outlook.***

FROM THE DIRECTOR



Dear Reader:

Students are often asked about their post-high school plans. Whether you are considering college, enlisting in the military or entering the workforce, now is the time to prepare for your future.



The mission of Career and Technical Education (CTE) is to work with others to provide all North Dakota citizens with the technical skills, knowledge, and attitudes necessary for successful performance in a globally competitive workplace.

CTE coursework provides students with the opportunity to explore a wide range of careers through hands-on classroom activities and work-related experiences in Agriculture, Business, Family and Consumer Sciences, Information Technology, Marketing, Technology Education, and the Trades, Industry, Technical and Health Sciences. When you enroll in a CTE class, you are developing the workplace readiness skills necessary to be successful in your chosen career field.

The Career Outlook magazine contains valuable information about the many opportunities available to you in North Dakota. Education and training requirements, the earning potential within a career field, and the number of available jobs can all be found in this issue. Use this magazine as a resource when making decisions about your future.

I wish you the best as you continue to prepare yourself for the next step in your life.

Sincerely,

A handwritten signature in black ink, appearing to read "Wayde Sick".

Wayde Sick, Director
ND Department of Career and Technical Education



Career Outlook User's Guide

Make the most of using the Career Outlook with your students or clients! Visit www.nd.gov/cte/crn/coug to find the Career Outlook User's Guide which contains a teacher's guide and lesson plans to enhance the use of the publication.

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CTE PRESIDENTIAL SCHOLAR

BRIANNA MADDOCK

Kindred
High School



Q: You have been named a Career and Technical Education (CTE) Presidential Scholar. What does this honor mean to you?

A: This award is a testament to the dedication put forth by many individuals who have shaped me into the person I am today. I am humbled by this award. I have had four different FFA advisors who have each impacted my personal growth and helped me find success in various ways. My parents have always supported my efforts and pushed me to be the best version of myself. My teammates and coaches throughout the years have helped me develop confidence and skills. This recognition has given me a chance to thank the many individuals who have devoted time to ensuring my success and development.

Q: What are your next steps after high school graduation?

A: I will be attending North Dakota State University this fall. My major will be Agricultural and Biosystems Engineering. My ultimate career goal is to improve the efficiencies and decrease the environmental impacts of agricultural processes by conducting agricultural research. This major encompasses agricultural processes and focuses on innovation in the agriculture industry.

Q: FFA is a big part of your life. Describe how your involvement in FFA has prepared you for leadership.

A: I have gained valuable leadership experiences by serving in chapter level positions. The FFA has given me the opportunity to develop confidence in my own abilities and allowed me to grow my skill set. Role models, such as my advisors, have also taught me the true meaning of leadership. I was recently elected state president for the ND FFA Association. Having this office will give me the opportunity to interact with members throughout the state, plan conventions and workshops, and conduct sponsor visits. I am most excited to inspire students to be involved in the FFA, as membership can have a life-long impact.

Q: Tell us about your Supervised Agriculture Experience (SAE) projects.

A: My SAE project is Agriscience research. I have conducted numerous research studies through the FFA and independently. Each of these experiences has made my future

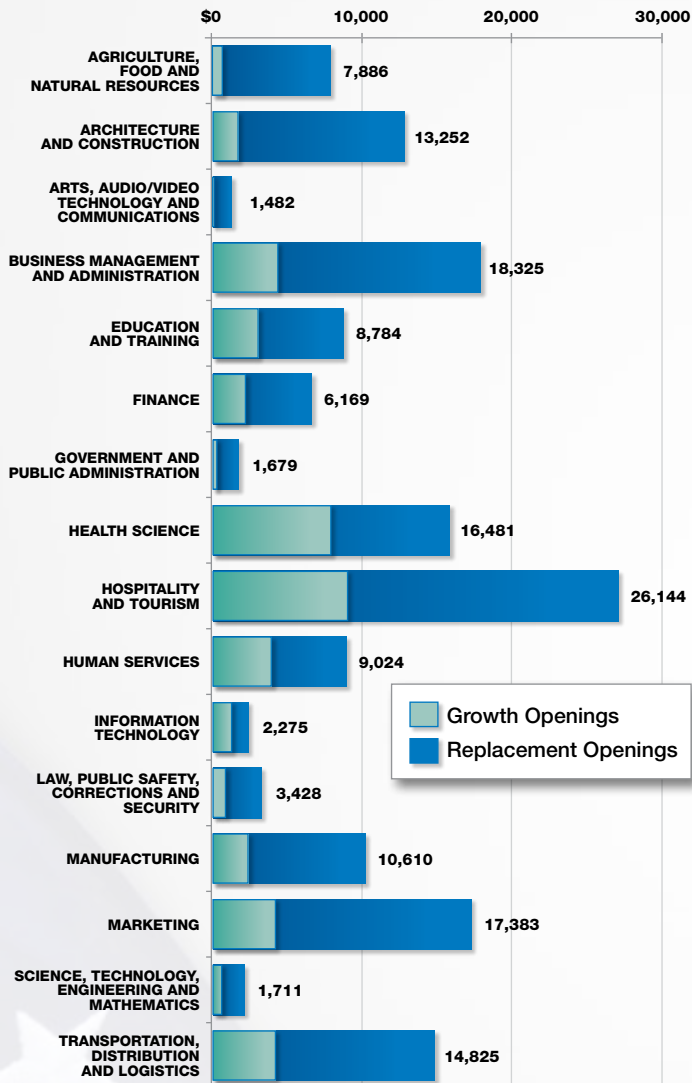
career plans clearer. SAEs are important because they prepare students for careers. These experiences give students an opportunity to take the skills they learn in the classroom and through the FFA and apply them to business and industry. This hands-on aspect is an outstanding part of the FFA Organization and is an important benefit for all of CTE.

Q: How would you advocate and promote the benefits of CTE?

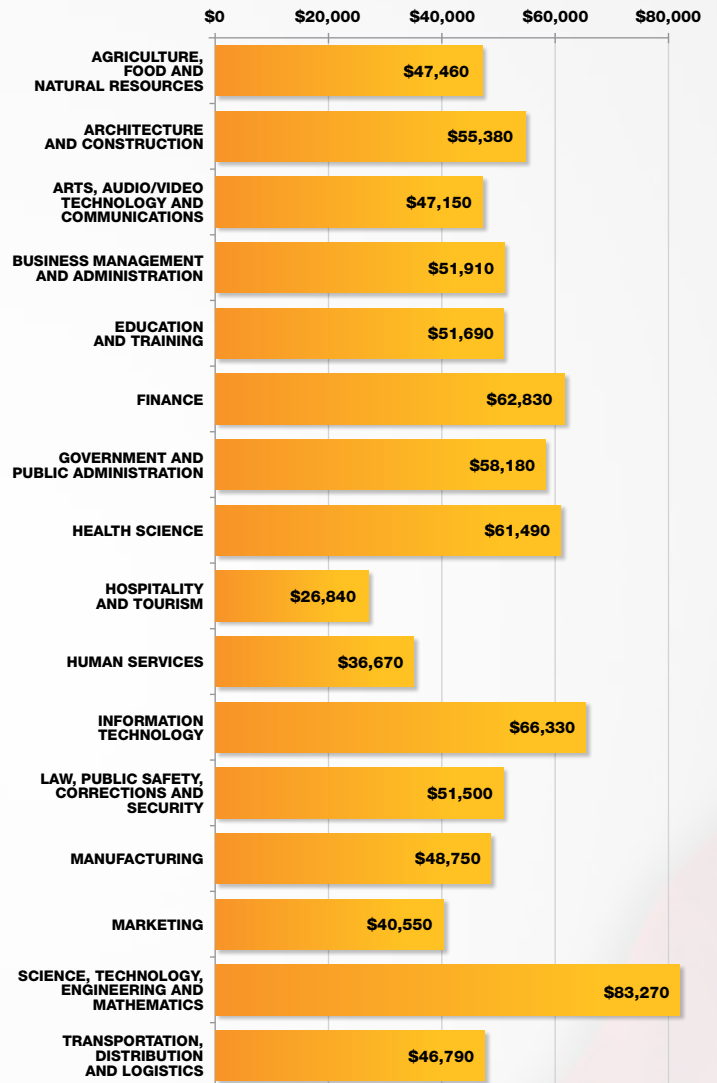
A: Career and technical education prepares students for careers that need employees. This type of education will give you job security in the future. In addition, the opportunity to develop employability skills such as public speaking, interviewing, and relationship building are invaluable and can benefit a student pursuing any career path.



EMPLOYMENT PROJECTIONS 2014-2024 TOTAL OPENINGS



AVERAGE 2017 WAGES



JOB SERVICE NORTH DAKOTA

Bismarck-Mandan
1601 E Century Ave
701-328-5000

Fargo
1350 32nd St S
701-239-7300

Minot
3416 N Broadway
701-857-7500

Devils Lake
301 College Dr S
701-662-9300

Grand Forks
1501 28th Ave S
701-795-3700

Wahpeton
524 2nd Ave N
701-671-1550

Dickinson
66 Osborn Dr
701-227-3100

Jamestown
1307 12th Ave NE Ste 3
701-253-6200

Williston
422 1st Ave W
701-774-7900

www.jobsnd.com *Statewide TTY 800-366-6888

Career planning and exploration is a vital ingredient in achieving success in the workplace. Today, there are many comprehensive publications and sources of information to aid in the process.

A few of our career-oriented products specific to North Dakota's labor market are available at

www.ndworkforceintelligence.com.

They cover nearly everything you ever wanted to know about career opportunities in North Dakota and may include employment projections, wages, core tasks, work activities, skills, knowledge, and typical education/training requirements.

Careers by Education

Typical Entry Level Education & Career			Total Openings	Average 2017 Wage	Examples of Tasks Performed
High School Diploma or Equivalent	1	Farmers, Ranchers and Other Agricultural Managers	4,533	\$74,970	Coordinate the agriculture operations that produce crops, livestock and dairy products.
	2	Customer Service Representatives	2,843	\$35,980	Handle customer complaints and provide information about products and services.
	3	Office Clerks, General	2,401	\$34,340	Perform tasks, including computer usage and maintaining records.
	4	Childcare Workers	2,184	\$23,030	Care for children's basic needs, such as bathing and feeding.
	5	Teacher Assistants	1,770	\$32,010	Work under a teacher's supervision to provide instructional services.
	6	Supervisors of Retail Sales Workers	1,382	\$44,640	Coordinate activities such as purchasing, budgeting and personnel work.
	7	Supervisors of Food Preparation and Serving Workers	1,347	\$35,580	Coordinate activities of workers preparing and serving food.
	8	Maintenance and Repair Workers, General	1,185	\$41,290	Perform maintenance to keep machines and equipment in repair.
	9	Secretaries and Administrative Assistants, Except Legal, Medical and Executive	1,075	\$38,570	Perform routine clerical functions such as scheduling appointments and maintaining paper and electronic files.
	10	Supervisors of Office and Administrative Support Workers	984	\$55,370	Supervise the activities of clerical and administrative workers.
	11	Hotel, Motel and Resort Desk Clerks	971	\$26,070	Register guests, manage reservations and keep records of accounts.
	12	Service Unit Operators, Oil, Gas and Mining	952	\$65,280	Operate equipment to increase oil flow from producing wells.
	13	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	853	\$66,460	Sell goods to businesses or groups of individuals.
	14	Team Assemblers	821	\$34,970	Work as part of a team for assembling an entire product or component.
	15	Insurance Sales Agents	813	\$63,310	Sell life, property, health, automotive, or other types of insurance.
Postsecondary Non-Degree Award	1	Heavy and Tractor-Trailer Truck Drivers	3,161	\$32,880	Transport goods from one location to another. Requires commercial drivers' license.
	2	Nursing Assistants	3,102	\$45,100	Provide basic care in hospitals and long-term care facilities.
	3	Licensed Practical and Licensed Vocational Nurses	1,321	\$53,930	Care for patients in hospitals, nursing homes, clinics and private homes.
	4	Welders, Cutters, Solderers and Brazers	801	\$30,430	Weld and solder components and dismantle metal assemblies.
	5	Hairdressers, Hairstylists and Cosmetologists	692	\$43,380	Provide services, such as cutting, coloring and styling hair.
	6	Automotive Service Technicians and Mechanics	668	\$32,470	Diagnose, adjust, repair, or overhaul automotive vehicles.
	7	Emergency Medical Technicians and Paramedics	475	\$51,940	Administer first-aid treatment and life-support care to people.
	8	Bus and Truck Mechanics and Diesel Engine Specialists	411	\$43,370	Perform routine maintenance and repair of any type of diesel engine.
	9	Medical Records and Health Information Technicians	409	\$30,330	Process and maintain medical records consistent with the health care system.
	10	Phlebotomists	309	\$54,660	Draw blood for tests, transfusions, donations, or research.
Associates Degree	1	Computer User Support Specialists	439	\$67,660	Provide technical assistance to computer users in person, via telephone or electronically.
	2	Preschool Teachers, Except Special Education	340	\$54,170	Instruct children, ages 3-5, to promote social and intellectual growth.
	3	Dental Hygienists	223	\$59,220	Clean teeth, examine gums and watch for decay or gum disease.
	4	Civil Engineering Technicians	190	\$66,580	Apply principles of civil engineering under the direction of engineers.
	5	Computer Network Support Specialists	150	\$54,730	Analyze, troubleshoot and perform maintenance to ensure networks operate correctly.
	6	Life, Physical and Social Science Technicians, All Other	150	\$61,090	Collect samples, prepare specimens and record data to assist scientists.
	7	Radiologic Technologists	146	\$54,540	Take X-rays and CAT scans for diagnostic purposes.
	8	Web Developers	132	\$58,670	Analyze user needs to design, create and modify website content.
	9	Respiratory Therapists	124	\$50,960	Assess, treat and care for patients with breathing disorders.

Typical Entry Level Education & Career			Total Openings	Average 2017 Wage	Examples of Tasks Performed
Bachelor's Degree	1	Registered Nurses	4,030	\$63,140	Assess health needs, implement nursing care plans and maintain records.
	2	General and Operations Managers	2,146	\$103,630	Duties and responsibilities include formulating policies, managing daily operations and planning the use of materials and human resources.
	3	Accountants and Auditors	1,763	\$60,550	Prepare, examine and analyze accounting records and financial statements.
	4	Elementary School Teachers, Except Special Education	1,394	\$51,090	Instruct students using various teaching methods.
	5	Secondary School Teachers, Except Special and Career/Technical Education	850	\$51,400	Teach students in subjects, such as English, mathematics, or social studies.
	6	Software Developers, Applications	551	\$74,310	Design, create and modify general computer applications software.
	7	Civil Engineers	504	\$78,880	Plan, design and oversee construction of building structures and facilities.
	8	Business Operations Specialists, All Other	494	\$69,180	Handles contract negotiation and other business matters for clients.
	9	Managers, All Other	460	\$101,740	Plan, direct or coordinate public or private sector organizations.
	10	Loan Officers	442	\$72,120	Evaluate, authorize, or approve commercial, real estate, or credit loans.
	11	Chief Executives	432	\$160,590	Provide direction of companies within guidelines set up by a board of directors.
	12	Medical and Health Services Managers	393	\$107,720	Plan, direct, or coordinate medical and health services.
	13	Personal Financial Advisors	373	\$93,890	Advise clients on financial planning using tax and investment strategies.
	14	Financial Managers	372	\$119,240	Coordinate accounting, banking, insurance and financial activities.
Master's, Doctoral, or Professional Degree	1	Lawyers	306	\$97,680	Represent clients, prosecute or defend lawsuits, advise on legal rights.
	2	Pharmacists	238	\$114,780	Dispense drugs prescribed by physicians and health practitioners.
	3	Physicians and Surgeons, All Other	174	\$255,840	Physicians who treat diseases and injuries by surgical methods.
	4	Family and General Practitioners	146	\$224,820	Diagnose, treat and help prevent diseases and injuries that commonly occur.
	5	Clinical, Counseling and School Psychologists	145	\$84,300	Diagnose and treat cognitive, behavioral and emotional problems.
	6	Anesthesiologists	134	\$286,250	Physicians who administer anesthetics prior to, during, or after surgery.
	7	Postsecondary Teachers, All Other	133	\$70,030	Teachers engaged in instruction and those doing teaching and research.
	8	Chiropractors	112	\$66,200	Assess, treat and care for patients by manipulation of spine and musculoskeletal system.
	9	Optometrists	105	\$134,030	Examine eyes and visual system and prescribe corrective lenses.
	10	Dentists, General	101	\$238,170	Examine and treat diseases, injuries and malformations of teeth and gums.
	11	Biological Science Teachers, Postsecondary	80	\$88,970	Teach biological sciences and may include research.
	12	Veterinarians	61	\$96,090	Diagnose, treat, or research diseases and injuries of animals.
	13	Business Teachers, Postsecondary	56	\$98,450	Teach courses in business administration and management, such as accounting, finance, marketing and operations research.
	14	Health Specialties Teachers, Postsecondary	50	\$124,550	Teach courses in specialties such as dentistry, laboratory technology, medicine, pharmacy, public health, and veterinary medicine.
	15	Mathematical Science Teachers, Postsecondary	41	\$72,930	Teach mathematical concepts, statistics, actuarial science and standardized mathematical techniques needed for solving specific problems.

METHODOLOGY: These careers were selected based on the projected growth and replacement openings published in Job Service North Dakota's 2014-2024 Long-Term Employment Projections report.

TOTAL OPENINGS INCLUDE GROWTH AND REPLACEMENT OPENINGS: Growth openings are the number of anticipated openings due to new job growth. Replacement openings are the number of anticipated openings due to workers who permanently leave an occupation (i.e., retirement, death, etc.)

TYPICAL ENTRY-LEVEL EDUCATION: Describes the education level most workers need to enter the occupation. The typical entry-level education is based on data from the U.S. Bureau of Labor Statistics and may differ by region or employer.

AVERAGE 2017 WAGES: Wage data originate from the 2017 Occupational Employment Statistics (OES) survey. Excludes overtime pay and earnings from self-employed workers.



North Dakota Academic and Career & Technical Education Scholarship Programs

North Dakota resident students may apply for either the North Dakota Academic or Career and Technical Education Scholarship. The amount of each scholarship is \$750 per semester or \$500 per quarter based on full-time enrollment in an accredited higher education institution in North Dakota, both public and private. The students may be eligible for up to \$6,000 within six academic school years (do not have to be consecutive years) after graduation from high school.

The scholarship is renewable provided the student is enrolled full-time in North Dakota, maintains a 2.75 GPA while attending college and maintains progress toward degree completion. For purposes of eligibility, "full-time" is defined by the institution the student is attending.

As of August 1, 2017, ongoing eligibility requires full-time enrollment as well as successful completion of credits to ensure progress toward degree completion. Adequate progress towards degree completion is defined as follows:

Credits Earned	Credits
By the End of Semester Two	24
By the End of Semester Three	39
By the End of Semester Four	54
By the End of Semester Five	69
By the End of Semester Six	84
By the End of Semester Seven	99

North Dakota seniors must apply by the first Friday in June to establish eligibility. For 2019, the date will be June 1. Students who are awarded a scholarship may defer acceptance of the scholarship.

Students will need to plan their high school coursework carefully to meet all eligibility requirements within the four years of high school. For a complete listing of eligibility requirements for both scholarship programs, or for an application, visit www.nd.gov/dpi/SchoolStaff/SAO/grantscholar or call 701-328-2244. Students are also encouraged to visit with their school counselor regarding the Academic and CTE Scholarships.

SCHOLARSHIP Requirements

Academic Scholarship Requirements

- ◆ 1 unit of mathematics for which Algebra II is a prerequisite.
- ◆ 2 units of the same foreign language; the same Native American language; American Sign Language; or a career and technical education coordinated plan of study.
- ◆ 1 unit selected from foreign languages; Native American languages; American Sign Language; fine arts; or career and technical education.
- ◆ 1 unit of an advanced placement course and examination; 1 unit of an early entrance program course; or ½ unit of a dual credit course.
- ◆ Receive a composite score of at least 24 on the ACT test.

Common Requirements for BOTH Scholarships

- ◆ North Dakota residency.
- ◆ Graduate from a high school in ND; from a high school in a bordering state; from a nonpublic high school in a neighboring state while the student resides with a custodial parent in ND; or complete a program of home education supervised in accordance with NDCC Chapter 15.1-23.
- ◆ Complete the diploma requirements.
- ◆ Obtain a grade of at least "C" in each unit OR ½ unit required under the specific units required by each respective scholarship.
- ◆ Obtain a cumulative grade point of at least 3.0 on a 4.0 grading scale based on the 22 units required by each respective scholarship. The GPA must be rounded to the nearest hundredth for eligibility purposes.
- ◆ Complete 1 unit of Algebra II.

Career and Technical Education Scholarship Requirements

- ◆ 4 units of career and technical education in which 2 units must be from a coordinated plan of study recommended by ND Career & Technical Education. Visit www.nd.gov/cte/programs/career-dev/plans-of-study.html for more information.
- ◆ 1 unit selected from foreign languages; Native American languages; American Sign Language; fine arts; or career and technical education.
- ◆ Receive a composite score of at least 24 on the ACT Test; or a score of at least 5 on each of the three required WorkKeys assessments (Applied Math, Graphic Literacy, Workplace Documents).



What Steps Have You Taken to Reach Your Career Goal?

The Career Outlook magazine is designed to provide career exploration and planning information. This edition features nine individuals pursuing their career goal through postsecondary education, training and work.



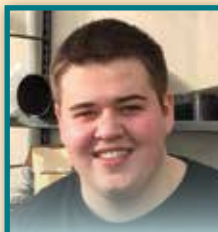
Allison Inman

Career Cluster:
Information Technology
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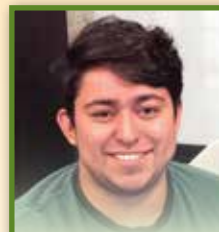
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CAREER GOAL



Karlee Feist

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Wyatt Hatcher

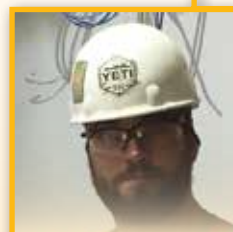
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Transportation, Distribution & Logistics
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Brianna Maddock

Career Cluster:
Agriculture, Food & Natural Resources
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PRESIDENTIAL SCHOLAR



Tadd McFarland

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Architecture & Construction
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APPRENTICE

Career Clusters Interest Survey

Directions: ☒ Check the items in each box that best describe you. You may make as many or as few checks as you choose. Add up the number of checkmarks in each row and place the total in the box at the end of the row. Look to see which three have the highest numbers. Find the corresponding Career Clusters at the end of the survey to see which clusters you may want to explore.

	Activities that describe what I like to do:	Personal qualities that describe me:	School subjects that I like:	Total number <input checked="" type="checkbox"/> checked
1	<input type="checkbox"/> Learn how things grow and stay alive. <input type="checkbox"/> Make the best use of the earth's natural resources. <input type="checkbox"/> Hunt and/or fish. <input type="checkbox"/> Protect the environment. <input type="checkbox"/> Be outdoors in all kinds of weather. <input type="checkbox"/> Plan, budget, and keep records. <input type="checkbox"/> Operate machines and keep them in good repair.	<input type="checkbox"/> Self-reliant (able to do it yourself) <input type="checkbox"/> Nature lover <input type="checkbox"/> Physically active <input type="checkbox"/> Planner <input type="checkbox"/> Creative problem solver	<input type="checkbox"/> Math <input type="checkbox"/> Life Sciences <input type="checkbox"/> Earth Sciences <input type="checkbox"/> Chemistry <input type="checkbox"/> Agriculture	Total
2	<input type="checkbox"/> Read and follow instructions and/or blueprints. <input type="checkbox"/> Picture in my mind what a finished product looks like. <input type="checkbox"/> Work with my hands. <input type="checkbox"/> Perform work that requires precise results. <input type="checkbox"/> Solve technical problems. <input type="checkbox"/> Visit and learn from beautiful, historic, or interesting buildings. <input type="checkbox"/> Follow logical, step-by-step procedures.	<input type="checkbox"/> Curious <input type="checkbox"/> Good at following directions <input type="checkbox"/> Pay attention to detail <input type="checkbox"/> Good at visualizing possibilities <input type="checkbox"/> Patient and persistent	<input type="checkbox"/> Math <input type="checkbox"/> Drafting <input type="checkbox"/> Physical Sciences <input type="checkbox"/> Construction Trades <input type="checkbox"/> Electrical Trades <input type="checkbox"/> Heat, Air Conditioning and Refrigeration	Total
3	<input type="checkbox"/> Use my imagination to communicate new information to others. <input type="checkbox"/> Perform in front of others. <input type="checkbox"/> Read and write. <input type="checkbox"/> Play a musical instrument. <input type="checkbox"/> Perform creative, artistic activities. <input type="checkbox"/> Use video and recording technology. <input type="checkbox"/> Design brochures and posters.	<input type="checkbox"/> Creative and imaginative <input type="checkbox"/> Good communicator/good vocabulary <input type="checkbox"/> Curious about new technology <input type="checkbox"/> Relate well to feelings and thoughts of others <input type="checkbox"/> Determined/tenacious	<input type="checkbox"/> Art/Graphic Design <input type="checkbox"/> Music <input type="checkbox"/> Speech and Drama <input type="checkbox"/> Journalism/Literature <input type="checkbox"/> Audiovisual Technologies	Total
4	<input type="checkbox"/> Perform routine, organized activities but can be flexible. <input type="checkbox"/> Work with numbers and detailed information. <input type="checkbox"/> Be the leader in a group. <input type="checkbox"/> Make business contact with people. <input type="checkbox"/> Work with computer programs. <input type="checkbox"/> Create reports and communicate ideas. <input type="checkbox"/> Plan my work and follow instructions without close supervision.	<input type="checkbox"/> Organized <input type="checkbox"/> Practical and logical <input type="checkbox"/> Patient <input type="checkbox"/> Tactful <input type="checkbox"/> Responsible	<input type="checkbox"/> Business Technology Applications <input type="checkbox"/> Accounting <input type="checkbox"/> Math <input type="checkbox"/> English/Language Arts <input type="checkbox"/> Economics	Total
5	<input type="checkbox"/> Communicate with different types of people. <input type="checkbox"/> Help others with their homework or to learn new things. <input type="checkbox"/> Go to school. <input type="checkbox"/> Direct and plan activities for others. <input type="checkbox"/> Handle several responsibilities at once. <input type="checkbox"/> Acquire new information. <input type="checkbox"/> Help people overcome their challenges.	<input type="checkbox"/> Friendly <input type="checkbox"/> Decision maker <input type="checkbox"/> Helpful <input type="checkbox"/> Innovative/Inquisitive <input type="checkbox"/> Good listener	<input type="checkbox"/> English/Language Arts <input type="checkbox"/> Social Studies <input type="checkbox"/> Math <input type="checkbox"/> Science <input type="checkbox"/> Psychology	Total
6	<input type="checkbox"/> Work with numbers. <input type="checkbox"/> Work to meet a deadline. <input type="checkbox"/> Make predictions based on existing facts. <input type="checkbox"/> Have a clear set of rules to follow. <input type="checkbox"/> Analyze financial information and interpret it to others. <input type="checkbox"/> Handle money with accuracy and reliability. <input type="checkbox"/> Take pride in the way I dress and look.	<input type="checkbox"/> Trustworthy <input type="checkbox"/> Orderly <input type="checkbox"/> Self-confident <input type="checkbox"/> Logical <input type="checkbox"/> Methodical or efficient	<input type="checkbox"/> Accounting <input type="checkbox"/> Math <input type="checkbox"/> Economics <input type="checkbox"/> Banking/Financial Services <input type="checkbox"/> Business Law	Total
7	<input type="checkbox"/> Be involved in politics. <input type="checkbox"/> Negotiate, defend, and debate ideas and topics. <input type="checkbox"/> Plan activities and work cooperatively with others. <input type="checkbox"/> Work with details. <input type="checkbox"/> Perform a variety of duties that may change often. <input type="checkbox"/> Analyze information and interpret it to others. <input type="checkbox"/> Travel and see things that are new to me.	<input type="checkbox"/> Good communicator <input type="checkbox"/> Competitive <input type="checkbox"/> Service minded <input type="checkbox"/> Well organized <input type="checkbox"/> Problem solver	<input type="checkbox"/> Government <input type="checkbox"/> English/Language Arts <input type="checkbox"/> Social Studies <input type="checkbox"/> Math <input type="checkbox"/> Foreign Language	Total
8	<input type="checkbox"/> Work under pressure. <input type="checkbox"/> Help sick people and animals. <input type="checkbox"/> Make decisions based on logic and information. <input type="checkbox"/> Participate in health and science classes. <input type="checkbox"/> Respond quickly and calmly in emergencies. <input type="checkbox"/> Work as a member of a team. <input type="checkbox"/> Follow guidelines precisely and meet strict standards of accuracy.	<input type="checkbox"/> Compassionate and caring <input type="checkbox"/> Good at following directions <input type="checkbox"/> Conscientious and careful <input type="checkbox"/> Patient <input type="checkbox"/> Good listener	<input type="checkbox"/> Biological Sciences <input type="checkbox"/> Chemistry <input type="checkbox"/> Math <input type="checkbox"/> Health Sciences <input type="checkbox"/> English/Language Arts	Total

Source: Adapted from the Guidance Division Survey, Oklahoma Department of Career and Technology Education (2005)

Note: This survey does not make any claims of statistical reliability and has not been normed. It is intended for use as a guidance tool to generate discussion regarding careers and is valid for that purpose.

Disclaimer: Your interests may change over time. These survey results are intended to assist you with informal career exploration. Consider more formal assessments and other resources or services to help you plan your career.

Terminology: For definitions of terminology used in the survey, visit www.nd.gov/cte/crn/toolkit/docs/TermDefinitions.pdf.

Activities that describe what I like to do:		Personal qualities that describe me:	School subjects that I like:	Total number checked
9	<input type="checkbox"/> Investigate new places and activities. <input type="checkbox"/> Work with all ages and types of people. <input type="checkbox"/> Organize activities in which other people enjoy themselves. <input type="checkbox"/> Have a flexible schedule. <input type="checkbox"/> Help people make up their minds. <input type="checkbox"/> Communicate easily, tactfully, and courteously. <input type="checkbox"/> Learn about other cultures.	<input type="checkbox"/> Tactful <input type="checkbox"/> Self-motivated <input type="checkbox"/> Works well with others <input type="checkbox"/> Outgoing <input type="checkbox"/> Slow to anger	<input type="checkbox"/> English/Language Arts/Speech <input type="checkbox"/> Foreign Language <input type="checkbox"/> Social Sciences <input type="checkbox"/> Marketing <input type="checkbox"/> Food Services	Total
	<input type="checkbox"/> Care about people, their needs, and their problems. <input type="checkbox"/> Volunteer my services for the good of the community. <input type="checkbox"/> Listen to other people's viewpoints. <input type="checkbox"/> Help people be at their best. <input type="checkbox"/> Work with people from preschool age to old age. <input type="checkbox"/> Think of new ways to do things. <input type="checkbox"/> Make friends with different kinds of people.	<input type="checkbox"/> Good communicator/good listener <input type="checkbox"/> Caring <input type="checkbox"/> Non-materialistic <input type="checkbox"/> Uses intuition (instinct) and logic <input type="checkbox"/> Non-judgmental	<input type="checkbox"/> English/Language Arts <input type="checkbox"/> Psychology/Sociology <input type="checkbox"/> Family and Consumer Sciences <input type="checkbox"/> Finance <input type="checkbox"/> Foreign Language	Total
	<input type="checkbox"/> Work with computers. <input type="checkbox"/> Reason clearly and logically to solve complex problems. <input type="checkbox"/> Use machines, techniques, and processes. <input type="checkbox"/> Read technical materials and diagrams and solve technical problems. <input type="checkbox"/> Adapt to change. <input type="checkbox"/> Play video games and figure out how they work. <input type="checkbox"/> Concentrate for long periods without being distracted.	<input type="checkbox"/> Logical/analytical thinker <input type="checkbox"/> See details in the big picture <input type="checkbox"/> Persistent <input type="checkbox"/> Good concentration skills <input type="checkbox"/> Precise and accurate	<input type="checkbox"/> Math <input type="checkbox"/> Science <input type="checkbox"/> Computer Technology <input type="checkbox"/> Communications <input type="checkbox"/> Graphic Design	Total
	<input type="checkbox"/> Work under pressure or in the face of danger. <input type="checkbox"/> Make decisions based on my own observations. <input type="checkbox"/> Interact with other people. <input type="checkbox"/> Be in positions of authority. <input type="checkbox"/> Respect rules and regulations. <input type="checkbox"/> Debate and win arguments. <input type="checkbox"/> Observe and analyze people's behavior.	<input type="checkbox"/> Adventurous <input type="checkbox"/> Dependable <input type="checkbox"/> Community-minded <input type="checkbox"/> Decisive <input type="checkbox"/> Optimistic	<input type="checkbox"/> English/Language Arts <input type="checkbox"/> Psychology/Sociology <input type="checkbox"/> Social Studies <input type="checkbox"/> Law Enforcement <input type="checkbox"/> First Aid/First Responder	Total
	<input type="checkbox"/> Work with hands and learn that way. <input type="checkbox"/> Put things together. <input type="checkbox"/> Do routine, organized and accurate work. <input type="checkbox"/> Perform activities that produce real, concrete results. <input type="checkbox"/> Apply math to work out solutions. <input type="checkbox"/> Use hand and power tools and operate equipment machinery. <input type="checkbox"/> Visualize objects in three dimensions from flat drawings.	<input type="checkbox"/> Practical <input type="checkbox"/> Observant <input type="checkbox"/> Physically active <input type="checkbox"/> Step-by-step thinker <input type="checkbox"/> Coordinated	<input type="checkbox"/> Math-Geometry <input type="checkbox"/> Chemistry <input type="checkbox"/> Trade and Industry Courses <input type="checkbox"/> Physics <input type="checkbox"/> English/Language Arts	Total
	<input type="checkbox"/> Shop and go to the mall. <input type="checkbox"/> Be in charge. <input type="checkbox"/> Make displays and promote ideas. <input type="checkbox"/> Give presentations and enjoy public speaking. <input type="checkbox"/> Persuade people to buy products or to participate in activities. <input type="checkbox"/> Communicate my ideas to other people. <input type="checkbox"/> Take advantage of opportunities to make extra money.	<input type="checkbox"/> Enthusiastic <input type="checkbox"/> Competitive <input type="checkbox"/> Creative <input type="checkbox"/> Self-motivated <input type="checkbox"/> Persuasive	<input type="checkbox"/> English/Language Arts <input type="checkbox"/> Math <input type="checkbox"/> Business Education/Marketing <input type="checkbox"/> Economics <input type="checkbox"/> Computer Applications	Total
	<input type="checkbox"/> Interpret formulas. <input type="checkbox"/> Find the answers to questions. <input type="checkbox"/> Work in a laboratory. <input type="checkbox"/> Figure out how things work and investigate new things. <input type="checkbox"/> Explore new technology. <input type="checkbox"/> Experiment to find the best way to do something. <input type="checkbox"/> Pay attention to details and be precise.	<input type="checkbox"/> Detail oriented <input type="checkbox"/> Inquisitive <input type="checkbox"/> Objective <input type="checkbox"/> Methodical <input type="checkbox"/> Mechanically inclined	<input type="checkbox"/> Drafting/Computer-Aided Drafting <input type="checkbox"/> Math <input type="checkbox"/> Science <input type="checkbox"/> Electronics/Computer Networking <input type="checkbox"/> Technology Education	Total
	<input type="checkbox"/> Travel. <input type="checkbox"/> See well and have quick reflexes. <input type="checkbox"/> Solve mechanical problems. <input type="checkbox"/> Design efficient processes. <input type="checkbox"/> Anticipate needs and prepare to meet them. <input type="checkbox"/> Drive or ride. <input type="checkbox"/> Move things from one place to another.	<input type="checkbox"/> Realistic <input type="checkbox"/> Mechanical <input type="checkbox"/> Coordinated <input type="checkbox"/> Observant <input type="checkbox"/> Planner	<input type="checkbox"/> Math <input type="checkbox"/> Trade and Industry Courses <input type="checkbox"/> Physical Sciences <input type="checkbox"/> Economics <input type="checkbox"/> Foreign Language	Total

Indicate your top three Clusters of Interest based on the number of checks in the Survey:

1	Agriculture, Food & Natural Resources	P. 14	9	Hospitality & Tourism	P. 34
2	Architecture & Construction	P. 17	10	Human Services	P. 36
3	Arts, A/V Technology & Communications	P. 20	11	Information Technology	P. 38
4	Business Management & Administration	P. 22	12	Law, Public Safety, Corrections & Security	P. 40
5	Education & Training	P. 25	13	Manufacturing	P. 42
6	Finance	P. 28	14	Marketing	P. 44
7	Government & Public Administration	P. 30	15	Science, Technology, Engineering & Mathematics	P. 46
8	Health Science	P. 31	16	Transportation, Distribution & Logistics	P. 48

For more information see your career or school counselor, visit a career and technical center, an institution of higher education, Job Service North Dakota, or go to

RURReady.ND.gov

How to Use THE OCCUPATIONAL SECTION

		National	5 ND Outlook 2014-2024				ND Earnings Outlook	6
Occupational Title/Description 1	Holland Code 2 Related Occupations 3	4 Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s) 7	
Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree								
Agricultural and Food Science Technicians Work with agricultural and food scientists in food, fiber, and animal research, production, and processing. Conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects.	Realistic Dairy Technologist; Feed Research Technician	27,500	216	89	Below Avg Growth	\$34,470 \$47,490		
Environmental Science and Protection Technicians, Including Health Perform laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health, under the direction of an environmental scientist, engineer, or other specialist.	Investigative Groundwater Monitoring Technician; Pollution Control Technician	34,600	122	54	Below Avg Growth	\$34,650 \$53,270	 	

1 Occupational Title/Description - Most commonly used title for the occupation and a description that provides a general idea of the tasks associated with this occupation.

2 Holland Type
Artistic (Creator): Artistic occupations frequently involve working with forms, designs and patterns. They often require self-expression, and the work can be done without following a clear set of rules.
Conventional (Organizer): Conventional occupations frequently involve following set procedure and routines. These occupations can include working with data and details more than ideas. Usually there is a clear line of authority to follow.
Enterprising (Persuader): Enterprising occupations frequently involve starting and carrying out projects. These occupations can involve leading people and making decisions. Sometimes they require risk taking and often deal with business.
Investigative (Thinker): Investigative occupations frequently involve working with ideas and require an extensive amount of thinking. These occupations can involve searching for the facts and figuring out problems mentally.
Realistic (Do-er): Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals and real-world materials like wood, tools and machinery. Many of the occupations require working outside and do not involve a lot of paperwork or working closely with others.
Social (Helper): Social occupations frequently involve working with, communicating with, and teaching people. These occupations often involve helping or providing service to others.

For more information about Holland Types, visit www.nd.gov/cte/crn/docs/HollandTypes.pdf

3 Related Occupations - A listing of occupations that are similar in work performed on the job.

4 National - Number Employed indicates the number of persons employed in this occupation in the United States.

5 ND Outlook 2014-2024

Number Employed indicates the number of persons employed in this occupation in North Dakota.

Total Openings include growth and replacement openings.

Long-Term Growth Outlook

Exceptional: 50% or more per year
 High Growth: 20.0-49.9% per year
 Average to Near Average Growth: 10-19.9% per year
 Below Average Growth: 0.1-9.9% per year
 Zero to Declining Growth: 0% or less per year

6 ND Earnings Outlook

Annual Entry-Level Wages - The average of the bottom 1/3 of overall wage distribution.

Annual Average Wages - Estimated total wages of an occupation divided by its employment.

The salaries shown reflect a 40-hour work week for many occupations. Be aware it is possible to earn a considerably higher salary in those occupations where overtime wages are paid.

7 Occupational Trait(s)

- High Wage - North Dakota average annual salary of at least \$50,696.
- High Skill - Occupation requires at least one year of post high school education or training.
- Bright Outlook - Occupation has a very high number of annual openings and/or is a fast-growing occupation in North Dakota.
- Energy Occupations in North Dakota.
- Occupation exists in the military.

Career Clusters The occupational and related information in the Career Outlook is broken into sixteen Career Clusters, listed below. You are encouraged to use the Career Clusters Interest Survey on pages 10 and 11 or in RUReady.ND.gov to help identify the cluster or clusters most closely related to your personal preferences and interests.

Career Cluster	Page	Career Cluster	Page
Agriculture, Food & Natural Resources	P. 14	Law, Public Safety, Corrections & Security	P. 40
Architecture & Construction	P. 17	Manufacturing	P. 42
Arts, A/V Technology & Communications	P. 20	Marketing	P. 44
Business Management & Administration	P. 22	Energy	P. 45
Education & Training	P. 25	Science, Technology, Engineering & Mathematics	P. 46
Finance	P. 28	Transportation, Distribution & Logistics	P. 48
Government & Public Administration	P. 30		
Health Science	P. 31		
Hospitality & Tourism	P. 34		
Human Services	P. 36		
Information Technology	P. 38		


The occupation information in this section is taken from the 2014-2024 North Dakota Long-Term Employment Projections. This publication is a long-term look at future employment levels by industry and occupation updated every two years by Job Service North Dakota, working closely with the Bureau of Labor Statistics. Wages were updated using the 2017 Edition of the North Dakota Employment and Wages by Occupation, which is updated annually by Job Service North Dakota. When current figures are not included in these publications, every effort is made to obtain current and relevant data from those fields.

Occupational Section Directory














Accountants and Auditors.....23	Curators.....34	Lawyers.....40	Radio, Cellular, and Tower Equipment
Administrative Services Managers.....23	Customer Service Representatives.....22	Legal Secretaries.....22	Installers and Repairers.....20
Advertising and Promotions Managers.....44	Dental Hygienists.....31	Librarians.....25	Radiologic Technologists.....31
Advertising Sales Agents.....22	Dentists.....32	Loan Interviewers and Clerks.....28	Real Estate Agents.....44
Aerospace Engineering and Operations	Desktop Publishers.....20	Loan Officers.....28	Receptionists and Information Clerks.....22
Technicians.....48	Detectives and Criminal Investigators.....40	Lodging Managers.....34	Recreation Workers.....34
Agricultural and Food Science	Diagnostic Medical Sonographers.....31	Logisticians.....49	Rehabilitation Counselors.....33
Technicians.....14	Dietitians and Nutritionists.....32	Machinists.....42	Residential Advisors.....36
Agricultural Engineers.....46	Directors, Religious Activities and	Maids and Housekeeping Cleaners.....34	Respiratory Therapists.....31
Agricultural Inspectors.....14	Education.....36	Maintenance and Repair Workers,	Retail Salespersons.....44
Aircraft Mechanics and Service	Education Administrators, Elementary and	General.....17	Rotary Drill Operators, Oil and Gas.....14
Technicians.....48	Secondary School.....25	Management Analysts.....24	Sales Agents, Securities.....28
Ambulance Drivers and Attendants, Except	Education Administrators, Preschool and	Market Research Analysts and Marketing	Sales Engineers.....44
Emergency Medical Technicians.....48	Childcare Center/Program.....25	Specialists.....44	Sales Managers.....44
Amusement and Recreation	Educational, Guidance, School, and	Marketing Managers.....44	Sales Representatives, Wholesale and
Attendants.....34	Vocational Counselors.....25	Marriage and Family Therapists.....37	Manufacturing, Technical and Scientific
Animal Trainers.....34	Electrical Engineers.....46	Massage Therapists.....36	Products.....43
Appraisers and Assessors of Real Estate.....44	Electrical Power-Line Installers and	Materials Engineers.....18	Sawing Machine Setters, Operators, and
Architects.....18	Repairers.....17	Mechanical Drafters.....46	Tenders, Wood.....42
Architectural and Civil Drafters.....17	Electricians.....17	Mechanical Engineer.....47	Secretaries and Administrative
Architectural and Engineering	Electronic Home Entertainment Equip.	Mechanical Engineering	Assistants.....22
Managers.....18	Installers and Repairers.....20	Technicians.....42,46	Self-Enrichment Education Teachers.....25
Athletic Trainers.....31	Elementary School Teachers, Except Special	Medical Records and Health Information	Service Unit Operators, Oil, Gas and
Audio and Video Equipment	Education.....25	Technicians.....31	Mining.....14
Technicians.....20	Eligibility Interviewers, Government	Medical Secretaries.....22	Shipping, Receiving, and Traffic Clerks.....48
Automotive Service Technicians and	Programs.....30	Meeting, Convention, and Event	Skincare Specialists.....36
Mechanics.....48	Emergency Management Directors.....30	Planners.....34	Social and Community Service
Bakers.....34	Emergency Medical Technicians.....31	Merchandise Displayers and Window	Managers.....40
Bank Tellers.....28	Environmental Engineers.....15,46	Trimmers.....44	Social and Human Service Assistants.....36
Billing and Posting Clerks.....22	Environmental Science and Protection	Microbiologists.....47	Software Developers, Applications.....39
Bookkeeping, Accounting, and Auditing	Technicians, Including Health.....14,46	Mining and Geological Engineers.....47	Soil and Plant Scientists.....16
Clerks.....22	Epidemiologists.....46	Morticians, Undertakers, and Funeral	Special Education Teachers, Kindergarten
Brokerage Clerks.....28	Excavating, Loading Machine and Dragline	Directors.....36	and Elementary School.....26
Budget Analysts.....23	Operators.....14	Multimedia Artists and Animators.....20	Speech-Language Pathologists.....33
Bus and Truck Mechanics/Diesel Engine	Farm Equipment Mechanics and Service	Multiple Machine Tool Setters, Operators	Stock Clerks and Order Fillers.....22
Specialists.....48	Technicians.....14	and Tenders, Metal and Plastic.....42	Structural Iron and Steel Workers.....17
Bus Drivers, School or Special Client.....48	Farmworkers and Laborers, Crop, Nursery,	Museum Technicians and	Structural Metal Fabricators and Fitters.....42
Cabinetmakers and Bench Carpenters.....42	and Greenhouse.....14	Conservators.....21	Supervisors of Construction Trades
Career/Technical Education Teachers,	Film and Video Editors.....20	Network and Computer Systems	Workers.....17
Secondary School.....25	Financial Analysts.....28	Administrators.....39	Supervisors of Office/Administrative
Cargo and Freight Agents.....48	Financial Examiners.....30	Nurses, Licensed Practical.....31	Support Workers.....22
Carpenters.....17	Financial Managers.....28	Nurses, Registered.....31	Supervisors of Production and Operating
Cashiers.....44	Firefighters.....40	Nursing Instructors and Teachers,	Workers.....42
Cement Masons and Concrete	Fish and Game Wardens.....14	Postsecondary.....25	Supervisors of Retail Sales Workers.....44
Finishers.....17	Fitness Trainers and Aerobics	Occupational Health and Safety	Surgical Technologists.....31
Chemical Technicians.....46	Instructors.....25	Specialists.....16	Surveying and Mapping
Child, Family, and School Social Workers.....36	Food Scientists and Technologists.....15	Occupational Therapists.....32	Technicians.....17,46
Childcare Workers.....25,36	Food Service Managers.....34	Operations Research Analysts.....39	Surveyors.....18
Chiropractors.....31	Forensic Science Technicians.....40	Ophthalmic Medical Technicians.....31	Tank Car, Truck, and Ship Loaders.....48
Civil Engineering Technicians.....46	Freight, Stock and Material Handlers.....48	Optometrists.....32	Tax Examiners and Collectors, and Revenue
Civil Engineers.....18	General and Operations Managers.....23	Packers and Packagers, Hand.....48	Agents.....30
Claims Adjusters, Examiners, and	Graphic Designers.....20	Paralegals and Legal Assistants.....40	Tax Preparers.....28
Investigators.....28	Hairdressers, Hairstylists, and	Parts Salespersons.....14	Teacher Assistants.....25
Clergy.....36	Cosmetologists.....36	Payroll and Timekeeping Clerks.....22	Telecommunications Equipment Installers
Clinical, Counseling, and School	Healthcare Social Workers.....36	Personal Care Aides.....36	and Repairers.....20
Psychologists.....25,36	Heating and Air Conditioning	Petroleum Engineers.....47	Telecommunications Line Installers and
Commercial and Industrial Designers.....20	Mechanics.....17	Pharmacy Technicians.....31	Repairers.....20
Commercial Pilots.....48	Highway Maintenance Workers.....17	Photographers.....20	Title Examiners, Abstractors, and
Community Health Workers.....36	Home Health Aides.....31	Physical Therapists.....33	Searchers.....40
Compliance Officers.....14	Hosts and Hostesses.....34	Physician Assistants.....33	Tool and Die Makers.....42
Computer Network Support	Hotel, Motel, and Resort Desk Clerks.....34	Plumbers and Pipefitters.....17	Training and Development Specialists.....24
Specialists.....38,46	Human Resources Specialists.....23	Police and Sheriff's Patrol Officers.....40	Transportation Security Screeners.....40
Computer Operators.....38	Hydrologists.....46	Police, Fire, and Ambulance	Transportation, Storage, and Distribution
Computer Systems Analysts.....39	Industrial Engineers.....46	Dispatchers.....40	Managers.....49
Computer User Support Specialists.....38	Industrial Machinery Mechanics.....42	Postmasters and Mail Superintendents.....30	Travel Agents.....34
Computer-Controlled Machine Tool	Industrial Production Managers.....43	Power Plant Operators.....42	Veterinarians.....16
Operators, Metal and Plastic.....42	Industrial Truck and Tractor Operators.....48	Preschool Teachers, Except Special	Veterinary Technologists and
Conservation Scientists.....15	Information Security Analysts.....39	Education.....25	Technicians.....14
Construction Equipment Operators	Inspectors, Testers, Sorters, Samplers, and	Probation Officers and Correctional	Waiters and Waitresses.....34
(Operating Engineers).....17	Weighers.....42	Treatment Specialists.....37,40	Water and Wastewater Treatment Plant and
Construction Managers.....18	Instructional Coordinators.....25	Procurement Clerks.....22	System Operators.....14
Correctional Officers and Jailers.....40	Insurance Claims and Policy Processing	Producers and Directors.....21	Web Developers.....38
Cost Estimators.....18	Clerks.....22,28	Production, Planning, and Expediting	Welders, Cutters, Solderers, and
Court Reporters.....22	Insurance Sales Agents.....28	Clerks.....42	Brazers.....42
Credit Analysts.....28	Interior Designers.....20	Property, Real Estate, and Community	Wind Turbine Service Technicians.....18
Credit Authorizers, Checkers, and	Judicial Law Clerks.....40	Association Managers.....44	Writers and Authors.....21
Clerks.....28	Landscaping and Groundskeeping	Public Relations Specialists.....24	Zoologists and Wildlife Biologists.....47
Credit Counselors.....28	Workers.....17	Radio and Television Announcers.....20	

AGRICULTURE, FOOD & NATURAL RESOURCES

The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Agricultural and Food Science Technicians Work with agricultural and food scientists in food, fiber, and animal research, production, and processing. Conduct tests and experiments to improve yield and quality of crops or to increase the resistance of plants and animals to disease or insects.	Realistic Dairy Technologist; Feed Research Technician	27,500	216	89	Below Avg Growth	\$34,470 \$47,490	
Environmental Science and Protection Technicians, Including Health Perform laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health, under the direction of an environmental scientist, engineer, or other specialist.	Investigative Groundwater Monitoring Technician; Pollution Control Technician	34,600	122	54	Below Avg Growth	\$34,650 \$53,270	 
Excavating, Loading Machine and Dragline Operators Operate or tend machinery equipped with scoops, shovels, or buckets, to excavate and load loose materials.	Realistic Backhoe Operator; Shovel Operator	50,600	616	72	Zero to Declining Growth	\$39,240 \$65,210	 
Farm Equipment Mechanics and Service Technicians Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.	Realistic Combine Mechanic; Irrigation Equipment Mechanic	42,500	1,238	293	Zero to Declining Growth	\$38,130 \$50,890	
Farmworkers and Laborers, Crop, Nursery, and Greenhouse Manually plant, cultivate, and harvest vegetables, fruits, and field crops. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; applying pesticides; or cleaning, grading, sorting, packing, and loading harvested products.	Realistic Greenhouse Transplanter	503,700	3,889	1,036	Zero to Declining Growth	\$20,480 \$29,350	
Fish and Game Wardens Patrol assigned area to prevent fish and game law violations. Investigate reports of damage to crops or property by wildlife. Compile biological data.	Realistic Conservation Enforcement Officer; Wildlife Officer	7,000	52	19	Below Avg Growth	\$36,270 \$60,100	
Parts Salespersons Sell spare and replacement parts and equipment in repair shop or parts store.	Enterprising Auto Parts Salesperson; Electronic Parts Salesperson	251,900	1,793	398	Zero to Declining Growth	\$25,520 \$38,950	
Rotary Drill Operators, Oil and Gas Set up or operate a variety of drills to remove underground oil and gas, or remove core samples for testing during oil and gas exploration.	Realistic Oil Well Cable Tool Operator	16,700	1,880	643	Zero to Declining Growth	\$41,900 \$64,310	 
Service Unit Operators, Oil, Gas and Mining Operate equipment to increase oil flow from producing wells or to remove stuck pipe, casing, tools, or other obstructions from drilling wells. May also perform similar services in mining exploration operations.	Realistic Well Servicing Rig Operator	41,400	2,785	952	Zero to Declining Growth	\$42,580 \$65,280	 
Veterinary Technologists and Technicians Perform medical tests in a laboratory environment for use in the treatment and diagnosis of diseases in animals.	Realistic Veterinary Laboratory Technician; Veterinary Surgery Technologist; Veterinary X-ray Operator	102,000	162	51	High Growth	\$27,030 \$36,290	
Water and Wastewater Treatment Plant and System Operators Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or wastewater.	Realistic Liquid Waste Treatment Plant Operator; Sewage Plant Operator	119,200	539	205	Avg to Near Avg Growth	\$26,090 \$46,700	
Postsecondary Programs – Bachelor’s Degree or Higher							
Agricultural Inspectors Inspect agricultural commodities, processing equipment, and facilities, and fish and logging operations, to ensure compliance with regulations and laws governing health, quality, and safety.	Realistic Grain Sampler; Milk Tester	15,600	260	89	Below Avg Growth	\$28,510 \$38,110	 
Compliance Officers Examine, evaluate, and investigate eligibility for or conformity with laws and regulations governing contract compliance of licenses and permits, and perform other compliance and enforcement inspection and analysis activities not classified elsewhere.	Conventional Driver’s License Examiner; Environmental Compliance Inspector	288,300	1,161	264	Below Avg Growth	\$42,090 \$63,520	  

AGRICULTURE, FOOD & NATURAL RESOURCES

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – Bachelor’s Degree or Higher							
Conservation Scientists Manage, improve, and protect natural resources to maximize their use without damaging the environment. May instruct in best ways to use crop rotation, contour plowing, or terracing to conserve soil and water.	Investigative	22,300	277	152	Avg to Near Avg Growth	\$43,770	   
	Range Ecologist; Soil Conservationist					\$65,100	
Environmental Engineers Research, design, plan, or perform engineering duties in the prevention, control, and remediation of environmental hazards using various engineering disciplines. Work may include waste treatment, site remediation, or pollution control technology.	Investigative	53,800	164	63	Avg to Near Avg Growth	\$54,430	  
	Pollution Control Engineer; Soil Engineer; Water Treatment Engineer					\$77,750	
Food Scientists and Technologists Use chemistry, microbiology, engineering, and other sciences to study the principles underlying the processing and deterioration of foods. Apply food science knowledge to determine best ways to process, package, preserve, store, and distribute food.	Investigative	17,000	56	20	Below Avg Growth	\$35,760	
	Dairy Bacteriologist; Food Safety Scientist					\$48,460	
 Energy Occupation		 Bright Outlook		 High Skill		 High Wage	
						 Military	

My passion for agriculture was developed at a very young age. I worked on our family farm, gaining valuable knowledge and skill sets that will be used for many years. I want a career that allows me to care for the land, work hard and help people in the process. With the help of my agriculture education teacher and guidance counselor, I chose the college and degree program that was right for me.

My college major is the Agriculture Industry and Technology program at Bismarck State College (BSC). This program appealed to me because it prepares students for a career in agronomy. Agronomy is the science and technology of producing and using plants for food, fuel, fiber and land reclamation.

There are two lab days per week in the campus greenhouse. The labs are used to mimic crop production, and population staging is used to demonstrate crop yield loss due to weeds. Class time is used to learn about several sectors of agriculture including economics, finance, sales, crop production, soil science, and precision farming.

My mandatory internship will be completed at Wholesale Ag Products in Carrington. The internship is worth two credits and requires 400 hours of on-the-job experience. The internship provides a hands-on learning opportunity and helps students get experience in their field of study. It may also lead to future job opportunities. I will graduate with an Associate in Applied Science (A.A.S.) degree in April of 2019.

My career goal is to become a sales agronomist in the upper Midwest. I enjoy communicating with people and offering help whenever possible. I hope to be able to offer customers quality agricultural products through a reputable company.

I learned how to be a better communicator and leader because of my involvement in FFA at Carrington High School. I held three offices within my local chapter and competed in local and state events. In preparation for the state Farm Business Management contest, our team put in many hours of practice and hard work for two years. We won the state competition and placed 5th at the National FFA Convention. FFA has taught me that hard work pays off, and if you want something, you must be dedicated to reaching the goal.

The one thing every student should know is that it is okay to be unsure about your degree or career path. Don't be afraid to try new things. You will meet great people and have great experiences.








CHASE PEDERSON

Carrington
High School

Sales Agronomist



AGRICULTURE, FOOD & NATURAL RESOURCES

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – Bachelor’s Degree or Higher							
Occupational Health and Safety Specialists Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors.	Investigative Environmental Health Sanitarian; Health and Safety Inspector; Industrial Hygienist	83,700	421	84	Zero to Declining Growth	\$60,010 \$84,730	  
Soil and Plant Scientists Conduct research in production, yield, and management of crops and agricultural plants or trees, shrubs, and nursery stock. May classify and map soils and investigate effects of alternative practices on soil and crop productivity.	Investigative Arboreal Scientist; Horticulturist; Plant Physiologist	19,900	239	83	Zero to Declining Growth	\$51,760 \$80,730	
Veterinarians Diagnose, treat, or research diseases and injuries of animals. Includes veterinarians who conduct research and development, inspect livestock, or care for pets and companion animals.	Investigative Veterinary Medicine Scientist	79,600	222	61	Avg to Near Avg Growth	\$70,130 \$96,090	  

North Dakota Agriculture, Food & Natural Resources Related Postsecondary Programs

Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Agribusiness Systems	Agribusiness Management (BSC, NDSCS) Agriculture, Business and Industry (WSC) Agricultural Sales and Service (DSU) Agriculture transfer (BSC, DCB, NDSCS) Farm Business Management (LRSC) Farm Management Education (BSC) Farm/Ranch Management (BSC, DSU, NDSCS) Precision Agriculture (LRSC, NDSCS)	Agribusiness (NDSU) Agricultural and Biosystems Engineering (NDSU) Agricultural Communication (NDSU) Agricultural Economics (NDSU) Agricultural Education (NDSU) Agricultural Studies (DSU) Agricultural Systems Management (NDSU) General Agriculture (NDSU)	Agribusiness and Applied Economics (NDSU) Agricultural and Biosystems Engineering (NDSU) Agricultural Education (NDSU) Extension Education (NDSU) International Agribusiness (NDSU)
Animal Systems	Animal Science (NDSCS) Pre-Veterinary Medicine transfer (BSC, DCB, TMCC, WSC) Ranch Management (NDSCS) Wildlife and Fisheries Technology (DCB) Wildlife Management transfer (DCB, NDSCS, TMCC)	Animal Science (NDSU) Equine Science (NDSU) Fisheries and Wildlife Biology/Science (UND, VCSU) Vet Technology (NDSU) Wildlife Mgmt and Conservation Biology (UM)	Animal Science (NDSU)
Environmental Service Systems	Energy Management (BSC) Environmental Science/Technology (DCB, NHSC, SBC, TMCC, UTTC) Home Energy Audit (SBC) Water & Wastewater Technology (BSC)	Environmental Design (NDSU) Environmental Science (DSU, NHSC, SBC, UTTC)	Environmental and Conservation Science (NDSU) Environmental Science (SBC) Environmental Engineering (NDSU, UND)
Food Products & Processing Systems		Food Safety (NDSU) Food Science (NDSU)	Cereal Science (NDSU) Food Safety (NDSU)
Natural Resources Systems	Land Management (DCB) Natural Resources Management (DCB, CCCC) Water Treatment Technician (SBC)	Natural Resources Management (NDSU)	Natural Resources Management (NDSU) Energy Systems Engineering (UND)
Plant Systems	Agriculture Industry and Technology-Agronomy (BSC) Aquaponics (DCB) Crop Production Sales & Technology (NDSCS) Urban Forest Management (DCB) Sustainable Vegetable Production (DCB)	Crop and Weed Sciences (NDSU) Horticulture (NDSU) Range Science (NDSU) Soil Science (NDSU)	Botany (NDSU) Horticulture (NDSU) Plant Pathology (NDSU) Plant Sciences (NDSU) Range Science (NDSU) Soil Science (NDSU)
Power, Structure, & Technical Systems	Caterpillar Dealer Service Technician (NDSCS) Diesel Technology: Case IH, Komatsu (NDSCS) Energy Services & Renewable Technician (BSC) John Deere Tech (NDSCS) Nuclear Power Technology (BSC) Oil Drilling/Operations (SBC, TMCC) Petroleum Production Technology (BSC, WSC) Power Plant Technology (BSC) Process Plant/Power Plant Technology (BSC, TMCC) Wind Energy Technician (LRSC)	Energy Management (BSC)	

North Dakota Postsecondary Institutions Offering Agriculture, Food & Natural Resources Related Programs

BSC	Bismarck State College	www.bismarckstate.edu	NDSU	ND State University	www.ndsu.edu
CCCC	Cankdeska Cikana Community College	www.littlehoop.edu	NHSC	Nueta Hidatsa Sahnish College	http://nhsc.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	SBC	Sitting Bull College	www.sittingbull.edu
DSU	Dickinson State University	www.dickinsonstate.edu	TMCC	Turtle Mountain Community College	www.tm.edu
LRSC	Lake Region State College	www.lrsc.edu	UND	University of North Dakota	www.und.edu
NDSCS	ND State College of Science	www.ndscs.edu	VCSU	Valley City State University	www.vcsu.edu
			WSC	Williston State College	www.willistonstate.edu

ARCHITECTURE & CONSTRUCTION

Designing, planning, managing, building and maintaining the built environment.



		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree							
Architectural and Civil Drafters Prepare detailed drawings of architectural and structural features of buildings or drawings and topographical relief maps used in civil engineering projects, such as highways, bridges, and public works.	Artistic	99,600	334	56	Below Avg Growth	\$38,460	
	Building Drafter; Civil Computer-Aided Design Technician					\$49,990	
Carpenters Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; and wood stairways, window and door frames, and hardwood floors. May also install cabinets, siding, drywall and insulation.	Realistic	1,025,600	3,256	590	Below Avg Growth	\$32,900	 
	Building Carpenter; Wood Stair Builder; Wood Floor Layer					\$42,860	
Cement Masons and Concrete Finishers Smooth and finish surfaces of poured concrete, such as floors, sidewalks, roads, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs, or gutters; patch voids; and use saws to cut expansion joints.	Realistic	178,900	1,500	183	Zero to Declining Growth	\$34,030	
	Cement Patcher; Concrete Floor Installer; Pool Installer					\$46,130	
Construction Equipment Operators (Operating Engineers) Operate power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement.	Realistic	371,100	4,611	769	Zero to Declining Growth	\$43,910	  
	Bulldozer Operator; Steam Shovel Operator					\$59,320	
Electrical Power-Line Installers and Repairers Install or repair cables or wires used in electrical power or distribution systems. May erect poles and light or heavy duty transmission towers.	Realistic	120,900	830	343	Below Avg Growth	\$60,100	 
	Powerline Examiner; Electrical High Tension Tester					\$79,590	
Electricians Install, maintain and repair electrical wiring, equipment and fixtures. Ensure that work is in accordance with relevant codes.	Realistic	666,900	4,479	684	Zero to Declining Growth	\$41,760	  
	Solar Photovoltaic Electrician					\$62,780	
Heating and Air Conditioning Mechanics Install or repair heating, central air conditioning or refrigeration systems, including oil burners, hot-air furnace and heating stoves.	Realistic	332,900	956	146	Zero to Declining Growth	\$37,630	  
	Plumbers, Sheet Metal Workers					\$57,860	
Highway Maintenance Workers Maintain highways, municipal and rural roads, airport runways, and rights-of-way. Duties include patching broken or eroded pavement, repairing guard rails, highway markers, and snow fences. May also mow along roads or plow snow from roadway.	Realistic	149,900	1,148	387	Below Avg Growth	\$37,410	
	Road Patcher; Road Sign Installer					\$49,010	
Landscaping and Groundskeeping Workers Landscape or maintain grounds of property using hand or power tools or equipment. Workers perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, and sprinkler installation.	Realistic	1,197,900	2,753	828	Avg to Near Avg Growth	\$22,470	
	Greenskeeper; Hedge Trimmer					\$31,670	
Maintenance and Repair Workers, General Keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; carpentry; repairing or installing equipment; and repairing buildings, floors, or stairs.	Realistic	1,432,600	3,960	1,185	Below Avg Growth	\$28,780	
	Building Maintenance Mechanic					\$41,290	
Plumbers and Pipefitters Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems. Includes sprinklerfitters.	Realistic	480,600	1,932	255	Zero to Declining Growth	\$36,110	 
	Fire Sprinkler Installer; Sprinkler Fitter					\$49,950	
Structural Iron and Steel Workers Raise, place and unite iron or steel girders, columns and other structural members to form structures or structural frameworks.	Realistic	70,200	323	65	Below Avg Growth	\$35,260	 
	Bridge Ironworker; Precast Concrete Ironworker					\$55,300	
Supervisors of Construction Trades Workers Directly supervise and coordinate activities of construction or extraction workers.	Enterprising	602,500	5,381	427	Zero to Declining Growth	\$51,570	
	Quarry Boss; Rig Supervisor					\$74,220	
Surveying and Mapping Technicians Perform surveying and mapping duties to obtain data used for construction, mapmaking, boundary location, and mining. May calculate mapmaking information and create maps from surveying notes, aerial photography, satellite data, or other maps.	Realistic	60,200	229	26	Zero to Declining Growth	\$32,950	 
	Field Map Technician; GIS Mapping Technician					\$48,020	

Energy Occupation





















Bright Outlook

High Skill

High Wage

Military

ARCHITECTURE & CONSTRUCTION

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Wind Turbine Service Technicians Inspect, diagnose, adjust, or repair wind turbines. Perform maintenance on wind turbine equipment including resolving electrical, mechanical, and hydraulic malfunctions.	Realistic Wind Energy Technician	5,800	158	177	Exceptional	\$45,390 \$60,360	 
Postsecondary Programs – Bachelor’s Degree or Higher							
Architects Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property.	Artistic Architectural Designer; Structural Architect	128,800	281	80	Avg to Near Avg Growth	\$48,200 \$76,860	  
Architectural and Engineering Managers Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields.	Enterprising Engineering Design Manager; Mechanical Engineering Director	180,100	332	133	Below Avg Growth	\$91,180 \$126,130	  
Civil Engineers Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, dams, irrigation projects, pipelines, power plants, and water and sewage systems.	Realistic Bridge Engineer; Highway Engineer	303,500	1,105	504	Avg to Near Avg Growth	\$53,420 \$78,880	  
Construction Managers Plan, organize, direct, and coordinate through subordinate personnel activities concerned with erection, alteration, maintenance, and repair of structures, facilities, and systems such as houses, office buildings, bridges, roads, and similar structures.	Enterprising Construction Superintendent; General Contractor	403,800	845	118	Zero to Declining Growth	\$63,800 \$105,050	  
Cost Estimators Prepare cost estimates for product manufacturing, construction projects or services to aid management in bidding or determining price of product or service.	Conventional Job Cost Estimator; Production Cost Estimator	217,900	673	192	Zero to Declining Growth	\$42,550 \$64,930	 
Materials Engineers Develop machinery and processes to manufacture materials for use in products that must meet specialized design and performance specifications. Develop new uses for known materials.	Investigative Automotive Sheet Metal Engineer; Forensic Materials Engineer; Metallographer	27,000	28	17	High Growth	\$58,310 \$73,740	
Surveyors Make exact measurements and determine property boundaries. Provide data relevant to shape, contour, gravitation, location, elevation, or dimension of land or land features.	Realistic Land Surveyor; Mineral Surveyor	44,800	402	142	Below Avg Growth	\$51,000 \$71,630	  



Energy Occupation



Bright Outlook



High Skill



High Wage



Military

North Dakota Architecture & Construction Related Postsecondary Programs

Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Construction	Building Construction Technology (BJCC, NDSCS, TMCC) Building Trades (SBC) Carpentry (BSC, BJCC, CCCC) Concrete Technology (TMCC) Construction Management/Technology (CCCC, NDSCS, NHSC) Electrical Technology (NDSCS, SBC, TMCC) Framing (SBC) Heating, Ventilation & Air Conditioning (BSC, NDSCS, TMCC) Interior Construction (SBC) Lineworker (Electrical) (BSC) Plumbing (NDSCS) Residential Electric (TMCC)	Construction Engineering (NDSU) Construction Management (NDSU, UM)	Construction Management (NDSU)
Design/ Pre-Construction	Architectural Drafting and Estimating Technology (NDSCS) Geomatics (Land Surveying) (BSC) Land Surveying and Civil Engineering Technology (NDSCS)	Architecture (NDSU) Civil Engineering (NDSU) Construction Engineering (NDSU) Landscape Architecture (NDSU)	Architecture (NDSU) Civil Engineering (NDSU)
Maintenance/ Operations	Mechanical Systems (NDSCS) Mechanical Maintenance Technology (BSC)		

North Dakota Postsecondary Institutions Offering Architecture & Construction Related Programs

BSC	Bismarck State College	www.bismarckstate.edu	NHSC	Nueta Hidatsa Sahnish College	http://nhsc.edu
BJCC	Burdick Job Corps Center	http://quentinnburdick.jobcorps.gov	SBC	Sitting Bull College	www.sittingbull.edu
CCCC	Cankdeska Cikana Community College	www.littlehoop.edu	TMCC	Turtle Mountain Community College	www.tm.edu
NDSCS	ND State College of Science	www.ndscs.edu	UM	University of Mary	www.umary.edu
NDSU	ND State University	www.ndsu.edu			

APPRENTICESHIP

TADD MCFARLAND

Ellendale High School



Tadd McFarland attended North Dakota State College of Science (NDSCS) in Wahpeton after graduating from Ellendale High School. He earned an Associate of Applied Science (A.A.S.) degree in Architectural Drafting and Estimating Technology. Over the next several years, Tadd used his drafting and estimating skills in Fargo, Las Vegas and Seattle. Tadd returned to North Dakota after his employment in Seattle changed and he decided to pursue a different career path that was more hands-on, and provided a lot of variety from day-to-day.

As an apprentice affiliated with the Plumbers & Steamfitters UA Local 300 Joint Apprenticeship and Training Committee (JATC), Tadd is learning about plumbing, heating, air conditioning and welding technologies. The JATC has approximately 90 apprentices working throughout North Dakota and South Dakota.

This apprenticeship program lasts five years and requires a minimum of 9,000 hours: 1,230 classroom hours and the remainder at worksites. Upon completion of their hours, pipefitter apprentices take a piping mastery exam. Tadd attends classroom sessions each Thursday for four hours, and every other Saturday for eight hours. Robert Gibb and Sons, a Fargo mechanical contracting company, supervises Tadd at the worksites. He has been involved with several projects including the Sanford Hospital in Fargo, Dickinson Middle School, Fargo City Hall, Moorhead K-4 elementary school and the Dunn County Courthouse expansion.

Tadd has earned Fargo Gas and Fargo Mechanical Piping licenses which allow him to work on projects within Fargo. Reciprocity allows these licenses to also be used at other sites in North Dakota, including Bismarck and Minot. He will also complete the North Dakota plumbing test for licensure as a journeyman.



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ARTS, A/V TECHNOLOGY & COMMUNICATIONS

Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree							
Audio and Video Equipment Technicians Set up and operate audio and video equipment including microphones, sound speakers, video screens, projectors, video monitors, recording equipment, connecting wires and cables, sound and mixing boards, and related electronic equipment.	Realistic Multimedia Production Assistant; Video Control Operator	83,300	87	40	High Growth	\$31,240 \$49,110	 
Desktop Publishers Format typescript and graphic elements using computer software to produce publication-ready material.	Artistic Electronic Publisher	14,600	105	28	Zero to Declining Growth	\$30,510 \$45,760	
Electronic Home Entertainment Equip. Installers and Repairers Repair, adjust, or install audio or television receivers, stereo systems, camcorders, video systems, or other electronic home entertainment equipment.	Realistic Home Theater Installer; Satellite Dish Installer; Wireless Internet Installer	31,700	277	39	Zero to Declining Growth	\$36,780 \$50,970	
Photographers Photograph people, landscapes, merchandise, or other subjects, using digital or film cameras and equipment. May develop negatives or use computer software to produce finished images and prints. Includes scientific photographers, aerial photographers, and photojournalists.	Artistic Medical Photographer; Wedding Photographer	147,300	165	41	Below Avg Growth	\$26,880 \$35,050	
Radio and Television Announcers Speak or read from scripted materials, such as news reports or commercial messages, on radio or television. May announce artist or title of performance, identify station, or interview guests.	Artistic Game Show Host; Talk Show Host	41,300	245	71	Zero to Declining Growth	\$18,670 \$33,810	
Radio, Cellular, and Tower Equipment Installers and Repairers Repair, install or maintain radio transmitting, broadcasting and receiving equipment, and two-way radio communications systems used in cellular telecommunications, mobile broadband, aircraft-to-ground communications, and radio equipment.	Realistic Radio Frequency Technician; Two-Way Radio Technician	14,500	58	11	Avg to Near Avg Growth	\$25,940 \$49,630	
Telecommunications Equipment Installers and Repairers Service or repair telephone, cable television, Internet, and other communications equipment on customers' property. May install communications equipment or communications wiring in buildings.	Realistic Fiber Optic Installer; Private Branch Exchange (PBX) Installer and Repairer	237,600	580	113	Avg to Near Avg Growth	\$43,280 \$64,030	  
Telecommunications Line Installers and Repairers Install and repair telecommunications cable, including fiber optics.	Realistic Cable Television Installer; FIOS Line Installer	106,100	271	49	Zero to Declining Growth	\$38,060 \$60,460	
Postsecondary Programs – Bachelor's Degree or Higher							
Commercial and Industrial Designers Develop and design manufactured products, such as cars, home appliances, and children's toys. Combine artistic talent with research on product use, marketing, and materials to create the most functional and appealing product design.	Artistic Automobile Designer; Package Designer	39,700	35	10	Below Avg Growth	\$27,700 \$43,200	
Film and Video Editors Edit moving images on film, video, or other media. May edit or synchronize soundtracks with images.	Artistic Cue Selector; Film Editor; Television News Video Editor	34,200	58	29	High Growth	\$37,490 \$65,730	
Graphic Designers Design or create graphics to meet a client's specific commercial or promotional needs, such as packaging, displays or logos.	Artistic Catalogue Illustrator	266,300	717	171	Zero to Declining Growth	\$28,780 \$40,840	 
Interior Designers Plan, design, and furnish interiors of residential, commercial, or industrial buildings. Formulate design which is practical, aesthetic, and conducive to intended purposes, such as raising productivity, selling merchandise, or improving life style.	Artistic Home Lighting Advisor; Kitchen Designer	66,500	111	37	Below Avg Growth	\$34,020 \$48,460	
Multimedia Artists and Animators Create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos, and commercials.	Artistic Special Effects Artist; 3D Animator	73,700	45	8	Zero to Declining Growth	\$43,490 \$68,390	 

 **Energy Occupation**



 **Bright Outlook**

 **High Skill**

 **High Wage**

 **Military**

ARTS, A/V TECHNOLOGY & COMMUNICATIONS

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – Bachelor’s Degree or Higher							
Museum Technicians and Conservators Restore, maintain, or prepare objects in museum collections for storage, research, or exhibit. May work with fossils, skeletal parts, or botanicals; or artifacts, textiles, or art. May identify and record objects or install and arrange them in exhibits.	Realistic	11,800	13	4	Zero to Declining Growth	\$35,030	
	Ethnographic Materials Conservator; Museum Exhibit Technician; Textile Conservator					\$50,220	
Producers and Directors Produce or direct stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Responsible for creative decisions, such as script, choice of actors or guests, set design, sound, special effects, and choreography.	Enterprising	134,700	202	76	Below Avg Growth	\$25,870	
	Casting Director; Independent Film Maker					\$41,360	
Writers and Authors Writers and authors develop written content for advertisements, books, magazines, movie and television scripts, songs, and online publications.	Enterprising	131,200	318	69	Below Avg Growth	\$30,110	
	Advertising Copy Writer; Playwright					\$48,010	



Energy Occupation



Bright Outlook



High Skill



High Wage



Military

North Dakota Arts, A/V Technology & Communications Related Postsecondary Programs

Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Audio and Video Technology and Film	Digital Audio Production (BSC) Simulation Technology (LRSC) Web Page Development and Design (BSC, DCB, NDSCS)	Multimedia Studies (MiSU) New Media & Web Design (NDSU)	Library/Information Technology (VCSU)
Journalism and Broadcasting	English transfer (BSC, DCB, TMCC) Mass Communications (BSC) Speech Communication transfer (BSC)	Broadcasting (MiSU) Communication (DSU, MaSU, MiSU, UJ, UND, VCSU) English (DSU, MaSU, MiSU, NDSU, UJ, UM, UND, VCSU) English Education (DSU, MaSU, MiSU, NDSU, UJ, UM, VCSU) Journalism (NDSU) Mass Communications (UM)	Communication (NDSU, UND) English (NDSU, UND) Mass Communications (NDSU) Speech Communication (NDSU)
Performing Arts	Music transfer (BSC, NDSCS, TMCC, WSC) Theatre Arts - Performance (BSC) Theatre Arts – Technical Theatre (BSC)	Music (DSU, MiSU, NDSU, UJ, UM, UND, VCSU) Music Education (DSU, MiSU, UM, UND, VCSU) Music Performance (UM, UND) Musical Theatre (UND) Theatre Arts (DSU, MiSU, NDSU, UND) Theatre Education (MiSU)	Music (NDSU, UND) Theatre Arts (NDSU)
Printing Technology		Print Communications Concentration (MiSU)	
Telecommunications	Electronics Technology (BSC) Electronics/Telecommunications Technology (BSC)	Communication (DSU, MaSU, MiSU, UJ, UND, VCSU) Strategic Communication (NDSU)	
Visual Arts	Art transfer (BSC, DCB, TMCC) Fine Art (CCCC) Graphic Arts/Design (CCCC, RC, UTTC) Graphic Design & Communications (BSC, DCB) Photography (DCB)	Apparel, Retail Merchandising, and Design (NDSU) Art/Art Studies (DSU, MiSU, NDSU, UJ, VCSU) Arts Administration (MiSU) Art Education (DSU, MiSU, NDSU, VCSU) Art Entrepreneurship (DSU) Fine Arts (MiSU) Graphic Design (RC) Graphic Design & New Art Media (UND) Graphic Design Technology (UJ) Interior Design (NDSU) Visual Arts (UND)	Visual Arts (UND)

North Dakota Postsecondary Institutions Offering Arts, A/V Technology & Communications Related Programs

















BSC	Bismarck State College	www.bismarckstate.edu	RC	Rasmussen College	www.rasmussen.edu
CCCC	Cankdeska Cikana Community College	www.littlehoop.edu	TMCC	Turtle Mountain Community College	www.tm.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	UTTC	United Tribes Technical College	www.uttc.edu
DSU	Dickinson State University	www.dickinsonstate.edu	UJ	University of Jamestown	www.uj.edu
MaSU	Mayville State University	www.mayvillestate.edu	UM	University of Mary	www.umary.edu
MiSU	Minot State University	www.minotstateu.edu	UND	University of North Dakota	www.und.edu
NDSCS	ND State College of Science	www.ndscs.edu	VCSU	Valley City State University	www.vcsu.edu
NDSU	ND State University	www.ndsu.edu	WSC	Williston State College	www.willistonstate.edu

BUSINESS MANAGEMENT & ADMINISTRATION

Planning, organizing, directing and evaluating business functions
essential to efficient and productive business operations.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree							
Advertising Sales Agents Sell or solicit advertising space, time, or media in publications, signage, TV, radio, or the Internet. Includes individuals who obtain leases for outdoor advertising sites or persuade retailers to use sales promotion display items.	Enterprising Advertising Account Executive; Display Sales Representative	149,900	626	185	Zero to Declining Growth	\$24,440 \$52,830	
Billing and Posting Clerks Compile, compute, and record billing, accounting, statistical, and other numerical data for billing purposes. Prepare billing invoices for services rendered or for delivery or shipment of goods.	Conventional Invoice Control Clerk; Patient Account Representative; Statement Processor	501,000	984	347	Avg to Near Avg Growth	\$28,790 \$37,820	☀️
Bookkeeping, Accounting, and Auditing Clerks Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records.	Conventional Accounts Receivable Clerk; Bookkeeper; Mortgage Accounting Clerk	1,730,500	7,588	744	Zero to Declining Growth	\$26,390 \$38,260	
Court Reporters Use verbatim methods and equipment to capture, store, retrieve, and transcribe pretrial and trial proceedings. Includes stenocaptioners who operate computerized stenographic equipment to provide captions of live or prerecorded broadcasts for hearing-impaired viewers.	Conventional Court Stenographer; Court Transcriber; Deposition Reporter	19,600	85	21	Below Avg Growth	\$41,100 \$52,940	💰 🇺🇸
Customer Service Representatives Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints.	Enterprising Customer Complaint Clerk; Warranty Clerk	2,784,500	6,956	2,843	Avg to Near Avg Growth	\$26,070 \$35,980	☀️
Insurance Claims and Policy Processing Clerks Process new insurance policies, modifications to existing policies, and claims forms. Update existing policies and company records to reflect changes requested by policyholders and insurance company representatives.	Conventional Insurance Policy Issue Clerk; Underwriting Clerk	308,500	449	213	High Growth	\$30,010 \$39,220	
Legal Secretaries Perform secretarial duties using legal terminology, procedures, and documents. Prepare legal papers and correspondence, such as summonses, complaints, motions, and subpoenas. May also assist with legal research.	Conventional Law Secretary; Legal Administrative Assistant	194,700	326	34	Zero to Declining Growth	\$32,550 \$41,520	
Medical Secretaries Perform secretarial duties using specific knowledge of medical terminology and hospital, clinic, or laboratory procedures. Duties may include scheduling appointments, billing patients, and compiling and recording medical charts, reports, and correspondence.	Conventional Dental Secretary; Psychiatric Secretary	574,200	535	184	High Growth	\$26,390 \$35,360	☀️
Payroll and Timekeeping Clerks Compile and record employee time and payroll data. May compute employees' time worked, production, and commission. May compute and post wages and deductions, or prepare paychecks.	Conventional Time and Attendance Clerk	166,300	629	169	Zero to Declining Growth	\$27,880 \$41,440	🇺🇸
Procurement Clerks Compile information and records to draw up purchase orders for procurement of materials and services.	Conventional Purchasing Clerk	74,900	437	152	Zero to Declining Growth	\$31,780 \$41,930	🇺🇸
Receptionists and Information Clerks Answer inquiries and provide information to the general public, customers, and visitors regarding activities conducted at establishment and location of departments, offices, and employees within the organization.	Conventional Appointment Clerk; Front Desk Receptionist	1,053,700	2,239	809	Below Avg Growth	\$22,010 \$30,050	☀️
Secretaries and Administrative Assistants Perform routine clerical and administrative functions such as drafting correspondence, scheduling appointments, organizing and maintaining paper and electronic files, or providing information to callers.	Conventional Office Secretary; School Secretary	2,536,200	7,607	1,075	Below Avg Growth	\$29,130 \$38,570	☀️
Stock Clerks and Order Fillers Receive, store, and issue sales floor merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves, racks, tables, or customers' orders. May mark prices on merchandise and set up sales displays.	Conventional Inventory Control Clerk; Tool Crib Attendant; Warehouse Clerk	2,008,600	5,184	1,999	Below Avg Growth	\$20,800 \$29,440	☀️
Supervisors of Office/Administrative Support Workers Directly supervise and coordinate the activities of clerical and administrative support workers.	Enterprising Clerical Supervisor; Payroll Supervisor	1,506,300	3,662	984	Avg to Near Avg Growth	\$38,160 \$55,370	☀️💰

BUSINESS MANAGEMENT & ADMINISTRATION

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – Bachelor’s Degree or Higher							
Accountants and Auditors Examine, analyze, and interpret accounting records to prepare financial statements, give advice, or audit and evaluate statements prepared by others. Install or advise on systems of recording costs or other financial and budgetary data.	Conventional Certified Public Accountant; Internal Auditor	1,397,700	4,183	1,763	Avg to Near Avg Growth	\$39,100 \$60,550	   
Administrative Services Managers Plan, direct, or coordinate one or more administrative services of an organization, such as records and information management, mail distribution, facilities planning and maintenance, custodial operations, and other office support services.	Enterprising Facilities Manager; Records and Information Manager	281,700	674	176	Below Avg Growth	\$55,340 \$85,540	  
Budget Analysts Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Analyze budgeting and accounting reports.	Conventional Budget Examiner; Cost Analyst	58,400	115	30	Below Avg Growth	\$52,820 \$68,800	  
General and Operations Managers Plan, direct, or coordinate the operations of public or private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources.	Enterprising General Superintendent; Television Station Manager	2,263,100	7,369	2,146	Below Avg Growth	\$56,670 \$103,630	  
Human Resources Specialists Perform activities in the human resource area. Includes employment specialists who screen, recruit, interview, and place workers.	Enterprising Personnel Recruiter; Staffing Coordinator	547,800	1,193	349	Below Avg Growth	\$41,010 \$57,970	  

CASONDRA RUTSCHKE

Zeeland High School

Executive Management



Growing up in Zeeland, North

Dakota, I was self-conscious and wary of trying new things. Membership in 4-H and Future Business Leaders of America (FBLA) gave me the opportunity to step outside my comfort zone. The opportunities I had with these organizations allowed me to form friendships with people from across the country while learning about different careers and discovering my strengths.

My high school did not have a wide range of opportunities, but I took advantage of all that was available to open doors and create my own possibilities. I joined FBLA as a freshman, but had no idea what a great experience it would be. After attending my first National FBLA Leadership Conference (and flying on a plane for the first time), I became more active in my chapter and held the roles of Chapter Vice President and President. I later ran for the position of Region 3 State Vice President. Although I was unsuccessful in that campaign, I didn't let it hold me back. Through FBLA, I have learned public speaking skills, responsibility, and leadership skills that I have implemented in all areas of my life. My experiences helped me grow while teaching me that I have the power to choose what I do with my talents, abilities, and characteristics.

During my first year at North Dakota

State University, I didn't get very involved on campus. My second year, I joined five honor societies, the ballroom dance team, and the College of Business Strategic Planning Committee. At the time, NDSU did not have an active Phi Beta Lambda (PBL) chapter, which is the collegiate division of FBLA. I knew PBL would be an excellent opportunity to supplement class work, and took it upon myself to reactivate the chapter. The NDSU Student Government officially recognized the chapter in October 2016.

I've held part-time jobs throughout college that have allowed me to continue developing my skills. I've also had the opportunity to be a Store Management Intern at the Bismarck Kohl's store. The internship provided me with a great experience in the working world.







I graduated in May 2018 with a Bachelor of Science degree in Business Administration and Management. Although I do not know where I will be working after graduation, I hope to someday be in executive management.


Life is not about finding the next opportunity to add an extra line to your resume, but it's about what you take out of it. The lasting memories, friends



and skills make it all worthwhile. Thank the people who helped you become a better leader, including your friends, teachers, and coaches.

BUSINESS MANAGEMENT & ADMINISTRATION

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – Bachelor’s Degree or Higher							
Management Analysts Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively.	Investigative	806,400	660	222	Avg to Near Avg Growth	\$46,580	
	Business Management Analyst; Business Process Consultant					\$76,190	
Public Relations Specialists Engage in promoting or creating an intended public image for individuals, groups, or organizations. May write or select material for release to various communications media.	Enterprising	259,600	599	132	Avg to Near Avg Growth	\$38,070	
	Press Secretary; Publicity Writer					\$59,610	
Training and Development Specialists Design and conduct training and development programs to improve individual and organizational performance. May analyze training needs.	Social	282,800	556	225	Avg to Near Avg Growth	\$40,030	
	Computer Training Specialist; Workforce Development Specialist					\$58,560	

 **Energy Occupation**

 **Bright Outlook**

 **High Skill**

 **High Wage**

 **Military**

North Dakota Business Management & Administration Related Postsecondary Programs

Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Administrative Support	Administrative Assistant (BSC, DCB, LRSC, NHSC) Bookkeeping (DCB) Computer Applications (CCCC) Computer Support Specialist (TMCC) Office Administration (BJCC, DSU) Office Technology (CCCC) Reception Services (DCB)		
Business Information Management	Accounting Technician/transfer (BSC, DCB, DSU, TMCC) Business Management (MaSU, NDSCS, UTTC, WSC) Business Technology Management (NDSCS) Computer Information Systems/Technology (DCB, UTTC) Cybersecurity and Computer Networks (BSC) Information Processing Specialist (BSC) Information Technology/Management (DCB, LRSC, NDSCS, NHSC, RC, SBC, WSC) Management Information Systems (NDSCS) Small Business Management (DCB)	Applied Business Information Technology (MiSU) Business Communication (UM) Business Management (RC) Business Process Integration Management (VCSU) Computer Information Systems (UM) Information Systems (UND) Information Technology Management (RC, UJ, UM) Management Communication (NDSU) Management Information Systems (MiSU, NDSU, UJ) New Media and Web Design (NDSU)	Information Systems (MiSU)
General Management	Business Administration (BSC, CCCC, DCB, LRSC, NDSCS, NHSC, SBC, TBC, TMCC, UTTC) Business Education transfer (BSC, DCB) Computerized Office Management (DCB, LRSC) Computer Support Specialist (BSC, TMCC) Entrepreneurship (NDSCS, TMCC) Management (BSC) Management Entrepreneurship (BSC) Management Supervision (NDSCS)	Business Administration (DSU, MaSU, NDSU, SBC, TBC, UTTC, UJ, UM, VCSU) Business Education (DSU, MiSU, UM, VCSU) Entrepreneurship (UND) International Business (MiSU) Management (MiSU, NDSU, RC) Public Administration (UND)	Business (UM) Business Administration (NDSU, UM, UND) Management (MiSU) Project Management (UM) Public Administration (UM, UND) Sports Management (MiSU)
Human Resources Management	Human Resource Management (DSU)	Human Resource Management (UND) Human Resources and Organizational Leadership (RC)	
Operations Management		Business Economics (UND) Business Management (RC, UM) Management Communication (NDSU) Operations & Supply Chain Management (UND)	

North Dakota Postsecondary Institutions Offering Business Management & Administration Related Programs



BSC Bismarck State College	www.bismarckstate.edu	RC Rasmussen College - Fargo	www.rasmussen.edu
BJCC Burdick Job Corps Center	http://quentinnburdick.jobcorps.gov	SBC Sitting Bull College	www.sittingbull.edu
CCCC Cankdeska Cikana Community College	www.littlehoop.edu	TBC Trinity Bible College	www.trinitybiblecollege.edu
DCB Dakota College at Bottineau	www.dakotacollege.edu	TMCC Turtle Mountain Community College	www.tm.edu
DSU Dickinson State University	www.dickinsonstate.edu	UTTC United Tribes Technical College	www.uttc.edu
LRSC Lake Region State College	www.lrsc.edu	UJ University of Jamestown	www.uj.edu
MaSU Mayville State University	www.mayvillestate.edu	UM University of Mary	www.umary.edu
MiSU Minot State University	www.minotstate.edu	UND University of North Dakota	www.und.edu
NDSCS ND State College of Science	www.ndscs.edu	VCSU Valley City State University	www.vcsu.edu
NDSU ND State University	www.ndsu.edu	WSC Williston State College	www.willistonstate.edu
NHSC Nueta Hidatsa Sahnish College	http://nhsc.edu		

EDUCATION & TRAINING

Planning, managing and providing education and training services, and related learning support services.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Childcare Workers Attend to children at schools, businesses, private households, and childcare institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play.	Social Au Pair; Daycare Provider; Nanny	1,216,600	4,870	2,184	Avg to Near Avg Growth	\$18,160 \$23,030	☀️
Fitness Trainers and Aerobics Instructors Instruct or coach groups or individuals in exercise activities. Demonstrate techniques and form, observe participants, and explain to them corrective measures necessary to improve their skills.	Social Personal Trainer; Yoga Instructor	299,200	885	253	Avg to Near Avg Growth	\$19,810 \$31,720	
Preschool Teachers, Except Special Education Instruct preschool-aged children in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility. May be required to hold State certification.	Social Head Start Teacher; Nursery School Teacher; Pre-Kindergarten Teacher	478,500	718	340	Avg to Near Avg Growth	\$21,170 \$33,160	☀️
Self-Enrichment Education Teachers Teach or instruct courses other than those that normally lead to an occupational objective or degree. Courses may include self-improvement, non-vocational, and non-academic subjects.	Social Citizenship Teacher; Horseback Riding Instructor	354,200	658	302	High Growth	\$19,530 \$36,920	☀️
Teacher Assistants Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher has ultimate responsibility for the design and implementation of educational programs and services.	Social Instructional Aide; Special Education Classroom Aide	1,308,100	5,019	1,770	Avg to Near Avg Growth	\$25,220 \$32,010	☀️
Postsecondary Programs – Bachelor’s Degree or Higher							
Career/Technical Education Teachers, Secondary School Teach occupational, career and technical, or vocational subjects at the secondary school level in public or private schools.	Social Auto Repair Teacher; Vocational Education Teacher	78,700	374	107	Below Avg Growth	\$41,380 \$54,170	⚙️💰
Clinical, Counseling, and School Psychologists Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems, using individual, child, family, and group therapies.	Investigative Child Psychologist; School Psychologist	147,500	313	145	High Growth	\$45,560 \$84,300	☀️⚙️💰
Education Administrators, Elementary and Secondary School Plan, direct, or coordinate the academic, administrative, or auxiliary activities of public or private elementary or secondary level schools.	Enterprising Curriculum Administrator	251,300	499	197	Avg to Near Avg Growth	\$66,710 \$92,190	⚙️💰
Education Administrators, Preschool and Childcare Center/Program Plan, direct, or coordinate the academic and nonacademic activities of preschool and childcare centers or programs.	Investigative Childcare Center Administrator; Head Start Director; Preschool Director	61,800	143	74	High Growth	\$30,630 \$44,060	☀️⚙️
Educational, Guidance, School, and Vocational Counselors Counsel individuals and provide group educational and vocational guidance services.	Social Career Counselor; Student Development Advisor	291,700	701	228	Avg to Near Avg Growth	\$42,590 \$56,260	⚙️💰
Elementary School Teachers, Except Special Education Teach students basic academic, social, and other formative skills in public or private schools at the elementary level.	Social Elementary Band Director; 4th Grade Math Teacher	1,410,900	4,283	1,394	Avg to Near Avg Growth	\$40,570 \$51,090	☀️⚙️💰
Instructional Coordinators Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors.	Social Curriculum and Assessment Director; Special Education Curriculum Specialist	163,200	291	56	Below Avg Growth	\$43,600 \$70,230	⚙️💰
Librarians Administer libraries and perform related library services. Select, acquire, catalogue, circulate, and maintain library materials; and furnish reference, bibliographical, and readers’ advisory services. May set up or work with databases and information systems to catalogue and access information.	Conventional Law Librarian; Music Librarian; School Librarian	138,200	468	116	Below Avg Growth	\$24,530 \$46,620	
Nursing Instructors and Teachers, Postsecondary Demonstrate and teach patient care in classroom and clinical units to nursing students. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.	Social Clinical Nursing Professor; Registered Nursing Professor	67,900	165	63	High Growth	\$50,020 \$76,380	⚙️💰

EDUCATION & TRAINING

Occupational Title/Description	Holland Code Related Occupations	National	ND Outlook 2014-2024			ND Earnings Outlook	Occupational Trait(s)
		Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	
Special Education Teachers, Kindergarten and Elementary School Teach elementary school subjects to educationally and physically handicapped students. Includes teachers who specialize and work with audibly and visually handicapped students and those who teach basic academic and life processes skills.	Social Severe Emotional Disorders Teacher; Special Education Preschool Teacher	188,900	679	198	Avg to Near Avg Growth	\$42,820 \$52,500	 



Energy Occupation



Bright Outlook



High Skill



High Wage



Military

North Dakota Education & Training Related Postsecondary Programs

Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Administration & Administration Support			Educational Leadership (NDSU, UND)
Professional Support Services	American Sign Language Studies (LRSC) Child Development Associate (DCB, NHSC) Communication Disorders transfer (WSC) Paraprofessional Educator (DCB) Speech Language Pathology (LRSC, WSC)	Communication Sciences & Disorders (MiSU, UND) Communication (DSU) Interpreting & Sign Language Studies (MiSU)	Communication Sciences and Disorders (UND) Counseling (NDSU) Counseling Psychology and Comm. Svcs. (UND) Counseling with K-12 School Emphasis (UND) Library and Information Technologies (VCSU) School Psychology (MiSU)
Teaching/ Training	Business Education transfer (BSC, DCB) Early Childhood Education transfer (BSC, CCCC, DCB, LRSC, MaSU, NDSCS, NHSC, RC, SBC) Education transfer (NDSCS, SBC) Elementary Education transfer (BSC, DCB, CCCC, NHSC, UTTC) Health, Physical Education and Recreation (CCCC, NDSCS, UTTC) Lakhotiyapi/Dakhotiyapi I/II (SBC) Middle School Education transfer (WSC) Physical Education transfer (BSC, DCB) Secondary Education transfer (BSC, DCB, WSC) Special Education transfer (DCB, WSC)	Agriculture Education (NDSU) Art Education (DSU, MiSU, NDSU, VCSU) Biological Science Educ. (DSU, MaSU, MiSU, NDSU, UJ, UM, VCSU) Business Education (DSU, MiSU, UM, VCSU) Career and Technical Education (VCSU) Chemistry Education (DSU, MaSU, MiSU, NDSU, UJ, VCSU) Comprehensive Science Education (NDSU) Early Childhood Educ. (MaSU, MiSU, RC, SBC, UM, UND) Earth Science Education (MiSU, NDSU) Elementary Education (DSU, MaSU, MiSU, NHSC, SBC, TBC, UTTC, UJ, UM, UND, VCSU) English as a Second Language-ESL English Education (DSU, MaSU, MiSU, NDSU, UM, VCSU) Family & Consumer Sciences Education (NDSU) French Education (NDSU) German Education (MiSU) Health Education (MaSU, NDSU, VCSU) History Education (DSU, MiSU, NDSU, UM, VCSU) Intellectual Developmental Disabilities (MiSU) Math Education (MaSU, MiSU, NDSU, UJ, UM, UND, VCSU) Music Education (DSU, MiSU, UM, UND, VCSU) Physical Educ. (DSU, MaSU, MiSU, NDSU, TBC, UJ, UM, VCSU) Physics Education (NDSU) Science Education (SBC, UND) Social Science Educ. (DSU, MaSU, MiSU, NDSU, UM, UND, VCSU) Spanish Education (MiSU, NDSU) Special Education (MaSU, MiSU, UM) Teacher Education (TMCC) Technology Education (DSU, VCSU) Theatre Arts Education (MiSU)	Agriculture Education (NDSU) Curriculum, Instruction, and Assessment (SBC, UM, UND) Early Childhood Education (UND) Education (MiSU, NDSU, UJ, UM, UND, VCSU) Educational Foundations and Research (UND) Educational Leadership (NDSU, UND) Elementary Education/Administration (UM, UND) English Language Learner (ELL) Education (UND) Family & Consumer Sciences Education (NDSU) Higher Education (UND) Instructional Design and Technology (UND) Linguistics (UND) Music Education (MiSU, UND) Reading Education (UND) Special Education (MiSU, UND) Speech-Language Pathology (MiSU) Teaching (MaSU, VCSU) Teaching and Learning (UND)

North Dakota Postsecondary Institutions Offering Education & Training Related Programs

BSC Bismarck State College	www.bismarckstate.edu	RC Rasmussen College - Fargo	www.rasmussen.edu
CCCC Cankdeska Cikana Community College	www.littlehoop.edu	SBC Sitting Bull College	www.sittingbull.edu
DCB Dakota College at Bottineau	www.dakotacollege.edu	TBC Trinity Bible College	www.trinitybiblecollege.edu
DSU Dickinson State University	www.dickinsonstate.edu	TMCC Turtle Mountain Community College	www.tm.edu
LRSC Lake Region State College	www.lrsc.edu	UTTC United Tribes Technical College	www.uttc.edu
MaSU Mayville State University	www.mayvillestate.edu	UJ University of Jamestown	www.uj.edu
MiSU Minot State University	www.minotstateu.edu	UM University of Mary	www.umary.edu
NDSCS ND State College of Science	www.ndscs.edu	UND University of North Dakota	www.und.edu
NDSU ND State University	www.ndsu.edu	VCSU Valley City State University	www.vcsu.edu
NHSC Nueta Hidatsa Sahnish College	http://nhsc.edu	WSC Williston State College	www.willistonstate.edu

I dreamed of being a teacher since I was very young. I

loved playing school as a child

and I always had a desire to help others. My passion to teach was strengthened through my Family, Career and Community Leaders of America (FCCLA) experiences.

While attending Linton High School, I was elected Chapter President and State Vice-President of Students Taking Action with Recognition (STAR) Events. I competed at the district, state, and national levels of STAR Events and attended national conventions in Chicago and Orlando. FCCLA provided countless networking opportunities. My involvement also helped me to develop strong organization, leadership, and communication skills.

I toured North Dakota State University (NDSU) before my senior year of high school and fell in love with the campus. At the time, I wasn't sure if I wanted to major in Elementary or Family and Consumer Sciences (FACS) education. After

Hailey Cimbura serving Chicken Wild Rice Casserole that she helped prepare in Food & Nutrition Prep I.



a 40-hour elementary education practicum during my sophomore year, I knew that it was FACS content that I wanted to teach. I appreciate the diverse classes and the hands-on learning that FACS allows students to take part in.

I completed my dual student teaching placement in the fall of 2017. I started at West Fargo High School and transitioned to Ben Franklin Middle School for the second half of my placement.

Student teaching taught me more than I ever could have imagined. It gave me the opportunity to think on my feet and reflect on my daily performances. My cooperating teachers provided me with great feedback and support during my experience.

As a teacher, I love that every day is so different. The relationships that I have built so far have been my favorite part of teaching. I enjoy the high-energy and fast-paced work environment. I find joy in helping others prepare for their future, and I want to be a support for young adults just as my FACS teacher was for me.

One of my greatest challenges has been making myself take breaks from lesson planning and organizing my classroom. I find it hard to take a step back when it feels like I could always be doing something to prepare for my next lesson or meeting. Some of my favorite teaching moments have been when students come back to class the next day and are still asking questions about the content.

Time management and organization are essential building blocks to being ready for life after high school. Putting plans in place to accomplish the most important tasks first will help you find balance in your busy life.

Reflect on the highlights of your day-to-day life. Stepping back to remember your purpose will refuel your drive to achieve success.



Helping students Mackenzie Motter and Emma Gullicks on a STAR Event project.

FINANCE

Planning, services for financial and investment planning, banking, insurance, and business financial management.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Bank Tellers Receive and pay out money for financial institutions. Keep records of money and negotiable instruments involved in various transactions.	Conventional Foreign Exchange Clerk; Securities Teller	502,700	1,600	731	Below Avg Growth	\$25,510 \$31,360	
Brokerage Clerks Perform duties related to the purchase, sale or holding of securities. Duties include purchases or sales, computing transfer taxes, accepting and delivering securities, tracking price fluctuations, and keeping daily records of transactions.	Conventional Commodities Clerk; Dividend Clerk	60,400	62	29	High Growth	\$35,260 \$47,240	
Claims Adjusters, Examiners, and Investigators Review settled claims to determine that payments and settlements are made in accordance with company practices and procedures. Confer with legal counsel on claims requiring litigation.	Conventional Fire Claims Adjuster; Property and Casualty Insurance Claims Examiner	311,100	883	391	Avg to Near Avg Growth	\$31,070 \$51,040	
Credit Authorizers, Checkers, and Clerks Authorize credit charges against customers’ accounts. Investigate history and credit standing of individuals or business establishments applying for credit.	Conventional Charge Authorizer; Commercial Credit Reviewer; Credit Rating Checker	38,500	232	36	Below Avg Growth	\$33,130 \$38,350	
Insurance Claims and Policy Processing Clerks Process new insurance policies, modifications to existing policies, and claims forms. Update existing policies and company records to reflect changes requested by policyholders and insurance company representatives.	Conventional Insurance Policy Issue Clerk; Underwriting Clerk	308,500	449	213	High Growth	\$30,010 \$39,220	
Insurance Sales Agents Sell life, property, casualty, health, automotive, or other types of insurance. May refer clients to independent brokers, work as an independent broker, or be employed by an insurance company.	Enterprising Life Insurance Salesperson; Pension Agent	501,400	1,738	813	High Growth	\$32,520 \$63,310	
Loan Interviewers and Clerks Interview loan applicants; investigate applicants’ backgrounds and verify references; and forward findings, reports, and documents to appraisal department. Complete transactions between loan establishment, borrowers, and sellers upon approval of loan.	Conventional Loan Processor; Mortgage Loan Closer	229,800	526	211	High Growth	\$32,430 \$40,270	
Postsecondary Programs – Bachelor’s Degree or Higher							
Credit Analysts Analyze credit data and financial statements of individuals or firms to determine the degree of risk involved in extending credit or lending money. Prepare reports with credit information for use in decision making.	Conventional Credit Assessment Analyst; Credit Risk Analyst	73,800	180	117	High Growth	\$45,920 \$64,230	
Credit Counselors Advise and educate individuals or organizations on acquiring and managing debt. May help develop debt management plans, advise on credit issues, or provide budget, mortgage, and bankruptcy counseling.	Enterprising Debt Management Counselor; Financial Assistance Advisor	38,300	77	31	High Growth	\$36,720 \$54,460	
Financial Analysts Conduct quantitative analyses of information affecting investment programs of public or private institutions.	Conventional Corporate Securities Research Analyst	296,100	287	125	High Growth	\$46,800 \$74,150	
Financial Managers Plan, direct, or coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment.	Conventional Comptroller; Financial Director	580,400	973	372	Avg to Near Avg Growth	\$70,550 \$119,240	
Loan Officers Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers on financial status and payment methods. Includes mortgage loan officers, collection analysts, loan servicing officers, and loan underwriters.	Conventional Commercial Lender; Loan Reviewer; Real Estate Loan Officer	318,600	1,118	442	High Growth	\$45,210 \$72,120	
Sales Agents, Securities Buy and sell stocks and bonds based on customers’ orders. Give advice and furnish client with information regarding possible purchases, market conditions, and prospects.	Enterprising Investment Banker; Securities Trader	375,700	449	177	High Growth	\$35,480 \$82,660	
Tax Preparers Prepare tax returns for individuals or small businesses.	Conventional Tax Advisor; Licensed Tax Consultant	95,900	148	52	Avg to Near Avg Growth	\$29,680 \$47,310	

FINANCE

North Dakota Finance Related Postsecondary Programs

Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Accounting	Accounting (WSC) Accounting transfer (BSC, DCB) Accounting Technician (DSU, TMCC) Business Administration (CCCC, LRSC)	Accounting (DSU, MiSU, NDSU, RC, UJ, UM, UND) Business Administration (DSU, MaSU, NDSU, SBC, TBC, UTTC, UJ, UM, VCSU) Managerial Finance and Accounting (UND)	Accountancy (NDSU, UND) Business Administration (NDSU)
Banking Services	Economics transfer (BSC, DCB, WSC)	Banking and Financial Economics (UND) Financial Services and Banking (UM) Economics (NDSU, UND)	Applied Economics (UND)
Business Finance	Business Administration (BSC, CCCC, DCB, LRSC, NDSCS, NHSC, SBC, TBC, TMCC, UTTC) Business Management (MaSU, NDSCS, UTTC, WSC) Business Finance (DCB, NDSCS)	Business Administration (DSU, MaSU, NDSU, SBC, TBC, UTTC, UJ, UM, VCSU) Energy Economics and Finance (MiSU) Finance (DSU, MiSU, NDSU, RC)	Business Administration (NDSU)
Insurance	Marketing (LRSC) Marketing/Entrepreneurship (NHSC) Marketing Management (DCB)	Marketing (MiSU, NDSU, RC, UM, UND)	
Securities & Investments		Financial Planning and Wealth Management (UJ) Investments (UND)	

North Dakota Postsecondary Institutions Offering Finance Related Programs

BSC	Bismarck State College	www.bismarckstate.edu	NDSU	ND State University	www.ndsu.edu
CCCC	Cankdeska Cikana Community College	www.littlehoop.edu	RC	Rasmussen College - Fargo	www.rasmussen.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	TMCC	Turtle Mountain Community College	www.tm.edu
DSU	Dickinson State University	www.dickinsonstate.edu	UJ	University of Jamestown	www.uj.edu
LRSC	Lake Region State College	www.lrsc.edu	UM	University of Mary	www.umary.edu
MaSU	Mayville State University	www.mayvillestate.edu	UND	University of North Dakota	www.und.edu
MiSU	Minot State University	www.minotstateu.edu	VCSU	Valley City State University	www.vcsu.edu
NDSCS	ND State College of Science	www.ndscs.edu	WSC	Williston State College	www.willistonstate.edu

One of my favorite high school DECA memories was at a paintball game while attending the International Career and Development Conference in Salt Lake City. I did not want to be involved with the game, so when the paintballs started flying, I hid behind one of the Bottineau chapter members. It was the first time we really met, but it has been seven years and she is still one of my best friends.

DECA played a big role in preparing me for college. I probably would not be studying accounting if it weren't for the organization. It has helped me prepare for real-world situations and gave me a different perspective. As an accounting student, it seems like I am constantly interviewing others or being interviewed. DECA gives me the confidence that I need to be successful and come out looking like a rock star.

My college major is Accounting with a minor in Information Systems. The versatility of the degree appeals to me because there are many job opportunities and I could potentially work in any part of the country. I like to travel, so there will be lots of options with this degree.

My first internship was at the UND Campus Postal Service doing data entry work. Next, I worked as an Audit Intern at the Fargo office of Eide Bailly. This was my first real introduction into the professional accounting world. I am

ENRIQUE BALDERAS

Grafton
High School

Accountant 

so thankful for the opportunity to meet the staff and other interns that helped me grow tremendously.

Recently, I worked as a "START" Intern with PricewaterhouseCoopers (PwC) in Minneapolis. I had the amazing experience of working with the client strategist in the marketing team. It gave me a different perspective on how an Accounting/Professional Service firm operates. I was also able to shadow both their tax and auditing practices. During the Summer of 2018, I will be working with PwC in their New York City office. I am very excited for this experience.









I think it's important to be involved! Don't be scared to be involved in the "nerdy" or scholastic clubs. Currently I'm involved in DECA, Alpha Kappa Psi (a business fraternity), Accounting Club, and Beta Alpha Psi (an accounting honor society). I also have recently become a founding member of UND's chapter of Alpha Sigma Phi. Personally, these organizations give me the tools needed to reach my goals in life.

After graduation, I hope to work at one of the "Big Four" accounting firms in the area of international tax consulting or work with private clients on their tax planning and execution of business practices.



GOVERNMENT & PUBLIC ADMINISTRATION

Planning and performing government functions at the local, state and federal levels, including governance, national security, foreign service, planning, revenue and taxation, and regulations.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Eligibility Interviewers, Government Programs Determine eligibility of persons applying to receive assistance from government programs and agency resources, such as welfare, unemployment benefits, social security, and public housing.	Social	143,100	436	100	Avg to Near Avg Growth	\$38,550	
	Unemployment Benefits Claims Taker					\$45,940	
Postmasters and Mail Superintendents Plan, direct, or coordinate operational, administrative, management, and supportive services of a U.S. post office.	Enterprising	14,200	118	26	Zero to Declining Growth	\$45,950	 
	Postal Supervisor; Postmaster					\$63,400	
Postsecondary Programs – Bachelor’s Degree or Higher							
Emergency Management Directors Plan and direct disaster response or crisis management activities, provide disaster preparedness training, and prepare emergency plans and procedures.	Social	10,100	77	15	Below Avg Growth	\$50,810	 
	Disaster Response Director					\$78,550	
Financial Examiners Enforce or ensure compliance with laws and regulations governing financial and securities institutions and financial and real estate transactions. May examine, verify, or authenticate records.	Enterprising	52,500	133	58	Avg to Near Avg Growth	\$44,530	 
	Bank Examiner					\$72,710	
Tax Examiners and Collectors, and Revenue Agents Determine tax liability or collect taxes from individuals or business firms according to prescribed laws and regulations.	Conventional	62,100	91	39	Below Avg Growth	\$40,180	 
	Internal Revenue Service Agent					\$63,940	

North Dakota Government & Public Administration Related Postsecondary Programs

Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Foreign Service	American Sign Language and Interpreting Studies (LRSC) Spanish transfer (WSC)	Chinese Studies (UND) French (NDSU, UJ, UND) German (MiSU, UJ, UND) International Studies (UND) Norwegian (UND) Spanish (DSU, MiSU, NDSU, UJ, UM, UND)	
Governance	Dakota Studies (CCCC) History transfer (BSC, DCB, TMCC) Native American Studies (NHSC, SBC, TMCC) Political Science transfer (BSC, TMCC, WSC)	American Indian Studies (UND) Government & Political Philosophy (UM) History (DSU, MiSU, NDSU, UJ, UM, UND, VCSU) Native American Studies (NHSC) Political Science (DSU, NDSU, UJ, UND) Public Administration (UND) Public History (NDSU)	History (NDSU, UND) Public Administration (UM, UND) Public Health (NDSU, UND)
National Security	Cybersecurity and Computer Networks (BSC) Military Science (BSC)	Unmanned Aircraft Systems Operations (UND) Military Science/ROTC (NDSU, UND)	
Planning	Economics transfer (BSC, DCB)	Behavioral Statistics (NDSU) Economics (NDSU, UND) Energy Economics and Finance (MiSU)	Applied Economics (UND) Community Development (NDSU) Transportation and Urban Systems (NDSU)
Public Management & Administration	Emergency Management transfer (NDSCS) Land Management (DCB)	Emergency Management (NDSU) Public Health Education (UND) Public Policy (UM)	Emergency Management (NDSU)
Regulation		Public Administration (UND) Public History (NDSU) Public Policy (UM)	
Revenue & Taxation	Accounting transfer (BSC, DCB, RC, TMCC, WSC) Accounting Technician/transfer (BSC, DCB, DSU, TMCC)	Accounting (DSU, MiSU, NDSU, RC, UJ, UM, UND)	Accountancy (NDSU)

North Dakota Postsecondary Institutions Offering Government & Public Administration Related Programs

BSC	Bismarck State College	www.bismarckstate.edu	RC	Rasmussen College - Fargo	www.rasmussen.edu
CCCC	Cankdeska Cikana Community College	www.littlehoop.edu	SBC	Sitting Bull College	www.sittingbull.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	TMCC	Turtle Mountain Community College	www.tm.edu
DSU	Dickinson State University	www.dickinsonstate.edu	UJ	University of Jamestown	www.uj.edu
LRSC	Lake Region State College	www.lrsc.edu	UM	University of Mary	www.umary.edu
MiSU	Minot State University	www.minotstateu.edu	UND	University of North Dakota	www.und.edu
NDSU	ND State University	www.ndsu.edu	VCSU	Valley City State University	www.vcsu.edu
NHSC	Nueta Hidatsa Sahnish College	http://nhsc.edu	WSC	Williston State College	www.willistonstate.edu

HEALTH SCIENCE

Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Dental Hygienists Clean teeth, examine patients for signs of oral diseases such as gingivitis, and provide other preventative dental care. They also educate patients on ways to improve and maintain good oral health.	Social Oral Hygienist, Dental Assistant	207,900	624	223	Avg to Near Avg Growth	\$56,340 \$67,660	   
Diagnostic Medical Sonographers Produce ultrasonic recordings of internal organs for use by physicians.	Investigative Ultrasound Technologist	67,300	97	51	High Growth	\$56,040 \$68,910	  
Emergency Medical Technicians Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities.	Social Flight Paramedic	248,000	1,032	475	High Growth	\$18,570 \$32,470	  
Home Health Aides Provide routine individualized healthcare at the patient’s home or in a care facility. Monitor or report changes in health status. May also provide personal care such as bathing, dressing, and grooming of patient.	Social Home Health Attendant; Home Hospice Aide	911,500	1,320	665	High Growth	\$27,360 \$33,940	
Medical Records and Health Information Technicians Compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the health care system.	Conventional Health Information Coder; Medical Records Specialist	206,300	901	409	High Growth	\$31,250 \$43,370	  
Nurses, Licensed Practical Care of ill, injured, convalescent or disabled persons in hospitals, nursing homes, clinics, private homes, group homes and other similar settings.	Social Certified Nurse Assistant; Registered Nurse	724,500	2,923	1,321	Avg to Near Avg Growth	\$37,560 \$45,100	   
Nurses, Registered Assess patient health problems and needs, develop and implement nursing care plans and maintain medical records. Administer nursing care to ill, injured, or disabled patients. May specialize in areas as profusionist, nurse anesthetist and other areas.	Social Coronary Care Unit Nurse; Psychiatric Nurse	2,955,200	8,392	4,030	High Growth	\$52,180 \$63,140	   
Ophthalmic Medical Technicians Assist ophthalmologists by performing ophthalmic clinical functions. May administer eye exams, administer eye medications, and instruct the patient in care and use of corrective lenses.	Conventional Ocular Care Technologist	44,500	99	36	High Growth	\$30,010 \$38,420	 
Pharmacy Technicians Assist licensed pharmacists dispense prescription medication to customers or health professionals.	Conventional Pharmacist; Pharmacy Assistant	402,500	689	166	Avg to Near Avg Growth	\$30,410 \$38,960	
Radiologic Technologists Take X-rays and CAT scans or administer non-radioactive materials into patient’s blood stream for diagnostic purposes. May also operate computed topography or magnetic resonance.	Realistic Computed Tomography (CT) Scanner Operator; X-ray Technician	205,200	443	146	Avg to Near Avg Growth	\$41,620 \$54,730	  
Respiratory Therapists Assess, treat, and care for patients with breathing disorders. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment.	Social Inhalation Therapist; Oxygen Therapist; Registered Respiratory Therapist	130,200	293	124	Avg to Near Avg Growth	\$45,080 \$54,540	 
Surgical Technologists Assist in operations, under supervision of surgeons, registered nurses or other surgical personnel.	Realistic Operating Room (OR) Tech; Surgical Scrub Technologist	107,700	318	108	High Growth	\$35,450 \$43,790	  
Postsecondary Programs – Bachelor’s Degree or Higher							
Athletic Trainers Evaluate and advise individuals to assist recovery from or avoid athletic-related injuries or illnesses, or maintain peak physical fitness. May provide first aid or emergency care.	Social Fitness Trainer	27,800	55	21	Avg to Near Avg Growth	\$34,090 \$43,120	
Chiropractors Adjust spinal column and other articulations of the body to correct abnormalities of the human body believed to be caused by interference with the nervous system. Examine patient to determine nature and extent of disorder.	Social Chiropractic Physician, Physical Therapists	47,400	310	112	Avg to Near Avg Growth	\$28,580 \$66,200	 

 **Energy Occupation**




















 **Bright Outlook**

 **High Skill**

 **High Wage**

 **Military**

HEALTH SCIENCE

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – Bachelor’s Degree or Higher							
Dentists Diagnose and treat problems with a patient’s teeth, gums, and related parts of the mouth. They provide advice and instruction on taking care of teeth and gums and on diet choices that affect oral health.	Investigative Maxillofacial Surgeon, Dental Hygienist	132,800	253	101	Avg to Near Avg Growth	\$133,980 \$238,170	  
Dietitians and Nutritionists Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease.	Investigative Clinical Dietitian, Public Health Nutritionist	68,000	212	57	Avg to Near Avg Growth	\$37,590 \$53,060	  
Occupational Therapists Assess, plan, organize and participate in rehabilitative programs that help restore vocational, homemaking and daily living skills, as well as general independence, to disabled persons.	Social Physical Therapists	130,400	410	200	High Growth	\$53,490 \$67,930	   
Optometrists Diagnose, manage, and treat conditions and diseases of the human eye and visual system. Examine eyes and visual system, diagnose problems or impairments, prescribe corrective lenses, and provide treatment.	Investigative Ophthalmologist, Optician	40,200	164	105	High Growth	\$55,670 \$134,030	   
<div> Energy Occupation Bright Outlook High Skill High Wage Military</div>							

JAMIE RONNING

Valley City
High School

Physical Therapist



My desire to become a physical therapist started with my 7th grade life science

course and athletic participation. Because of that interest, I took advanced biology and health careers while in high school. I observed local physical therapists during my health careers course, which helped me to develop plans for after high school graduation.

Through my involvement in SkillsUSA, I gained confidence, leadership, and communication skills. I was involved in leadership roles at the local and state levels, attended conferences, and served as a role model to other members. SkillsUSA provided me with opportunities for professional development early on. Those experiences helped me to feel confident in my abilities and prepared me for my future as a healthcare professional.

I earned a Bachelor of Science (B.S.) degree in Kinesiology at the University of North Dakota. My undergraduate internship was at the UND Wellness Center. The internship emphasized critical thinking skills, professionalism, and interpersonal/intrapersonal development. I was able to get hands-on experience with different fitness assessments and services, along with early experience as a certified personal trainer. In addition to learning the practical aspects of fitness assessments and training programs, I also got a large confidence boost in my ability to communicate with clients at all experience levels.











I am currently enrolled in UND's graduate program majoring in Physical Therapy. I plan to graduate in May 2020 with a doctoral degree. Students in the program participate in four nine-week clinical experiences and a one-week clinical experience. These experiences incorporate different areas of physical therapy including acute care, outpatient orthopedics, and neurological settings. It is an opportunity for students to obtain hands-on experience and apply the knowledge that has been taught during the program.

Physical therapy appeals to me because it is a rewarding career that would allow me to provide service and support to others. As patients progress throughout treatment, I can establish a good rapport with them and see the difference I make.

I am keeping an open mind as to the specific type of physical therapy I would like for employment as it is still early in my professional program. There are different areas to explore within physical therapy such as academic, research, or mentoring roles. Currently, my goal is to be employed as a physical therapist in an outpatient setting, possibly working in pediatrics.



HEALTH SCIENCE

Occupational Title/Description	Holland Code Related Occupations	National	ND Outlook 2014-2024			ND Earnings Outlook	Occupational Trait(s)
		Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	
Physical Therapists Assess, plan, organize and participate in rehabilitative programs that improve mobility, relieve pain, increase strength and decrease or prevent deformity of patients suffering from disease or injury.	Social Geriatric Physical Therapist; Physiotherapist	239,800	552	321	High Growth	\$64,840 \$77,270	  
Physician Assistants Provide healthcare services typically performed by a physician, under the supervision of a physician. Conduct complete physicals, provide treatment and counsel patients.	Social Physician Assistant; Nurse Practitioner	106,200	296	157	High Growth	\$80,460 \$117,500	  
Rehabilitation Counselors Counsel individuals to maximize the independence and employability of persons coping with personal, social, and vocational difficulties that result from birth defects, illness, disease, accidents, or the stress of daily life.	Social Veterans Rehabilitation Counselor	119,300	231	90	Avg to Near Avg Growth	\$31,690 \$45,990	 
Speech-Language Pathologists Assess and treat persons with speech, language, voice, and fluency disorders. May select alternative communication systems and teach their use. May perform research related to speech and language problems.	Social Public School Speech Therapist; Speech Clinician	145,100	580	276	High Growth	\$48,080 \$62,970	 

North Dakota Health Science Related Postsecondary Programs


Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Biotechnology Research & Development	Biotechnology transfer (NDSCS)	Bioinformatics (MiSU) Biotechnology (NDSU)	Biomedical Sciences (UND) Genomics and Bioinformatics (NDSU) International Infections Disease Management (NDSU)
Diagnostic Services	Clinical Laboratory Science transfer (NDSCS) Communication Disorders transfer (WSC) EMT – Paramedic Technician (BSC, DCB, NDSCS) Medical Assistant (DCB) Medical Laboratory Technician (BSC, TMCC) Phlebotomy Technician (BSC, TMCC) Speech Language Pathology Assistant (WSC)	Communication Sciences and Disorders (UM, UND) Medical Lab Science (MaSU, MiSU, NDSU, UM, UND, UJ, VCSU) Radiologic Science/Technology (MiSU, NDSU, UM)	Medical Lab Science (UND)
Health Informatics	Community Health (SBC, UTTC) Health Information Technician/Management (DCB, NDSCS, RC) Medical Administrative Asst. (BSC, DCB, RC) Medical Coding/Billing (DCB, NDSCS, RC, UTTC, WSC)	Community Nutrition (UND) Forensic Science (UND) Health Science (VCSU) Health Information Management (RC) Healthcare Administration (UJ, UM) Health Communication (NDSU)	Health Care Administration (UM) Public Health (NDSU, UND)
Support Services	Caregiver Services (DCB) Environmental Public Health (TMCC) Fitness Trainer Technician (LRSC) Social Work transfer (BSC, CCCC, NDSCS, TMCC, WSC)	Biomechanics (UM) Fitness and Wellness (MaSU) Exercise Science (DSU, NDSU, TBC, UM) Exercise Science and Sport Management (VCSU) Kinesiology (UND) Social Work (MiSU, UM, UND) Sports Management (MaSU, NDSU, UM)	Clinical Exercise Physiology (UM) Kinesiology (UM) Kinesiology & Public Health Education (UND) Social Work (UND) Sports Management (MiSU)
Therapeutic Services	Addictions Studies Transfer (WSC) Dental Assisting or Dental Hygiene (NDSCS) Health/Medical Assistant (BJCC, DCB) Health Professions transfer (DCB) Massage Therapy (JSHDF, JSHDGF, TSPA, WSC) Nursing (BSC, CCCC, DCB, LRSC, NDSCS, SBC, WSC) Occupational Therapy Assistant (NDSCS) Practical Nursing (BSC, DCB, DSU, NDSCS, SBC, TMCC, UTTC, WSC) Pre-Professional transfer (BSC, DCB, NDSCS, TMCC, WSC) Surgical Technology (BSC)	Addiction Studies (MiSU) Athletic Training (MiSU, UM, UND, VCSU) Corporate Fitness (MiSU) Dietetics (NDSU, UND) Nursing (DSU, MaSU, MiSU, NDSU, RC, UJ, UM, UND) Pharmaceutical Sciences (NDSU) Pre-Professional programs (MaSU, MiSU, UJ, UM, UND) Rehabilitation and Human Services (UND) Respiratory Care/Therapy (NDSU, UM)	Athletic Training (NDSU) Health, Nutrition and Exercise Science (NDSU) Medicine (UND) Nursing (NDSU, UM, UND) Nutrition & Dietetics (NDSU, UND) Occupational Therapy (UM, UND) Pharmaceutical Sciences (NDSU) Physical Therapy (UJ, UM, UND) Physician Assistant (UND) Respiratory Therapy (UM) Speech-Language Pathology (MiSU)

North Dakota Postsecondary Institutions Offering Health Science Related Programs

BSC Bismarck State College www.bismarckstate.edu	NHSC Nueta Hidatsa Sahnish College http://nhsc.edu
BJCC Burdick Job Corps Center http://quentinnburdick.jobcorps.gov	RC Rasmussen College www.rasmussen.edu
CCCC Cankdeska Cikana Community College www.littlehoop.edu	SBC Sitting Bull College www.sittingbull.edu
DCB Dakota College at Bottineau www.dakotacollege.edu	TSPA The Salon Professional Academy www.tspafargo.com
DSU Dickinson State University www.dickinsonstate.edu	TMCC Turtle Mountain Community College www.tm.edu
LRSC Lake Region State College www.lrsc.edu	UTTC United Tribes Technical College www.uttc.edu
JSHDF Josef's School of Hair Design - Fargo josefsschoolofhairdesign.com	UJ University of Jamestown www.uj.edu
JSHDGF Josef's School of Hair Design - Grand Forks josefsschoolofhairdesign.com	UM University of Mary www.umary.edu
MaSU Mayville State University www.mayvillestate.edu	UND University of North Dakota www.und.edu
MiSU Minot State University www.minotstateu.edu	VCSU Valley City State University www.vcsu.edu
NDSCS ND State College of Science www.ndscs.edu	WSC Williston State College www.willistonstate.edu
NDSU ND State University www.ndsu.edu	

HOSPITALITY & TOURISM

The management, marketing and operations of restaurants and other food services, lodging, attractions, recreation events and travel related services.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Amusement and Recreation Attendants Perform variety of attending duties at amusement or recreation facility. May schedule use of recreation facilities, maintain and provide equipment to participants of sporting events or recreational pursuits, or operate amusement concessions and rides.	Enterprising	300,000	1,066	549	Below Avg Growth	\$18,140	
	Arcade Attendant; Golf Caddy; Ski Lift Operator					\$23,620	
Animal Trainers Train animals for riding, harness, security, performance, or obedience, or assisting persons with disabilities. Accustom animals to human voice and contact; and condition animals to respond to commands.	Realistic	54,900	119	55	Avg to Near Avg Growth	\$23,180	
	Guide Dog Trainer; Horse Breaker; Marine Mammal Trainer					\$30,290	
Bakers Mix and bake ingredients to produce breads, rolls, cookies, cakes, pies, pastries, or other baked goods.	Realistic	191,000	690	220	Avg to Near Avg Growth	\$22,610	
	Bagel Maker; Pastry Finisher					\$29,370	
Food Service Managers Plan, direct, or coordinate activities of an organization or department that serves food and beverages.	Enterprising	308,700	511	159	Avg to Near Avg Growth	\$36,580	 
	Banquet Director; Food Service Director					\$55,130	
Hosts and Hostesses Welcome patrons, seat them at table or in lounge, and help ensure quality of facilities and service.	Enterprising	409,200	1,061	879	Avg to Near Avg Growth	\$17,600	
	Dining Room Host, Maitre D’					\$20,800	
Hotel, Motel, and Resort Desk Clerks Accommodate hotel, motel, and resort patrons by assigning rooms to guests, transmitting and receiving messages, keeping records of guests’ accounts, making reservations, and collecting payments from departing guests.	Conventional	252,600	1,878	971	Zero to Declining Growth	\$20,440	
	Hotel Front Desk Clerk; Hotel Registration Clerk					\$26,070	
Lodging Managers Plan, direct, or coordinate activities of an organization or department that provides lodging and other accommodations.	Enterprising	47,800	159	31	Zero to Declining Growth	\$42,490	 
	Bed and Breakfast Innkeeper; Hotel Manager					\$50,640	
Maids and Housekeeping Cleaners Perform any combination of light cleaning duties to maintain private households or commercial establishments, such as hotels and hospitals, in a clean and orderly manner. Duties may include making beds, replenishing linens, cleaning rooms and halls, and vacuuming.	Realistic	1,443,200	5,695	1,436	Below Avg Growth	\$20,270	
	Chambermaid; House Cleaner; Housekeeping Staff					\$25,700	
Recreation Workers Organize and promote activities, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies, taking into account the needs and interests of individuals or groups.	Social	390,000	757	270	Avg to Near Avg Growth	\$20,770	 
	Activities Aide; Camp Counselor; Playground Worker					\$30,870	
Travel Agents Plan itineraries and arrange accommodations and other travel services for customers. May plan and sell package tours. Compute costs, make hotel reservations, obtain collect payment.	Enterprising	81,700	142	22	Zero to Declining Growth	\$25,020	
	Travel Service Consultant, Reservation Agent					\$35,030	
Waiters and Waitresses Take orders and serve food and beverages to patrons at tables in dining establishment.	Social	2,600,500	7,616	4,365	Below Avg Growth	\$17,420	
	Flight Attendants, Hosts and Hostesses					\$20,670	
Postsecondary Programs – Bachelor’s Degree or Higher							
Curators Administer collections, such as artwork, collectibles, historic items, or scientific specimens of museums or other institutions. May conduct instructional, research, or public service activities of institution.	Enterprising	12,400	42	16	Below Avg Growth	\$36,360	 
	Photography and Prints Curator					\$48,470	
Meeting, Convention, and Event Planners Coordinate activities of staff, convention personnel, or clients to make arrangements for group meetings, events, or conventions.	Enterprising	116,700	221	51	Avg to Near Avg Growth	\$30,620	
	Conference Planner; Wedding Planner					\$48,280	

 **Energy Occupation**

 **Bright Outlook**

 **High Skill**

 **High Wage**

 **Military**

HOSPITALITY & TOURISM

North Dakota Hospitality and Tourism Related Postsecondary Programs

Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Lodging	Advertising & Marketing (DCB) Management (BSC, NDSCS) Management Entrepreneurship (BSC) Marketing/Management (DCB, LRSC, NDSCS, NHSC, RC)	Hospitality & Tourism Management (NDSU)	
Recreation, Amusements & Attractions	Advertising & Marketing (DCB) Management (BSC) Marketing/Entrepreneurship (NHSC) Marketing/Management (DCB, LRSC) Recreation Management (DCB) Theatre Arts transfer (BSC)	Apparel, Retail Merchandising and Design (NDSU) Sports Management (MaSU) Sports & Leisure Management (UM) Theatre Arts (DSU, MiSU, NDSU, UND)	Management (MiSU) Merchandising (NDSU)
Restaurant & Food/ Beverage Services	Chef Training and Management Technology (NDSCS) Culinary Arts/ Food Service (BJCC, NDSCS, UTTC) Restaurant Management (NDSCS)	Dietetics (NDSU, UND) Food Safety (NDSU) Hospitality & Tourism Management (NDSU)	Dietetics (NDSU) Food Safety (NDSU) Nutrition & Dietetics (UND)
Travel & Tourism	Advertising & Marketing (DCB) Management (BSC) Management Entrepreneurship (BSC) Marketing/Entrepreneurship (NHSC) Marketing/Management (DCB, LRSC) Reception Services (DCB)	Chinese Studies (UND) French (NDSU, UJ, UND) German (MiSU, UJ, UND) International/Intercultural Studies (TBC, UND) Interpreting & Sign Language Studies (MiSU) Marketing (MiSU, NDSU) Marketing/Management (RC, UM) Native American Studies (NHSC) Norwegian (UND) Spanish (DSU, MiSU, NDSU, UJ, UM, UND)	

North Dakota Postsecondary Institutions Offering Hospitality & Tourism Related Programs

BSC	Bismarck State College	www.bismarckstate.edu	NDSU	ND State University	www.ndsu.edu
BJCC	Burdick Job Corps Center	http://quentinnburdick.jobcorps.gov	NHSC	Nueta Hidatsa Sahnish College	http://nhsc.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	RC	Rasmussen College	www.rasmussen.edu
DSU	Dickinson State University	www.dickinsonstate.edu	TBC	Trinity Bible College	www.trinitybiblecollege.edu
LRSC	Lake Region State College	www.lrsc.edu	UTTC	United Tribes Technical College	www.uttc.edu
MaSU	Mayville State University	www.mayvillestate.edu	UJ	University of Jamestown	www.uj.edu
MiSU	Minot State University	www.minotstateu.edu	UM	University of Mary	www.umary.edu
NDSCS	ND State College of Science	www.ndscs.edu	UND	University of North Dakota	www.und.edu

CAREER AND TECHNICAL STUDENT ORGANIZATION (CTSO)



1. Which CTSO was the first to be chartered in North Dakota?

- A. DECA
- B. FBLA
- C. FCCLA
- D. FFA
- E. SkillsUSA
- F. TSA

2. Which CTSO was most recently chartered in North Dakota?

- A. DECA
- B. FBLA
- C. FCCLA
- D. FFA
- E. SkillsUSA
- F. TSA

3. Match the CTSO with the number of 2017-18 chapters in North Dakota:

- | | |
|--------------|-------|
| 1. DECA | A. 63 |
| 2. FBLA | B. 21 |
| 3. FCCLA | C. 85 |
| 4. FFA | D. 20 |
| 5. SkillsUSA | E. 69 |
| 6. TSA | F. 25 |





CTSO Trivia Answers: 1. D. FFA, 1929 2. F. TSA, 1998 3. 1. DECA (A) 63, 2. FBLA (B) 21, 3. FCCLA (C) 85, 4. FFA (D) 20, 5. SkillsUSA (E) 69, 6. TSA (F) 25

HUMAN SERVICES

Career pathways related to families and human needs such as counseling and mental health services, family and community services, personal care, and consumer services.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Childcare Workers Attend to children at schools, businesses, private households, and childcare institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play.	Social Au Pair; Daycare Provider; Nanny	1,216,600	4,870	2,184	Avg to Near Avg Growth	\$18,160 \$23,030	☀️
Community Health Workers Assist individuals and communities to adopt healthy behaviors. Conduct outreach for medical personnel or health organizations to implement programs in the community that promote, maintain, and improve individual and community health.	Social Lay Health Advocate; Peer Health Promoter	57,500	231	105	High Growth	\$31,770 \$48,110	☀️
Hairdressers, Hairstylists, and Cosmetologists Provide beauty services, such as shampooing, cutting, coloring, and styling hair, and massaging and treating scalp. May apply makeup, dress wigs, perform hair removal, and provide nail and skin care services.	Artistic Beautician; Wig Stylist	617,300	2,031	692	Below Avg Growth	\$19,700 \$30,430	☀️🧠
Massage Therapists Perform therapeutic massages of soft tissues and joints. May assist in the assessment of range of motion and muscle strength, or propose client therapy plans.	Social Deep Tissue Massage Therapist; Swedish Masseuse	160,300	379	90	Avg to Near Avg Growth	\$21,320 \$40,160	🧠
Morticians, Undertakers, and Funeral Directors Perform various tasks to arrange funeral services, such as coordinating transportation of body to mortuary, interviewing family or other authorized person to arrange details, and providing transportation for mourners.	Social Certified Mortician; Funeral Arranger	28,700	70	19	Below Avg Growth	\$40,260 \$66,770	🧠💰
Personal Care Aides Assist the elderly, convalescents, or persons with disabilities with daily living activities. Duties performed at a place of residence may include keeping house (making beds, doing laundry, washing dishes) and preparing meals. May provide assistance at non-residential care facilities.	Social Blind Escort; Elderly Companion; Geriatric Personal Care Aide	2,016,100	4,665	1,838	High Growth	\$25,370 \$31,970	☀️
Residential Advisors Coordinate activities in residential facilities in secondary and college dormitories, group homes, or similar establishments. May assist residents with problem solving or refer them to counseling resources.	Social Dormitory Counselor; House Parent; Residence Life Coordinator	118,800	920	428	Avg to Near Avg Growth	\$18,430 \$32,420	☀️
Skincare Specialists Provide skincare treatments to face and body to enhance an individual’s appearance. Includes electrologists and laser hair removal specialists.	Enterprising Facialist; Medical Esthetician	61,300	85	17	Avg to Near Avg Growth	\$22,460 \$35,500	
Social and Human Service Assistants Assist clients in identifying and obtaining available benefits, social and community services. May assist social workers with developing, organizing, and conducting programs to prevent and resolve problems relevant to substance abuse, human relationships, rehabilitation, or dependent care.	Conventional Case Work Aide; Family Service Assistant; Human Services Worker	389,800	1,328	551	High Growth	\$27,070 \$35,430	☀️
Postsecondary Programs – Bachelor’s Degree or Higher							
Child, Family, and School Social Workers Provide assistance to improve the social and psychological functioning of children and their families. May assist parents, arrange adoptions, and find foster homes. In schools, they address concerns such as teenage pregnancy, misbehavior, and truancy.	Social Certified Social Worker; Child Abuse Worker; Foster Care worker	317,600	712	284	Avg to Near Avg Growth	\$41,080 \$55,320	☀️🧠💰
Clergy Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious faith or denomination. Provide spiritual and moral guidance and assistance to members.	Social Imam; Priest; Rabbi	243,900	1,249	364	Below Avg Growth	\$29,330 \$47,120	🧠🇺🇸
Clinical, Counseling, and School Psychologists Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems, using individual, child, family, and group therapies.	Investigative Child Psychologist; School Psychologist	147,500	313	145	High Growth	\$45,560 \$84,300	☀️🧠💰🇺🇸
Directors, Religious Activities and Education Plan, direct, or coordinate programs designed to promote the religious education or activities of a denominational group. May provide counseling and guidance relative to marital, health, financial, and religious problems.	Enterprising Religious Education Director; Youth Ministry Director	147,100	296	100	Below Avg Growth	\$31,110 \$47,330	🧠
Healthcare Social Workers Provide individuals, families, and groups with the psychosocial support needed to cope with chronic, acute, or terminal illnesses. Services include advising family care givers, providing patient education and counseling, and making referrals for other services.	Social Hospice Social Worker; Oncology Social Worker; Public Health Social Worker	176,500	362	153	Avg to Near Avg Growth	\$41,400 \$50,560	🧠

HUMAN SERVICES

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – Bachelor’s Degree or Higher							
Marriage and Family Therapists Diagnose and treat mental and emotional disorders, whether cognitive, affective, or behavioral, within the context of marriage and family systems. Apply psychotherapeutic and family systems theories and techniques in the delivery of services.	Social	41,500	177	79	High Growth	\$33,930	
	Child and Family Counselor; Marriage Counselor					\$46,850	
Probation Officers and Correctional Treatment Specialists Assist in rehabilitation of law offenders in custody, on probation or parole. Make recommendations for actions involving the rehabilitation plan and treatment of offender, including education and employment stipulations.	Social	91,300	167	46	Below Avg Growth	\$44,750	
	Juvenile Probation Officer; Parole Agent; Parole Officer					\$55,260	



Energy Occupation



Bright Outlook



High Skill



High Wage



Military

North Dakota Human Services Related Postsecondary Programs












Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Consumer Services	Business Administration transfer (BSC, CCCC, DCB, NDSCS, NHSC, SBC, TBC, TMCC, UTTC) Management (BSC, RC)	Business Administration (DSU, MaSU, NDSU, SBC, TBC, UTTC, UJ, UM, VCSU) Management (MiSU, NDSU, RC)	Business Administration (NDSU)
Counseling & Mental Health Services	Addiction Studies (WSC) Psychology transfer (BSC, DCB, NDSCS, TMCC, WSC)	Addiction Studies (MiSU) Applied Psychology (MaSU) Psychology (DSU, MiSU, NDSU, UJ, UM, UND, VCSU)	Clinical Counseling (UJ) Counseling (NDSU, UM, UND) Counselor Education & Supervision (NDSU) Counseling Psychology & Community Services (UND) Forensic Psychology (UND) Psychology (NDSU, UND)
Early Childhood Development & Services	Child Development (DCB, NHSC) Early Childhood (MaSU) Early Childhood Education transfer (BSC, CCCC, DCB, LRSC, NDSCS, NHSC, SBC, RC)	Early Childhood (MaSU) Early Childhood Education (MaSU, MiSU, RC, SBC, UM, UND) Human Development & Family Science (NDSU)	Early Childhood Education (UND) Human Development & Family Science (NDSU)
Family & Community Services	Biblical Studies (TBC) Caregiver Services (DCB) Community Health Worker (SBC) Human Services/Eligibility Worker (BSC, NHSC, SBC) Human Services and Social Services (UTTC) Human Services transfer (DCB) Religion transfer (BSC, WSC) Social Work transfer (BSC, CCCC, DSU, NDSCS, TMCC, WSC)	Catholic Studies (UM) Human Development & Family Science (NDSU) Human Services (RC, VCSU) Pastoral/Youth/Children's Ministry (TBC, UM) Rehabilitation and Human Services (UND) Religious/Theology/Biblical Studies (UJ, UM, UND, TBC) Social Work (MiSU, UM, UND)	Global Theology (TBC) Human Development & Family Science (NDSU) Missions Leadership (TBC) Public Health (NDSU, UND) Rural Ministries (TBC) Social Work (UND)
Personal Care Services	Fitness Trainer Technician (LRSC) Barbering and Cosmetology (MBC) Cosmetology (JSHDF, JSHDGF, JZT, THA, TSPA) Esthetician/Skin Care (JSHDF, JSHDGF, THA, TSPA) Massage Therapy (JSHDF, JSHDGF, TSPA, WSC) Nail Technology (JSHDF, JZT, THA, TSPA)	Athletic/Fitness Training (MiSU, UM, UND) Coaching and Sport Studies (UM) Fitness and Wellness (MaSU) Exercise Science (DSU, NDSU, TBC, UJ, UM) Sport Management (MaSU, NDSU)	Advanced Athletic Training (NDSU) Clinical Exercise Physiology (UM) Exercise Science and Nutrition (NDSU)

North Dakota Postsecondary Institutions Offering Human Services Related Programs

BSC Bismarck State College	www.bismarckstate.edu	NHSC Nueta Hidatsa Sahnish College	http://nhsc.edu
CCCC Cankdeska Cikana Community College	www.littlehoop.edu	RC Rasmussen College	www.rasmussen.edu
DCB Dakota College at Bottineau	www.dakotacollege.edu	SBC Sitting Bull College	www.sittingbull.edu
DSU Dickinson State University	www.dickinsonstate.edu	THA The Hair Academy	www.thehairacademynd.com
JSHDF Josef's School of Hair Design - Fargo	josefsschoolofhairdesign.com	TSPA The Salon Professional Academy	www.tspafargo.com
JSHDGF Josef's School of Hair Design - Grand Forks	josefsschoolofhairdesign.com	TBC Trinity Bible College	www.trinitybiblecollege.edu
JZT JZ Trend Academy Paul Mitchell Partner School	www.jztrendacademy.edu	TMCC Turtle Mountain Community College	www.tm.edu
LRSC Lake Region State College	www.lrsc.edu	UTTC United Tribes Technical College	www.uttcc.edu
MaSU Mayville State University	www.mayvillestate.edu	UJ University of Jamestown	www.uj.edu
MiSU Minot State University	www.minotstateu.edu	UM University of Mary	www.umary.edu
MBC Moler Barber College	http://molerbarberfargo.com/	UND University of North Dakota	www.und.edu
NDSCS ND State College of Science	www.ndscs.edu	VCSU Valley City State University	www.vcsu.edu
NDSU ND State University	www.ndsu.edu	WSC Williston State College	www.willistonstate.edu

INFORMATION TECHNOLOGY

Careers related to the design, development, support and management of hardware, software, multimedia and systems integration services.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Computer Network Support Specialists Analyze, test, troubleshoot, and evaluate existing network systems, such as local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system.	Realistic Network Diagnostic Support Technician; Network Support Technician	198,800	453	150	High Growth	\$40,060 \$59,220	  
Computer Operators Monitor and control electronic computer and peripheral electronic data processing equipment to process business, scientific, engineering, and other data according to operating instructions. May enter commands at a computer terminal and set controls on computer and peripheral devices.	Conventional Computer Peripheral Equipment Operator; Console Operator	51,500	195	15	Zero to Declining Growth	\$35,070 \$46,940	
Computer User Support Specialists Provide technical assistance to computer users. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.	Realistic Desktop Support Specialist; End-User Support Specialist; Help Desk Technician	636,600	1,396	439	Avg to Near Avg Growth	\$35,580 \$54,660	   
Web Developers Design, create, and modify Web sites. Analyze user needs to implement content, graphics, performance, and capacity. Convert written, graphic, audio, and video components to compatible Web formats by using software.	Conventional Internet Developer; Intranet Developer; Web Designer	162,900	273	132	High Growth	\$40,960 \$61,090	  

ALLISON INMAN

**West Fargo
High School**

Technology Developer



I've wanted to study computer science since 7th grade. Webmaster was the

first Technology Student Association (TSA) event I competed in and students were required to design and build websites. I immediately fell in love with coding and knew what I wanted for a career.

The TSA competitive events gave me skills and experiences that are relevant to my future career. I've served in local and state leadership positions which helped me become a better public speaker and gave me the experience of working on teams of people. These skills have been invaluable as they helped me develop communication and collaboration skills.

Since graduating from West Fargo High School, I've been attending the Jeffery S. Raikes School of Computer Science and Management at the University of Nebraska-Lincoln. My degree will be in computer science with minors in mathematics and business. After graduation, I want to become a developer for a tech company, hopefully in machine learning or artificial intelligence.













Learning about computer science has given me a different perspective on the world because I am able to think about problems differently. While computer programming is challenging at times, I love the problem-solving aspect of it and the satisfaction when you finally get something to work!

Internships, or anything that allows you to take learning out of the classroom and apply it to a real-world situation, is extremely valuable because you will learn so much more by applying what you have learned. Taking a class is a great way to get familiar with a new subject, but you won't truly understand how something works until you get a chance to explore and use it.

My university has a program called Design Studio where the upperclassmen work in small teams with a company on a software project. I interned with Westside Community Schools and an e-commerce company in Lincoln. As an intern, I met with clients, learned about their work challenges, and developed software ideas to make their work easier.

Looking back at high school, I wish I would have reached out to industry professionals to learn more about the computer science field. A good way to figure out what you are interested in is to talk to people about what they do and explore lots of options. Having a better idea of what you want to study in college will give you opportunities to take classes you are really interested in.

INFORMATION TECHNOLOGY

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – Bachelor’s Degree or Higher							
Computer Systems Analysts Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems.	Investigative	600,500	537	205	High Growth	\$41,860	 
	Applications Analyst; Data Processing Systems Analyst; Information Systems Analyst; Systems Architect					\$72,470	
Information Security Analysts Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure.	Conventional	100,000	127	50	High Growth	\$54,390	   
	Computer Security Specialist; Internet Security Specialist					\$76,070	
Network and Computer Systems Administrators Computer networks are critical parts of almost every organization. Network and computer systems administrators are responsible for the day-to-day operation of these networks.	Investigative	391,300	523	129	Avg to Near Avg Growth	\$48,300	 
	Network Security Administrator; Wide Area Network Administrator					\$67,750	
Operations Research Analysts Formulate and apply mathematical modeling to develop and interpret information that assists management with decision making, policy formulation, or other managerial functions. May collect and analyze data and develop decision support software, service, or products.	Investigative	114,000	92	53	High Growth	\$42,600	
	Operations Analyst; Procedure Analyst; Process Analyst					\$62,150	
Software Developers, Applications Some develop the applications that allow people to do specific tasks on a computer or other device. Others develop the underlying systems that run the devices or control networks.	Investigative	831,300	1,273	551	High Growth	\$55,720	  
	Computer Applications Engineer; Software Applications Engineer					\$74,310	



Energy Occupation



Bright Outlook



High Skill



High Wage



Military

North Dakota Information Technology Related Postsecondary Programs

Pathway	Associate's Degree or Less	Bachelor's Degree	Master's Degree or More
Information Support & Services	Computer Applications (CCCC) Computer Support Specialist (TMCC) Computer Information Technology (DCB, UTTC) Computerized Office Management (DCB) Geographic Information Systems Technician (BSC) Information Systems Administrator (NDSCS) Information Processing Specialist (BSC) Information Management (NHSC) Information Technology (LRSC, NDSCS, RC, SBC, WSC) IT Forensics & Security (NDSCS) Management Information Systems transfer (NDSCS)	Applied Business Information Technology (MiSU) Computer Technology Management (DSU) Data Analytics (RC) Information Security (RC) Information Technology Management (RC, UJ, UM) Technology Education (DSU, VCSU)	Information Systems (MiSU) Library/Information Technology (VCSU)
Network Systems	Cybersecurity & Computer Networks (BSC) Information Management (NHSC) Information and Communications Technology (NDSCS, SBC) Network Systems Administration (RC)	Computer Information Systems (UM, VCSU) Information Systems (UND) Management Information Systems (NDSU, UJ)	Computer Science (NDSU, UND) Electrical and Computer Engineering (NDSU)
Programming & Software Development	Computer Science transfer (BSC, NDSCS)	Computer Engineering (NDSU) Computer Science (DSU, MiSU, NDSU, RC, UJ, UM, UND) Electrical Engineering (NDSU) Software Application Development (RC) Software Engineering (VCSU)	Electrical and Computer Engineering (NDSU) Software Engineering (NDSU)
Web & Digital Communications	Web Design (DCB, NDSCS) Web Developer/Webmaster (DCB, NDSCS) Web Page Development and Design (BSC) Web Programming (RC)	New Media and Web Design (NDSU)	

North Dakota Postsecondary Institutions Offering Information Technology Related Programs

BSC Bismarck State College	www.bismarckstate.edu	NHSC Nueta Hidatsa Sahnish College	http://nhsc.edu
CCCC Cankdeska Cikana Community College	www.littlehoop.edu	RC Rasmussen College	www.rasmussen.edu
DCB Dakota College at Bottineau	www.dakotacollege.edu	SBC Sitting Bull College	www.sittingbull.edu
DSU Dickinson State University	www.dickinsonstate.edu	TMCC Turtle Mountain Community College	www.tm.edu
LRSC Lake Region State College	www.lrsc.edu	UJ University of Jamestown	www.uj.edu
MaSU Mayville State University	www.mayvillestate.edu	UM University of Mary	www.umary.edu
MiSU Minot State University	www.minotstate.edu	UND University of North Dakota	www.und.edu
NDSCS ND State College of Science	www.ndscs.edu	VCSU Valley City State University	www.vcsu.edu
NDSU ND State University	www.ndsu.edu	WSC Williston State College	www.willistonstate.edu

LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY

Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Correctional Officers and Jailers Guard inmates in penal or rehabilitative institutions in accordance with established regulations and procedures. May guard prisoners in transit between jail, courtroom, prison, or other point.	Realistic Certified Detention Deputy; Juvenile Corrections Officer; Prison Guard	450,000	954	364	Avg to Near Avg Growth	\$37,150 \$44,310	☀️
Detectives and Criminal Investigators Conduct investigations related to suspected violations of Federal, State, or local laws to prevent or solve crimes.	Enterprising Homicide Detective; Narcotics Investigator	110,900	322	96	Below Avg Growth	\$62,230 \$84,970	💰
Firefighters Control and extinguish fires or respond to emergency situations where life, property, or the environment is at risk. Duties may include fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster assistance.	Realistic Engine Pump Operator; Forest Firefighter; Smoke Jumper	327,300	303	122	Avg to Near Avg Growth	\$25,880 \$42,380	⚙️🇺🇸
Paralegals and Legal Assistants Assist lawyers by investigating facts, preparing legal documents, or researching legal precedent. Conduct research to support a legal proceeding, to formulate a defense, or to initiate legal action.	Conventional Legal Aide	285,600	443	122	Below Avg Growth	\$29,400 \$46,840	⚙️
Police and Sheriff’s Patrol Officers Maintain order and protect life and property by enforcing local, tribal, State, or Federal laws and ordinances. Perform the following duties: patrol a specific area; direct traffic; investigate accidents; apprehend suspects, or serve legal processes of courts.	Realistic Border Patrol Officer; Motorcycle Police; Park Police; State Trooper	684,200	1,314	582	Avg to Near Avg Growth	\$42,420 \$56,420	☀️💰
Police, Fire, and Ambulance Dispatchers Operate radio, telephone, or computer equipment at emergency response centers. Receive reports of crimes, disturbances, fires, and medical or police emergencies. Relay information to law enforcement and emergency response personnel.	Conventional Emergency Operator; 911 Operator; Police Radio Dispatcher	98,600	113	28	Zero to Declining Growth	\$34,340 \$43,210	🇺🇸
Title Examiners, Abstractors, and Searchers Search real estate records, examine titles, and summarize legal or insurance documents for a variety of purposes. May compile lists of mortgages, contracts, and other instruments pertaining to titles by searching records.	Conventional Escrow Officer; Lien Searcher; Title Officer	69,000	303	67	Zero to Declining Growth	\$33,470 \$58,210	💰
Transportation Security Screeners Conduct screening of passengers, baggage, or cargo to ensure compliance with Transportation Security Administration (TSA) regulations. May operate basic security equipment such as X-ray machines and hand wands at screening checkpoints.	Realistic Airport Baggage Screener, Airport Security Screener	46,100	155	24	Below Avg Growth	\$35,280 \$43,760	
Postsecondary Programs – Bachelor’s Degree or Higher							
Forensic Science Technicians Collect, identify, classify, and analyze physical evidence related to criminal investigations. Perform tests on weapons or substances, such as fiber, hair, and tissue to determine significance to investigation. May testify as expert witnesses on evidence or crime laboratory techniques.	Investigative Ballistics Expert; Crime Scene Technician; Trace Evidence Technician	15,400	19	13	High Growth	\$26,100 \$42,240	⚙️
Judicial Law Clerks Assist judges in court or by conducting research or preparing legal documents.	Conventional Judicial Clerk	14,000	40	9	Zero to Declining Growth	\$55,340 \$71,400	⚙️💰
Lawyers Represent clients in criminal and civil litigation and other legal proceedings, draw up legal documents, or manage or advise clients on legal transactions. May specialize in a single area or may practice broadly in many areas of law.	Enterprising Attorney; Corporate Counsel; Public Defender	792,500	1,736	306	Below Avg Growth	\$62,250 \$97,680	⚙️💰🇺🇸
Probation Officers and Correctional Treatment Specialists Assist in rehabilitation of law offenders in custody, on probation or parole. Make recommendations for actions involving the rehabilitation plan and treatment of offender, including education and employment stipulations.	Social Juvenile Probation Officer; Parole Agent; Parole Officer	91,300	167	46	Below Avg Growth	\$44,750 \$55,260	⚙️💰
Social and Community Service Managers Plan, direct, or coordinate the activities of a social service program or community outreach organization. Oversee the program or organization’s budget and policies regarding participant involvement, program requirements, and benefits.	Enterprising Child Welfare Director; Family Services Director; Youth Program Director	147,300	618	260	Avg to Near Avg Growth	\$49,180 \$69,620	⚙️💰🇺🇸

LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY

North Dakota Law, Public Safety, Corrections & Security Related Postsecondary Programs

Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Correction Services	Criminal Justice Transfer (BSC, NDSCS, RC, SBC, TMCC, UTTC, WSC) Criminal Justice Technical (BSC)	Criminal Justice (MiSU, NDSU, RC, UTTC, UJ, UM, UND)	Criminal Justice (NDSU, UND)
Emergency & Fire Management Services	Advanced Emergency Medical Technician-AEMT (NDSCS) Community Paramedic (NDSCS) Emergency Management Transfer (NDSCS) Paramedic/EMT Technology (BSC, DCB, NDSCS)	Emergency Management (NDSU)	Emergency Management (NDSU)
Law Enforcement Services	Criminal Justice Transfer (BSC, NDSCS, RC, SBC, TMCC, UTTC, WSC) Criminal Justice Technical (BSC) Law Enforcement (LRSC) Peace Officer (LRSC)	Criminal Justice (MiSU, NDSU, RC, UTTC, UJ, UM, UND) Forensic Science (UND)	Criminal Justice (NDSU, UND)
Legal Services	Administrative Assistant/Legal (BSC) Law Transfer (NDSCS, WSC) Paralegal/Lay Advocate (RC, SBC) Political Science transfer (BSC, TMCC)	Political Science (DSU, NDSU, UJ, UND)	Law (UND)
Security & Protective Services	Military Science transfer (BSC)	Military Science (NDSU, UND)	

North Dakota Postsecondary Institutions Offering Law, Public Safety, Corrections & Security Related Programs

BSC	Bismarck State College	www.bismarckstate.edu	SBC	Sitting Bull College	www.sittingbull.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	TMCC	Turtle Mountain Community College	www.tm.edu
DSU	Dickinson State University	www.dickinsonstate.edu	UTTC	United Tribes Technical College	www.uttc.edu
LRSC	Lake Region State College	www.lrsc.edu	UM	University of Mary	www.umary.edu
MiSU	Minot State University	www.minotstateu.edu	UND	University of North Dakota	www.und.edu
NDSCS	ND State College of Science	www.ndscs.edu	VCSU	Valley City State University	www.vcsu.edu
NDSU	ND State University	www.ndsu.edu	WSC	Williston State College	www.willistonstate.edu
RC	Rasmussen College	www.rasmussen.edu			



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DISCOVER
career interests

DEVELOP
a rolling
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PRACTICE
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EXPLORE
college
programs




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a financial
aid plan

MANUFACTURING

Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Cabinetmakers and Bench Carpenters Cut, shape, and assemble wooden articles or set up and operate a variety of woodworking machines, such as power saws, jointers, and mortisers to surface, cut, or shape lumber or to fabricate parts for wood products.	Realistic	109,300	407	58	Below Avg Growth	\$28,160	
	Cabinet Builder; Marquetry Worker; Wood Furniture Assembler					\$37,470	
Computer-Controlled Machine Tool Operators, Metal and Plastic Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.	Realistic	145,700	121	71	High Growth	\$34,180	☀️
	Jig Boring Machine Operator for Metal; Welding Robot Operator					\$49,590	
Industrial Machinery Mechanics Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.	Realistic	346,900	1,527	563	Avg to Near Avg Growth	\$46,050	☀️ 💰
	Foundry Equipment Mechanic; Hydroelectric Machinery Mechanic					\$69,020	
Inspectors, Testers, Sorters, Samplers, and Weighers Inspect, test, sort, sample, or weigh non-agricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications.	Conventional	520,700	1,720	478	Below Avg Growth	\$32,570	💰
	Parts Quality Inspector; Petroleum Sampler					\$51,410	
Machinists Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines.	Realistic	396,200	726	309	Avg to Near Avg Growth	\$34,220	🇺🇸
	Automotive Machinist; Gear Machinist; Production Machinist					\$46,980	
Mechanical Engineering Technicians Apply theory and principles of mechanical engineering to modify, develop, test, or calibrate machinery and equipment under direction of engineering staff or physical scientists.	Realistic	46,100	168	47	Below Avg Growth	\$39,990	⚙️ 💰
	Gyroscope Engineering Technician; Heat Transfer Technician; Optomechanical Technician					\$58,170	
Multiple Machine Tool Setters, Operators and Tenders, Metal and Plastic Set up, operate, or tend more than one type of cutting or forming machine tool or robot.	Realistic	117,800	104	25	Below Avg Growth	\$27,780	
	Multi-Operation Forming Machine Setter					\$38,850	
Power Plant Operators Control, operate, or maintain machinery to generate electric power. Includes auxiliary equipment operators.	Realistic	36,100	244	103	Below Avg Growth	\$61,220	⚡️ ☀️ 💰
	Hydroelectric Plant Operator					\$82,950	
Production, Planning, and Expediting Clerks Coordinate and expedite the flow of work and materials within or between departments of an establishment according to production schedule.	Conventional	329,400	1,051	365	Below Avg Growth	\$32,440	
	Expeditor; Material Control Clerk; Production Scheduler					\$44,900	
Sawing Machine Setters, Operators, and Tenders, Wood Set up, operate, or tend wood sawing machines. May operate Computer Numerical Control equipment.	Realistic	54,800	44	16	Below Avg Growth	\$20,100	
	Buzzsaw Operator; Trim Saw Operator					\$27,790	
Structural Metal Fabricators and Fitters Fabricate, position, align, and fit parts of structural metal products.	Realistic	77,000	98	16	Zero to Declining Growth	\$33,870	
	Mill Beam Fitter; Protector Plate Attacher					\$41,020	
Supervisors of Production and Operating Workers Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.	Enterprising	621,400	2,037	406	Below Avg Growth	\$38,950	💰
	Assembly Line Supervisor; Machinist Supervisor					\$65,490	
Tool and Die Makers Analyze specifications, lay out metal stock, set up and operate machine tools, and fit and assemble parts to make and repair dies, cutting tools, jigs, fixtures, gauges, and machinists’ hand tools.	Realistic	72,500	57	3	Zero to Declining Growth	\$41,990	
	Jig Bore Tool Maker; Metal Die Finisher; Metal Gauge Maker					\$55,420	
Welders, Cutters, Solderers, and Brazers Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.	Realistic	404,800	2,791	801	Zero to Declining Growth	\$36,860	⚙️ 💰
	Arc Welder; Cutting Torch Operator					\$53,930	

MANUFACTURING

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – Bachelor’s Degree or Higher							
Industrial Production Managers Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.	Enterprising	170,600	343	128	Below Avg Growth	\$59,990	 
	Manufacturing Director; Production Control Manager					\$103,170	
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics.	Enterprising	343,600	849	175	Zero to Declining Growth	\$41,160	
	Pharmaceutical Sales Representative; Surgical Instruments Sales Representative					\$71,680	



Energy Occupation



Bright Outlook



High Skill



High Wage



Military

North Dakota Manufacturing Related Postsecondary Programs

Pathway	Associate's Degree or Less	Bachelor's Degree	Master's Degree or More
Health, Safety & Environmental Assurance	Emergency Management transfer (NDSCS) Environmental Public Health (TMCC) Environmental Technology/Science transfer (NHSC, SBC, TMCC, UTTC, WSC)	Emergency Management (NDSU) Environmental Design (NDSU) Environmental Health (DSU) Environmental Science (DSU, NHSC, SBC, UTTC, UND, VCSU) Health Communication (NDSU)	Emergency Management (NDSU) Environmental and Conservation Sciences (NDSU, SBC) Environmental Engineering (NDSU, UND)
Logistics & Inventory Control	Information Technology (DCB) Information Processing Specialist (BSC) Management Information Systems (NDSCS)	Business Process Integration Management (VCSU) Computer Technology Management (DSU) Energy Economics and Finance (MiSU) Management Information Systems (MiSU, NDSU) Operations and Supply Chain Management (UND)	Transportation and Logistics (NDSU)
Maintenance, Installation & Repair	Electrical Lineworker (BSC) Electrical Power Technology (BSC) Electrical Transmission Systems Technology (BSC) Electronics Technology (BSC) Electronics Telecommunications Technology (BSC) Mechanical Maintenance Technology (BSC) Welding Technology (BSC, BJCC, LW, NDSCS, NHSC, SBC, TMCC, UTTC, WSC) Wind Energy Technician (LRSC)		
Manufacturing Process Production Development	Power Plant Technology (BSC) Process Plant Technology (BSC, TMCC) Energy Services & Renewable Technician (BSC)	Engineering Science (UJ, UM) Industrial Engineering and Management (NDSU) Manufacturing Engineering (NDSU)	Industrial Manufacturing Engineering (NDSU) Manufacturing Engineering (NDSU)
Production	Heating, Ventilation, and Air Conditioning (BSC, NDSCS, TMCC) Precision Machining Technology (NDSCS) Robotics, Automation and Mechatronics Technology (NDSCS) Welding Technology (BSC, BJCC, LW, NDSCS, NHSC, SBC, TMCC, UTTC, WSC)	Energy Management (BSC)	Materials and Nanotechnology (NDSU)
Quality Assurance	Instrumentation and Control Technology (BSC)	Industrial Engineering and Management (NDSU)	Industrial Engineering and Management (NDSU)

North Dakota Postsecondary Institutions Offering Manufacturing Related Programs

BSC	Bismarck State College	www.bismarckstate.edu	NDSU	ND State University	www.ndsu.edu
BJCC	Burdick Job Corps Center	http://quentinnburdick.jobcorps.gov	NHSC	Nueta Hidatsa Sahnish College	http://nhsc.edu
CCCC	Cankdeska Cikana Community College	www.littlehoop.edu	SBC	Sitting Bull College	www.sittingbull.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	TMCC	Turtle Mountain Community College	www.tm.edu
DSU	Dickinson State University	www.dickinsonstate.edu	UTTC	United Tribes Technical College	www.uttc.edu
LRSC	Lake Region State College	www.lrsc.edu	UM	University of Mary	www.umary.edu
LW	Lynnes Welding – Bismarck & Fargo	http://learntoweld.com	UND	University of North Dakota	www.und.edu
MiSU	Minot State University	www.minotstateu.edu	VCSU	Valley City State University	www.vcsu.edu
NDSCS	ND State College of Science	www.ndscs.edu	WSC	Williston State College	www.willistonstate.edu

MARKETING

Planning, managing, and performing marketing activities to reach organizational objectives.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Cashiers Receive and disburse money in establishments other than financial institutions. May use electronic scanners, cash registers, or related equipment. May process credit or debit card transactions and validate checks.	Conventional Cash Register Operator; Toll Collector	3,555,500	11,307	4,982	Below Avg Growth	\$19,010 \$23,860	☀️
Merchandise Displayers and Window Trimmers Plan and erect commercial displays, such as those in windows and interiors of retail stores and at trade exhibitions.	Artistic Display Artist; Window Decorator	141,400	301	74	Below Avg Growth	\$24,590 \$33,260	
Property, Real Estate, and Community Association Managers Plan, direct, or coordinate the selling, buying, leasing, or governance activities of commercial, industrial, or residential real estate properties. Includes managers of homeowner and condominium associations, rented or leased housing units, buildings, or land (including rights-of-way).	Enterprising Apartment Manager; Building Rental Manager; Leasing Property Manager	317,300	548	187	Avg to Near Avg Growth	\$26,530 \$55,790	💰
Real Estate Agents Perform duties, such as study property listings, interview prospective clients, accompany clients to property site, discuss conditions of sale, and draw up real estate contracts.	Enterprising Apartment Rental Agent	348,800	931	135	Below Avg Growth	\$28,980 \$57,060	💰
Retail Salespersons Sell merchandise, such as furniture, motor vehicles, appliances, or apparel to consumers.	Enterprising Car Salesperson; Apparel Salesperson	4,602,500	14,163	6,726	Avg to Near Avg Growth	\$19,830 \$32,730	☀️
Supervisors of Retail Sales Workers Supervise and coordinate activities of retail sales workers in an establishment or department. Duties include management functions, such as purchasing, budgeting, accounting, and personnel work.	Enterprising Cashier Supervisor; Delicatessen Department Manager	1,532,400	4,662	1,382	Below Avg Growth	\$28,670 \$44,640	☀️
Postsecondary Programs – Bachelor’s Degree or Higher							
Advertising and Promotions Managers Plan, direct, or coordinate advertising policies and programs, such as posters, contests, coupons, or giveaways, to create extra interest in the purchase of a product or service.	Enterprising Advertising Director; Advertising Executive; Promotions Director	31,300	79	29	Below Avg Growth	\$50,160 \$94,340	⚙️💰🇺🇸
Appraisers and Assessors of Real Estate Appraise real property and estimate its fair value. May assess taxes in accordance with prescribed schedules.	Enterprising Land Appraiser; Property Appraiser	80,800	118	33	Avg to Near Avg Growth	\$38,150 \$54,560	⚙️
Market Research Analysts and Marketing Specialists Research market conditions or gather information to determine potential sales of a product or service. May gather information on competitors, prices, sales, and methods of marketing and distribution.	Investigative Research Specialist; Marketing Consultant; Marketing Forecaster	595,400	777	286	High Growth	\$35,470 \$53,180	☀️⚙️💰
Marketing Managers Plan, direct, or coordinate marketing policies and programs. Develop pricing strategies with the goal of maximizing the firm’s profits or share of the market while ensuring the firm’s customers are satisfied.	Enterprising Internet Marketing Manager; Marketing Administrator; Marketing Director	218,300	334	133	Avg to Near Avg Growth	\$61,820 \$106,000	⚙️💰
Sales Engineers Sell business goods or services, the selling of which requires a technical background equivalent to a baccalaureate degree in engineering.	Enterprising Aerospace Products Sales Engineer; Missile Navigation Systems Sales Engineer	74,900	69	37	High Growth	\$61,970 \$101,810	💰
Sales Managers Coordinate sales distribution by establishing sales territories, quotas, and goals and establish training programs for sales representatives. Analyze sales statistics gathered by staff to determine sales potential and inventory requirements and monitor the preferences of customers.	Enterprising District Sales Manager; Export Manager	385,500	817	198	Below Avg Growth	\$70,680 \$112,360	⚙️💰



Energy Occupation



Bright Outlook



High Skill



High Wage



Military

MARKETING

North Dakota Marketing Related Postsecondary Programs			
Pathway	Associate's Degree or Less	Bachelor's Degree	Master's Degree or More
Marketing Communications	Advertising and Marketing (DCB) Advertising transfer (WSC) Information & Communications Technology (NDSCS) Mass Communications (BSC)	Business Communication (UM) Communication (UND) Mass Communication (UM) Public Relations (UM)	
Marketing Management	Advertising & Marketing (DCB) Business Management (NDSCS, UTTC, WSC) Information Management (NHSC) Management (BSC) Management Entrepreneurship (BSC, NHSC) Marketing (LRSC) Marketing and Management transfer (DCB)	Business Management (RC, UM) Management (MiSU, NDSU) Management Communication (NDSU) Marketing (MiSU, NDSU, RC, UM, UND) Sport Management (MaSU, NDSU, UM)	Management (MiSU)
Marketing Research		Business Systems Analysis (RC)	
Merchandising	Marketing (LRSC)	Apparel, Retail Merchandising, & Design (NDSU) Operations and Supply Chain Management (UND)	Merchandising (NDSU)
Professional Selling	Entrepreneurship (NDSCS, TMCC) Retail and Sales Management (NDSCS) Sales (NDSCS)	Art Entrepreneurship (DSU) Computer Information Systems (VCSU) Entrepreneurship (UND)	

North Dakota Postsecondary Institutions Offering Marketing Related Programs

BSC	Bismarck State College	www.bismarckstate.edu	NHSC	Nueta Hidatsa Sahnish College	http://nhsc.edu
CCCC	Cankdeska Cikana Community College	www.littlehoop.edu	RC	Rasmussen College	www.rasmussen.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	UTTC	United Tribes Technical College	www.uttc.edu
DSU	Dickinson State University	www.dickinsonstate.edu	UM	University of Mary	www.umary.edu
LRSC	Lake Region State College	www.lrsc.edu	UND	University of North Dakota	www.und.edu
MiSU	Minot State University	www.minotstateu.edu	VCSU	Valley City State University	www.vcsu.edu
NDSCS	ND State College of Science	www.ndscs.edu	WSC	Williston State College	www.willistonstate.edu
NDSU	ND State University	www.ndsu.edu			

ENERGY

Thousands of people in the state are working in energy industry occupations doing research, production, construction, and design. Get started by learning about the opportunities now.



Power Up Your Future!


Opportunities are available in energy industries:

- Biofuel
- Coal
- Geothermal
- Hydropower
- Natural Gas
- Petroleum
- Recovered Energy
- Solar
- Wind

Training is available for energy industry jobs:

North Dakota colleges and universities, including private and tribal, have programs for certificate and degree options that can be completed in 1, 2, or 4 years. More information on the college programs can be found at RUPowerful.ND.gov.

Information can be found here:












Look for the  in the Occupational Section, pages 12-50 for energy occupations in North Dakota. Energy industry jobs can also be found at <http://jobsnd.com>

SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Chemical Technicians Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for research and development of new products or processes, quality control, maintenance of environmental standards, and other work.	Investigative Assayer; Chemical Laboratory Technician; Inorganic Chemical Technician	67,300	101	41	Avg to Near Avg Growth	\$32,160 \$48,810	
Civil Engineering Technicians Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists.	Realistic Geotechnical Engineering Technician; Highway Engineering Technician	74,500	519	190	Avg to Near Avg Growth	\$42,320 \$54,170	
Computer Network Support Specialists Analyze, test, troubleshoot, and evaluate existing network systems, such as local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system.	Realistic Network Diagnostic Support Technician; Network Support Technician	198,800	453	150	High Growth	\$40,060 \$59,220	 
Environmental Science and Protection Technicians, Including Health Perform laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health, under the direction of an environmental scientist, engineer, or other specialist.	Investigative Groundwater Monitoring Technician; Pollution Control Technician	34,600	122	54	Below Avg Growth	\$34,650 \$53,270	 
Mechanical Drafters Prepare detailed working diagrams of machinery and mechanical devices, including dimensions, fastening methods, and other engineering information.	Realistic Aeronautical Drafter; Automotive Design Drafter	64,800	171	22	Below Avg Growth	\$36,620 \$49,950	
Mechanical Engineering Technicians Apply theory and principles of mechanical engineering to modify, develop, test, or calibrate machinery and equipment under direction of engineering staff or physical scientists.	Realistic Gyroscope Engineering Technician; Heat Transfer Technician; Optomechanical Technician	46,100	168	47	Below Avg Growth	\$39,990 \$58,170	 
Surveying and Mapping Technicians Perform surveying and mapping duties to obtain data used for construction, mapmaking, boundary location, and mining. May calculate mapmaking information and create maps from surveying notes, aerial photography, satellite data, or other maps.	Realistic Field Map Technician; GIS Mapping Technician	60,200	229	26	Zero to Declining Growth	\$32,950 \$48,020	 
Postsecondary Programs – Bachelor’s Degree or Higher							
Agricultural Engineers Apply knowledge of engineering technology and science to agricultural problems concerned with power and machinery, electrification, structures, soil and water conservation, and processing of agricultural products.	Investigative Agricultural Production Engineer; Farm Equipment Engineer	2,700	21	5	Below Avg Growth	\$68,600 \$83,530	 
Electrical Engineers Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use.	Investigative Electrical Systems Engineer; Power Distribution Engineer	188,300	402	146	Avg to Near Avg Growth	\$58,240 \$84,300	
Environmental Engineers Research, design, plan, or perform engineering duties in the prevention, control, and remediation of environmental hazards using various engineering disciplines	Investigative Environmental Remediation Engineer; Pollution Control Engineer; Soil Engineer; Water Treatment Engineer	53,800	164	63	Avg to Near Avg Growth	\$54,430 \$77,750	 
Epidemiologists Investigate and describe the determinants and distribution of disease, disability, or health outcomes. May develop the means for prevention and control.	Investigative Epidemiology Investigator; Malariologist; Pharmacoepidemiologist	6,100	21	8	Below Average Growth	\$49,260 \$54,460	 
Hydrologists Research the distribution, circulation, and physical properties of underground and surface waters; and study the form and intensity of precipitation, its rate of infiltration into the soil, movement through the earth, and its return to the ocean and atmosphere.	Investigative Hydrogeologist; Surface Hydrologist	6,700	32	11	Below Avg Growth	\$57,500 \$68,740	 
Industrial Engineers Design, develop, test, and evaluate integrated systems for managing industrial production processes, including human work factors, quality control, inventory control, logistics and material flow, cost analysis, and production coordination.	Investigative Efficiency Engineer; Manufacturing Engineer	257,900	394	164	Avg to Near Avg Growth	\$50,650 \$77,010	 

SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

Occupational Title/Description	Holland Code Related Occupations	National	ND Outlook 2014-2024			ND Earnings Outlook	Occupational Trait(s)
		Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry- Level Wages Annual Average Wages	
Mechanical Engineer Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems.	Realistic Combustion Engineer; Engine Designer; Tool and Die Engineer	288,800	506	202	Below Avg Growth	\$52,410 \$76,060	 
Microbiologists Investigate the growth, structure, development, and characteristics of microscopic organisms, such as bacteria, algae, or fungi. Includes microbiologists who study the relationship between organisms and disease.	Investigative Bacteriologist; Public Health Microbiologist; Virologist	23,200	30	10	Below Avg Growth	\$45,390 \$56,760	 
Mining and Geological Engineers Conduct sub-surface surveys to identify the characteristics of potential land or mining development sites. May specify the ground support systems, processes and equipment for safe, economical, and environmentally sound extraction or underground construction activities.	Investigative Geophysical Engineer; Mineral Engineer; Seismic Engineer	7,300	124	33	Zero to Declining Growth	\$61,300 \$99,520	  
Petroleum Engineers Devise methods to improve oil and gas extraction and production and determine the need for new or modified tool designs. Oversee drilling and offer technical advice.	Investigative Natural Gas Engineer; Oil Drilling Engineer; Oil Exploration Engineer	33,700	177	48	Zero to Declining Growth	\$92,390 \$142,710	 
Zoologists and Wildlife Biologists Study the origins, behavior, diseases, genetics, and life processes of animals and wildlife. May specialize in wildlife research and management. Collect and analyze biological data to determine the environmental effects of present and potential use of land and water habitats.	Investigative Herpetologist; Ichthyologist; Marine Biologist; Ornithologist	19,400	144	44	Below Avg Growth	\$41,400 \$65,490	 

North Dakota STEM Related Postsecondary Programs



















Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Engineering & Technology	Architectural Drafting & Estimating Technology (NDSCS) Engineering Technology (BSC) Geomatics (Land Surveying) (BSC) Land Surveying and Civil Engineering (NDSCS) Nuclear Power Technology (BSC) Petroleum Engineering Technology (BSC) Engineering transfer (BSC, CCCC, DCB, DSU, NDSCS, NHSC, SBC, TMCC, UTTC, WSC) Robotics, Automation & Mechatronics Technology (NDSCS) Simulator Maintenance Technology (LRSC) Technical Studies (BSC, NDSCS)	Agricultural and Biosystems Engineering (NDSU) Chemical Engineering (UND) Civil Engineering (NDSU, UND) Computer Engineering (NDSU) Construction Engineering (NDSU) Electrical Engineering (NDSU, UND) Engineering Science (UM) Geological Engineering (UND) Industrial Engineering and Management (NDSU) Manufacturing Engineering (NDSU) Mechanical Engineering (NDSU, UND) Petroleum Engineering (UND)	Agricultural and Biosystems Engineering (NDSU) Aviation (UND) Chemical Engineering (UND) Civil Engineering (NDSU, UND) Electrical Engineering (UND) Electrical/Computer Engineering (NDSU) Environmental Engineering (NDSU, UND) Geography and Geographic Information Sci. (UND) Geological Engineering (UND) Industrial Engineering & Management (NDSU) Manufacturing Engineering (NDSU) Mechanical Engineering (NDSU, UND) Petroleum Engineering (UND) Software Engineering (NDSU)
Science & Mathematics	Biology transfer (BSC, DCB, TMCC, WSC) Biotechnology transfer (NDSCS) Chemistry transfer (BSC, DCB, NDSCS, TMCC, WSC) Environmental Science Transfer (NHSC, TMCC, UTTC, WSC) Environmental Tech - Lab & Field Technician (DCB) Environmental Tech - Natural Resource Mgmt. (DCB) Mathematics transfer (BSC, DCB, NDSCS, NHSC, TMCC, WSC) Natural Science transfer (NDSCS, TMCC) Pharmacy transfer (DCB, WSC) Physical Science transfer (NDSCS, WSC) Physics transfer (BSC, WSC) Science transfer (NHSC)	Atmospheric Sciences (UND) Biochemistry/Molecular Biology (NDSU, UJ) Biology/Biological Science (DSU, MaSU, MiSU, NDSU, UJ, UM, UND, VCSU) Biotechnology (NDSU) Chemistry (DSU, MaSU, MiSU, NDSU, UJ, UM, UND, VCSU) Computer Science (DSU, MiSU, RC, UM, UND) Earth Science Education (MiSU) Environmental Science (DSU, NHSC, SBC, UTTC, UND, VCSU) Forensic Science (UND) Geology (MiSU, NDSU, UND) Horticulture (NDSU) Mathematics (DSU, MaSU, MiSU, NDSU, UJ, UM, UND, VCSU) Microbiology (NDSU) Molecular and Integrative Biology (UND) Physics (NDSU, UND) Statistics (NDSU) Unmanned Aircraft Systems Operations (UND)	Applied Statistics (NDSU) Atmospheric Sciences (UND) Biochemistry (NDSU) Biology (NDSU, UND) Biomedical Engineering (NDSU) Chemistry (NDSU, UND) Coatings and Polymeric Materials (NDSU) Earth System Science and Policy (UND) Entomology (NDSU) Environmental & Conservation Science (NDSU, SBC) Geology (UND) Horticulture (NDSU) Materials and Nanotechnology (NDSU) Mathematics (NDSU, UND) Microbiology (NDSU) Physics/Astrophysics (NDSU, UND) Plant Pathology (NDSU) Plant Sciences (NDSU) Space Studies (UND)

North Dakota Postsecondary Institutions Offering STEM Related Programs

BSC	Bismarck State College	www.bismarckstate.edu	NHSC	Nueta Hidatsa Sahnish College	http://nhsc.edu
CCCC	Cankdeska Cikana Community College	www.littlehoop.edu	SBC	Sitting Bull College	www.sittingbull.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	TMCC	Turtle Mountain Community College	www.tm.edu
DSU	Dickinson State University	www.dickinsonstate.edu	UTTC	United Tribes Technical College	www.uttcc.edu
LRSC	Lake Region State College	www.lrsc.edu	UJ	University of Jamestown	www.uj.edu
MaSU	Mayville State University	www.mayvillestate.edu	UM	University of Mary	www.umary.edu
MiSU	Minot State University	www.minotstateu.edu	UND	University of North Dakota	www.und.edu
NDSCS	ND State College of Science	www.ndscs.edu	VCSU	Valley City State University	www.vcsu.edu
NDSU	ND State University	www.ndsu.edu	WSC	Williston State College	www.willistonstate.edu

TRANSPORTATION, DISTRIBUTION & LOGISTICS

Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Aerospace Engineering and Operations Technicians Operate, install, calibrate, and maintain integrated computer/communications systems, simulators, and other data acquisition, test, and measurement instruments and equipment.	Realistic Altitude Chamber Technician; Wind Tunnel Technician	12,100	29	11	Avg to Near Avg Growth	\$45,780 \$57,580	 
Aircraft Mechanics and Service Technicians Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. Includes helicopter and aircraft engine specialists.	Realistic Aircraft Engine Specialist; Flight Test Mechanic	132,000	268	76	Below Avg Growth	\$39,210 \$54,410	  
Ambulance Drivers and Attendants, Except Emergency Medical Technicians Drive ambulance or assist ambulance driver in transporting sick, injured, or convalescent persons. Assist in lifting patients.	Realistic Emergency Medical Services (EMS) Driver	17,300	328	129	High Growth	\$17,410 \$24,220	
Automotive Service Technicians and Mechanics Diagnose, adjust, repair, or overhaul automotive vehicles. Test vehicle components and systems, using equipment such as infrared engine analyzers, compression gauges and computerized diagnostic devices.	Realistic Transmission Specialist; Brake Technician; Hybrid Car Mechanic	749,900	2,494	668	Zero to Declining Growth	\$26,370 \$43,380	 
Bus and Truck Mechanics/Diesel Engine Specialists Diagnose, adjust, repair, or overhaul buses and trucks, or maintain and repair any type of diesel engines. Includes mechanics working primarily with automobile or marine diesel engines.	Realistic Biodiesel Engine Specialist; Tractor Trailer Mechanic	278,800	2,393	411	Zero to Declining Growth	\$37,900 \$51,940	  
Bus Drivers, School or Special Client Transport students or special clients, such as the elderly or persons with disabilities. Ensure adherence to safety rules. May assist passengers in boarding or exiting.	Realistic School Bus Operator; Special Education Bus Driver	507,900	1,388	392	Avg to Near Avg Growth	\$22,590 \$36,590	
Cargo and Freight Agents Expedite and route movement of incoming and outgoing cargo and freight shipments in airline, train, and trucking terminals, and shipping docks. Take orders from customers and arrange pickup of freight and cargo for delivery to loading platform.	Conventional Cargo Router; Freight Shipping Agent	89,800	142	61	Avg to Near Avg Growth	\$32,530 \$39,200	
Commercial Pilots Pilot and navigate the flight of fixed-winged aircraft on non-scheduled air carrier routes, or helicopters. Requires Commercial Pilot certificate. Includes charter pilots with similar certification, and air ambulance and air tour pilots.	Realistic Aerial Crop Duster; Flight Instructor (Commercial Pilots); Helicopter Pilot	40,800	269	98	Avg to Near Avg Growth	\$40,780 \$71,110	 
Freight, Stock and Material Handlers Manually move freight, stock, or other materials or perform other general labor. Includes all manual laborers not elsewhere classified.	Realistic Cargo Handler	2,628,400	9,190	2,735	Zero to Declining Growth	\$24,050 \$33,470	
Industrial Truck and Tractor Operators Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location.	Realistic Forklift Operator	549,900	1,221	308	Below Avg Growth	\$32,030 \$41,020	
Packers and Packagers, Hand Pack or package by hand a wide variety of products and materials.	Realistic Egg Packer; Gift Wrapper; Grocery Store Bagger	710,800	1,132	374	Below Avg Growth	\$19,330 \$26,630	
Shipping, Receiving, and Traffic Clerks Duties include assembling, addressing, stamping, and shipping merchandise or material; receiving, unpacking, verifying and recording incoming merchandise or material; and arranging for the transportation of products.	Conventional Route Delivery Clerk; Store Receiving Clerk	681,400	1,736	377	Zero to Declining Growth	\$26,190 \$34,880	
Tank Car, Truck, and Ship Loaders Load and unload chemicals and bulk solids, such as coal, sand, and grain into or from tank cars, trucks, or ships using material moving equipment. May perform a variety of other tasks relating to shipment of products.	Realistic Barge Loader; Rail Car Loader; Ship Unloader	10,800	293	114	Below Avg Growth	\$31,680 \$45,610	

 **Energy Occupation**





 **Bright Outlook**

 **High Skill**

 **High Wage**

 **Military**

TRANSPORTATION, DISTRIBUTION & LOGISTICS

		National	ND Outlook 2014-2024			ND Earnings Outlook	
Occupational Title/Description	Holland Code Related Occupations	Number Employed	Number Employed	Total Openings	Long-Term Growth Outlook	Annual Entry-Level Wages Annual Average Wages	Occupational Trait(s)
Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree							
Transportation, Storage, and Distribution Managers Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with organizational policies and applicable government laws or regulations. Includes logistics managers.	Enterprising Distribution Center Manager; Traffic Safety Administrator; Warehouse Manager	115,500	382	84	Zero to Declining Growth	\$54,320 \$87,840	 
Postsecondary Programs – Bachelor’s Degree or Higher							
Logisticians Analyze and coordinate the logistical functions of a firm or organization. Responsible for the entire life cycle of a product, including acquisition, distribution, internal allocation, delivery, and final disposal of resources.	Enterprising Logistics Analyst; Logistics Planner	148,700	259	52	Below Avg Growth	\$44,440 \$63,890	 



Energy Occupation



Bright Outlook



High Skill



High Wage



Military

North Dakota Transportation, Distribution & Logistics Related Postsecondary Programs

Pathway	Associate's Degree or Less	Bachelor's Degree	Master's Degree or More
Facility & Mobile Equipment Maintenance	Auto Body Repair and Refinishing Technology (NDSCS) Auto Collision Technology (BSC) Auto Technology (BSC, BJCC, CCCC, LRSC, NDSCS, UTTC) Case IH Technology (NDSCS) Caterpillar Dealer Service Technician (NDSCS) Electronics Technology (BSC) Electronics & Telecommunications Technology (BSC) General Diesel Technology (NDSCS) Geographic Information Systems Technician (BSC) Komatsu Technology (NDSCS) Power Sports Technology (NDSCS) Transportation Technology (WSC)		
Health, Safety & Environmental Management	Environmental Public Health (TMCC)	Environmental Design (NDSU) Environmental Health (DSU)	
Logistics Planning & Management Services	Information Management Systems (NHSC) Information Processing Specialist (BSC) Information and Communications Technology (NDSCS) Information Technology (DCB, LRSC, WSC) Management Information Systems transfer (NDSCS)	Business Process Integration Management (VCSU) Business Management (UM) Information Technology Management (UM) Management Information Systems (MISU, NDSU, RC) Operations/Supply Chain & Logistics Mgmt. (UND)	Project Management (UM) Transportation and Logistics (NDSU) Transportation and Urban Systems (NDSU)
Sales & Service	Business Management (NDSCS, WSC) Marketing & Management transfer (DCB)	Airport Management (UND) Marketing (MISU, NDSU, RC, UM, UND)	Merchandising (NDSU)
Transportation Operations	Airline Transport Pilot (FFS) CDL/Heavy Equipment (CCCC, SBC, TMCC, UTTC) Commercial Pilot (EATC, FFS, GFKFS) Heavy Equipment Operator (UTTC) Instrumental/Multi-Engine Rating (EATC, FFS, GFKFS) Private Pilot (EATC, FFS, GFKFS) Recreational/Sport Pilot (EATC)	Air Traffic Management (UND) Aviation Management (UND) Aviation Technology Management (UND) Commercial Aviation (UND) Flight Education (UND) Unmanned Aircraft Systems Operations (UND)	Aerospace Sciences (UND) Aviation (UND)
Transportation Systems/Infrastructure Planning, Management & Regulation		Airport Management (UND) Aviation Technology Management (UND) Operations/Supply Chain & Logistics Mgmt. (UND) Public Administration (UND)	Transportation and Logistics (NDSU) Transportation and Urban Systems (NDSU)
Warehousing & Distribution Center Operations	Management (BSC) Management/Supervision (NDSCS)	Business Process Integration Management (VCSU)	

North Dakota Postsecondary Institutions Offering Transportation, Distribution & Logistics Related Programs

BSC	Bismarck State College	www.bismarckstate.edu	NDSCS	ND State College of Science	www.ndscs.edu
BJCC	Burdick Job Corps Center	http://quentinnburdick.jobcorps.gov	NDSU	ND State University	www.ndsu.edu
CCCC	Cankdeska Cikana Community College	www.littlehoop.edu	NHSC	Nueta Hidatsa Sahnish College	http://nhsc.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	RC	Rasmussen College	www.rasmussen.edu
DSU	Dickinson State University	www.dickinsonstate.edu	SBC	Sitting Bull College	www.sittingbull.edu
EATC	Executive Air Taxi Corporation	www.executive-air.com	TMCC	Turtle Mountain Community College	www.tm.edu
FFS	Fargo Flight School	www.fargojet.com/school	UTTC	United Tribes Technical College	www.uttc.edu
GFKFS	GFK Flight Support	www.flygfk.com	UM	University of Mary	www.umary.edu
LRSC	Lake Region State College	www.lrsc.edu	UND	University of North Dakota	www.und.edu
MAC	Minot Aero Center	http://minotaerocenter.com	VCSU	Valley City State University	www.vcsu.edu
MISU	Minot State University	www.minotstateu.edu	WSC	Williston State College	www.willistonstate.edu

TRANSPORTATION, DISTRIBUTION & LOGISTICS

WYATT HATCHER

Valley City
High School

NASCAR Technician



Dreams really do come true. I was ready to drop out in 11th grade. Fortunately, my high school automotive technology and welding instructors at the Sheyenne Valley Career and Technical Center kept telling me to keep going and I stayed in school.

During my senior year, I placed first in the SkillsUSA Automotive Service Technology event. I completed 13 skill stations on automotive technology, vehicle information databases, Occupational Safety and Health Administration (OSHA) knowledge, mock interviews, and workplace conflict. The directions at each of the stations had to be read carefully as they were tricky and worded in a way where you really had to concentrate on what was being asked.

After graduating from Valley City High School, I moved to Los

Angeles to enroll in the one-year Automotive Technology program at Universal Technical Institute (UTI). I attended the afternoon class from 12:40 p.m. until 7:30 p.m. Typically, the first couple of hours were spent in the classroom taking notes, tests, and having discussions about the automotive world. Then we would go out into the shop and work on lab sheets based on the subjects just discussed in the classroom. You learn how to do absolutely everything on a car at that school.

My next stop was the six-month NASCAR Technical Institute program in North Carolina where we experienced more hands-on shop activities. We often worked on old retired race cars and had a training course on being a pit crew member. While at NASCAR Tech, I was offered a job as a debriefing mechanic at Penske Racing.

After a race, the stock cars are completely stripped down in about three and one-half hours. Then we usually send the chassis out for sandblasting which takes a couple of days. If we don't sandblast a car, we will have the car stripped down, washed, and reassembled in only three days. I would NEVER have guessed how much work goes into making these incredible race cars.

Attendance history and professionalism are huge factors for employment at Penske. Employers can teach you what you lack in knowledge, but they cannot teach you to be motivated or to have a

good work ethic. They need to be able to count on you, know that you will show up each day and work hard. Welding skill was one of the factors that helped me get hired. Welding in the automotive and racing world is a very useful asset. When something breaks, you can fix it immediately and help the team start the race.

I'm hoping to move into a road mechanic position by 2019. I just want to be on the road traveling with one of the three Penske NASCAR crews. Ultimately, I want to work on tires, but there is big competition for that job.

My job isn't easy, but I love what I am doing. Be willing to dedicate yourself to the work and sacrifice some of your time. One of my favorite quotes is from Les Brown, "You must be willing to do what others WON'T DO, to have what others WON'T HAVE."

ENTREPRENEURSHIP - *Is it for You?*

Entrepreneurs own and operate their own businesses.

Do you have the personality, characteristics or skills necessary to own and run a small business?

The quiz below cannot predict business success, but it might be a starting point in exploring whether entrepreneurship is a good option for you.

Yes No

- | | |
|--|--|
| <input type="checkbox"/> <input type="checkbox"/> Are you able to get a point across in a conversation? | <input type="checkbox"/> <input type="checkbox"/> Are you comfortable calling strangers for appointments? |
| <input type="checkbox"/> <input type="checkbox"/> Are you willing to put off short-term rewards for greater potential down the road? | <input type="checkbox"/> <input type="checkbox"/> Do most people consider you outgoing and self-confident? |
| <input type="checkbox"/> <input type="checkbox"/> Have you taken training in public speaking, debating, or sales techniques? | <input type="checkbox"/> <input type="checkbox"/> Are you comfortable with a career in which income may vary from week to week or month to month? (for example - no steady paycheck) |
| <input type="checkbox"/> <input type="checkbox"/> Are you comfortable approaching friends and colleagues about services and products beneficial to their present and future needs? | <input type="checkbox"/> <input type="checkbox"/> Have you developed a financial plan for retirement? |
| <input type="checkbox"/> <input type="checkbox"/> Do you enjoy the challenge of introducing yourself to new contacts who may also have need of your service or product? | <input type="checkbox"/> <input type="checkbox"/> Are you planning for early retirement? |
| <input type="checkbox"/> <input type="checkbox"/> Have you invested in your own future by developing a modest nest egg to finance a career change? | <input type="checkbox"/> <input type="checkbox"/> Do you prefer not having goals and objectives set for you by a supervisor? |
| <input type="checkbox"/> <input type="checkbox"/> Are you the first person to introduce yourself in a group of new people? | <input type="checkbox"/> <input type="checkbox"/> Are you plugged in to networking groups and civic organizations in your community? |
| <input type="checkbox"/> <input type="checkbox"/> Would you describe yourself as having an enthusiastic personality? | <input type="checkbox"/> <input type="checkbox"/> Do you consider sales a part of your current position? |
| <input type="checkbox"/> <input type="checkbox"/> Do you feel comfortable asking for the names of friends and colleagues to contact? | <input type="checkbox"/> <input type="checkbox"/> Are you uncomfortable working a traditional 8-5 schedule? |
| | <input type="checkbox"/> <input type="checkbox"/> Do you consider yourself assertive? |
| | <input type="checkbox"/> <input type="checkbox"/> Do you generally step forward and ask for what you want? |

Your Entrepreneurial Quotient

Give yourself one point for each "yes" answer.

If you scored between 14 and 20, you probably have the necessary qualities to create your own business opportunity and competently handle the challenge involved.

If you scored between 10 and 13, you may have the makings of an entrepreneur but may need more experience before taking the plunge.

If you scored below 10, at this point in your life you are probably better suited to traditional employment.

Some additional factors to consider for self-employment or entrepreneurship:

BONUSES

- Create my own job
- Follow my interests
- Every day is different
- Control over my schedule
- Opportunity to be creative

CHALLENGES

- Unpredictable income
- Isolation if I work alone
- Recordkeeping and paperwork
- Long hours
- No benefits such as health, dental, and disability



Where can you get information & assistance on entrepreneurship?

Center for Technology & Business
<http://trainingnd.com/>

Innovate ND
<http://innovatend.com>

ND Department of Commerce,
Division of Economic Development
& Finance
<http://business.nd.gov>

ND Department of Veterans Affairs
<http://www.nd.gov/veterans/benefits/entrepreneurship>

WHY Choose a NDUS School?



At North Dakota colleges and universities, it's all about YOU!

With five colleges and six universities, the North Dakota University System (NDUS) offers the education that's right for you. From single courses to one-year technical programs to professional degrees in law, medicine and pharmacy – the NDUS will help prepare you for your career goals.

How do I know which school is the right fit for me? Get started here:

- ▶ Find the best fit for your educational needs and interests at www.NDChoose.com/programs.
- ▶ See the campus! Schedule a visit and talk with other students to learn what they think.
- ▶ Compare your financial aid options at each institution to make sure you're making the most of your educational investment.



NDUS institutions offer:

- ▶ **Quality Programs:** From accounting to anatomy, engineering to English, web design to welding – the NDUS offers more than 700 programs.
- ▶ **Regionally Competitive Cost:** Tuition and fees are competitively priced when compared to regional and national counterparts. Plus, it won't break the bank to go home for a weekend.
- ▶ **Development Opportunities:** The faculty and staff at the NDUS want you to be successful, both personally and professionally. They're committed to challenging and encouraging you to meet your potential.
- ▶ **Broad Perspective Beyond the Books:** You will find extensive intramural teams and extracurricular organizations throughout the 11 colleges and universities. No matter your interest, you'll find a great experience.
- ▶ **Life in a Global Community:** Join a diverse community with students from many countries and backgrounds. Opportunities to network and create partnerships will take you beyond your college development.

North Dakota University System (NDUS)

ADMISSION REQUIREMENTS

admissions



2-YEAR COLLEGE ADMISSION REQUIREMENTS

- ✓ A high school graduate may be admitted to any two-year campus. Each campus may have requirements that are in addition to the general admission requirements.
- ✓ GED tests may be used to satisfy the high school graduation requirement.
- ✓ For technical programs, high school graduation is recommended. Applicants 17 years of age or older may be admitted if program standards are met.

4-YEAR COLLEGE ADMISSION REQUIREMENTS

- ✓ 4 units of English
- ✓ 3 units of mathematic (Algebra I and above)
- ✓ 3 units of lab science (including at least two in biology, chemistry, physics or physical science)
- ✓ 3 units of social studies (not including consumer education, cooperative marketing, orientation to social science, or marriage/family)

Additional courses may be required before you can be admitted to some programs.

Students who do not meet the admission requirements for a 4-year university are welcome to attend one of the five 2-year colleges. Upon satisfactory completion of 24 credits, the student will be eligible to transfer to a 4-year university.



ACCESS. INNOVATION. EXCELLENCE.

North Dakota University System Distance Education Courses

- Access to higher education is EASIER THAN EVER with the North Dakota University System (NDUS).
- Online and interactive video network opportunities give you freedom to choose courses from several campuses while completing just one application.
- NDUS schools also offer numerous individual online courses for students who prefer a mix of on-campus and online courses.



Checklist for Admission to a College or University

- ✓ **Consider** more than one campus at www.NDChoose.com.
- ✓ **Look** through course catalogues and schedule campus visits.
- ✓ **Take** the ACT—go to www.actstudent.org.
- ✓ **Remember** to apply by application deadlines for admission and the FAFSA.
- ✓ **Weigh** your options, including financial aid packages, and select a college or university.

CTE Adds Value to Your High School Experience



- Career and Technical Education (CTE) provides an online virtual classroom environment with a hands-on learning component.
- Through CTE, students start their path towards a career they are passionate about.

Need more information?

Talk with your counselor or school administrator about available CTE options.

DUAL CREDIT COURSES

North Dakota University System colleges and universities, in partnership with area high schools, offer several CTE and general education courses for dual credit. Many schools award dual credit for the college class in lieu of their high school class equivalent.

Advantages of Dual Credit Courses:

- ➡ You can complete a college class or two by successfully completing dual credit courses in high school.
- ➡ Students and parents can save by not having to pay full tuition for dual credit courses.
- ➡ Students can ease into college classes in a comfortable, familiar environment with smaller class sizes.
- ➡ The letter grade received in the course is the same and is posted on both high school and college transcripts.
- ➡ Successful completion of a dual credit class may fulfill one of the requirements of the North Dakota Academic Scholarship.



Your School Doesn't Offer the Classes You Want?

NDCDE can supplement and enhance what your home school provides to you. Or if your need goes beyond supplementation, NDCDE is able to provide a full curriculum of courses allowing you to earn an NDCDE issued high school diploma.



Regardless of the school you attend, ND provides a way for you to take classes that may not be offered by your school, or are offered, but impossible to work into your schedule.

How? North Dakota Center for Distance Education



North Dakota Center for Distance Education (NDCDE) offers over 300 fully accredited (AdvancED), online and blended courses for students in grades 4-12.



To assure the courses fulfill your needs, the courses:

- are self-paced (you complete lessons at your own speed),
- may be enrolled in anytime (all twelve months of the year),
- include all core courses, dozens of electives, a growing number of career and technical courses, credit recovery and advanced college placement (AP) courses,
- provide diagnostics and adaptive lessons that respond to your strengths and weaknesses, and
- have teachers assigned to you who are ready to help you one-on-one via phone, Skype, text, email, virtual classroom, Facebook, Twitter, or whatever means works for you, and in a growing number of courses, are blended with hands-on projects.

So....how good is NDCDE? For the school year 2016-17 NDCDE was rated the seventh best online school in the United States!

CONTACT US AT:

North Dakota Center for Distance Education
Phone: 701-298-4830 ■ www.NDCDE.org

AmeriCorps

*Are you ready to
make a difference?*

When you join AmeriCorps, your energy, ideas, and talents will be used to help others. You will learn teamwork, leadership, responsibility, and other essential skills through the AmeriCorps real-life education and work experience. AmeriCorps Programs provide service in one or more focus areas that include disaster services, economic opportunity, education, environmental stewardship, healthy futures, and, veterans and military families.

AmeriCorps State Programs are open to U.S. citizens, nationals, or lawful permanent resident aliens ages 17 and older. Members may serve full-time or part-time over a period not to exceed to 12 months.

After completing your term of service, you will receive a Segal AmeriCorps Education Award to help pay for college, graduate school, vocational training, or to repay student loans.



For more information, visit
www.americorpsnd.com

QUENTIN N. BURDICK JOB CORPS CENTER

Job Training and Career Placement



Job Corps is the nation's oldest and most successful job training program for young adults ages 16 through 24. After graduation, Job Corps Career Transitions Services (CTS) staff is available for student services up to a year.

ACADEMIC TRAINING

Students enroll year-round at Job Corps. They can obtain their GED or high school diploma.

CAREER & TECHNICAL TRAINING

- > Office Administration
- > Culinary Arts/Food Service
- > NA/HHA (Nursing Assistant/Home Health Aide)
- > Carpentry
- > Building Construction Technology
- > Maintenance Light Repair
- > Welding
- > Advanced Training at Dakota College at Bottineau or Minot State University
- > Advanced Medical Program through Dakota College at Bottineau

SINGLE PARENT PROGRAM

A Solo Parent Program is available for single parents and their dependent children. This allows students to participate in Job Corps without having to be separated from their children.

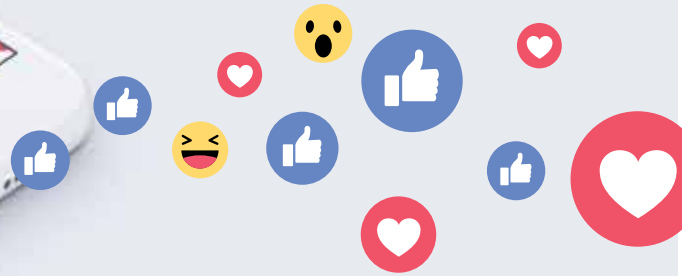
Burdick Job Corps provides the following:

- > Career Success Standards Training
- > A living allowance with free room and board
- > Basic medical and dental care
- > Drivers Education

It is **FREE** to those who qualify!

Quentinburdick.jobcorps.gov

Ask Staci and Amanda every Tuesday!



Tune in to Bank of North Dakota's weekly Facebook Live session with Staci and Amanda. They answer questions about planning and paying for college.

Like Bank of North Dakota's Facebook Page to be notified when we go live.

 **VISIT [FACEBOOK.COM/BANKOFND](https://www.facebook.com/BANKOFND)**

Missed us while we were live? Find Staci and Amanda sessions on Facebook and YouTube.

Cut college costs!

- Take dual credit and advanced placement classes in high school.
- Apply for scholarships throughout your senior year.
- Community colleges are typically less expensive than universities. Online classes usually cost more than attending on campus.
- Rent books rather than purchasing them.
- Invest time researching majors you are interested in and the types of jobs you would enjoy. When students spend a couple of years in college trying to decide on a major, they are often adding years to the cost of their education to complete the required classes.
- If you need a private student loan in addition to a federal student loan, compare Bank of North Dakota's student loan interest rates with other options. BND rates are typically lower than other private options.

FAFSA is the first step to getting money for college.

FAFSA stands for the Free Application for Federal Student Aid, and should be completed between October and April of your senior year.

Complete the FAFSA as soon after October 1, 2018 as possible using the results from your 2017 Federal and State tax returns. Grants are often first come, first served so applying early is helpful. You should definitely apply before April 15, 2019.





Student loans are not free money.

Many people find themselves regretting the amount of student loans they need to repay. If you are a single person who lives in North Dakota and the first job you get out of college pays you \$40,000 per year, your take-home pay will actually be about \$32,000 or \$2,666 per month.

With the \$2,666 per month figure, this table outlines your budget assuming you take out \$30,000 in student loans. If you don't feel like this is enough money to accommodate the lifestyle you would like when you graduate college, seriously consider the amount of money you take out in student loans.

Decreasing the amount you take out in student loans will free up more funds for you to spend on other things.

Item	Expense amount	% of monthly take-home pay*
Student loan payment (Assuming \$30,000 in loans at 3.76%)	\$200	8%
Housing (Rent, mortgage, condo maintenance fee, furniture, household items)	\$800	30%
Utilities (Phone, electricity, gas)	\$266	10%
Credit cards	\$80	3%
Food (Groceries, eating out)	\$400	15%
Transportation (Car payments, insurance, gas, maintenance)	\$266	10%
Other savings and investments	\$266	10%
Personal expenses (Entertainment, clothing, vacations, personal care, pet care, gifts, car insurance)	\$388	14%
TOTAL EXPENSES	\$2,666	100%

*<https://www.quicken.com/home-budget-cost-living-reality-check>

ARMY BAND PERSON • PUBLIC AFFAIRS SPECIALIST • PUBLIC AFFAIRS BROADCAST SPECIALIST • CHAPLAIN ASSISTANT • DENTAL SPECIALIST • PATIENT ADMIN SPECIALIST • MEDICAL LABORATORY SPECIALIST • RADIOLOGY SPECIALIST • PREVENTATIVE MEDICINE SPECIALIST • HEALTH CARE SPECIALIST • CHEMICAL OPERATIONS SPECIALIST • MOTOR TRANSPORTATION OPERATOR • WHEELED VEHICLE MECHANIC • UTILITIES EQUIPMENT REPAIRER • POWER GENERATION EQUIP REPAIRER • ALLIED TRADES SPECIALIST • SMALL ARMS/ARTILLERY REPAIRER • FIRE CONTROL REPAIRER • TRACK VEHICLE REPAIRER • QM & CHEMICAL EQUIP REPAIRER • ARMAMENT REPAIRER • CONSTRUCTION EQUIPMENT REPAIRER • AUTOMATED LOGISTICAL SPECIALIST • PETROLEUM SUPPLY SPECIALIST • FOOD OPERATIONS SPECIALIST • WATER TREATMENT SPECIALIST • UNIT SUPPLY SPECIALIST • RADIO & COMMUNICATIONS SECURITY REPAIRER • COMPUTER/DETECTION SYSTEMS REPAIRER • RADAR REPAIRER • AVENGER SYSTEM REPAIRER



PVT Ethan Brown
Hope-Page HS



L to R: PV2 Dane Haugen, PV2 Erik Odegaard, PV2 Gracie Clem, PV2 Austin Wollschlaeger, PVT Garrett Brown
Dickinson HS



PFC Derek Elverud
Devils Lake HS



PFC Jace Estenson (Left)
PFC Jaydon Grafsgaard (Right)
Devils Lake HS



PV2 Jamie Schanks
Devils Lake HS

HIGH TECH, HIGHER CALLING

The Army National Guard is looking for people who can imagine the future and engineer it – the next generation of Soldiers who excel in science, technology, engineering, and math (STEM). We'll train you for high-tech jobs that build on your aptitude. Plus, we offer money for college in exchange for your part-time service.

Explore careers and get great benefits that will put you on a path to success.

Train for an in-demand Career!



- Up to 100% Tuition Assistance
- Student Loan Repayment Program
- Earn College Credits for Basic Training & AIT
- Montgomery GI Bill
- GI Bill Kicker
- Retirement Benefits For Part-time Service
- 401(k)-Type Savings Plan
- Low-cost Health, Life & Dental Insurance
- Serve your Community, State & Country



NORTH DAKOTA

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COMBAT ENGINEER • BRIDGE CREWMEMBER • PLUMBER • CONSTRUCTION EQUIPMENT OPERATOR • INTERIOR ELECTRICIAN • TECHNICAL ENGINEER • CONCRETE/ASPHALT EQUIP OPERATOR • CARPENTRY/MASONRY SPECIALIST • GEOSPATIAL ENGINEER • TAC OPS CENTER OPERATOR/MAINTAINER • AIR AND MISSILE DEFENSE CREWMEMBER • AIRCRAFT POWERTRAIN REPAIRER • AIRCRAFT ELECTRICIAN • AIRCRAFT PNEUDRAULICS REPAIRER • AVIONICS MECHANIC • AVIATION OPERATIONS SPECIALIST • AIR TRAFFIC CONTROL OPERATOR • UH-60 HELICOPTER REPAIRER • INFORMATION TECHNOLOGY SPECIALIST • CABLE SYSTEMS INSTALLER/MAINTAINER • MICROWAVE SYSTEMS OPERATOR/MAINTAINER • MULTI-CHANNEL TRANSMISSION SYSTEMS OPERATOR/MAINTAINER • SATELLITE COMMUNICATION SYSTEMS OPERATOR/MAINTAINER • SIGNAL SUPPORT SYSTEMS SPECIALIST • PARALEGAL SPECIALIST • MILITARY POLICE • INTELLIGENCE ANALYST • HUMAN RESOURCES SPECIALIST



**NORTH DAKOTA
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AIR NATIONAL GUARD
GoANG.com/ND • 800-TO-GO-ANG
AIR NATIONAL GUARD
goang.com
1-800-972-8825

ARMY & ARMY RESERVE

goarmy.com
Western ND • 701-223-5455
Eastern ND • 701-277-1299

ASVAB CAREER EXPLORATION PROGRAM

Fargo • 701-234-0072 or
1-800-323-0513

AIR FORCE

airforce.com
Bismarck • 701-226-3893
Fargo • 701-277-1818
Grand Forks • 701-775-9361
Minot • 701-839-4635

MARINES

marines.com
Bismarck • 701-223-3019
Fargo • 701-277-8403
Grand Forks • 701-772-3627
Minot • 701-839-2091

NAVY

navy.com
1-800-872-6289
Fargo • 701-277-1096 (Enlisted)
Fargo • 701-239-5091 (Officer)

UNITED STATES MILITARY ACADEMY

usma.edu
West Point, NY
1-845-938-4041

UNITED STATES COAST GUARD ACADEMY

cga.edu
New London, CT
1-800-883-8724

COAST GUARD

gocoastguard.com

UNITED STATES NAVAL ACADEMY

usna.edu
Annapolis, MD
1-410-293-4361

UNITED STATES MERCHANT MARINE ACADEMY

usmma.edu
Kings Point, NY
1-516-726-5800

UNITED STATES AIR FORCE ACADEMY

academyadmissions.com
Colorado Springs, CO
1-800-443-9266

ND DIVISION OF VOCATIONAL REHABILITATION

Individuals who are typically referred to Vocational Rehabilitation (VR) include those who have a:

- ▶ Learning
- ▶ Behavioral
- ▶ Physical
- ▶ Intellectual or
- ▶ Developmental disability

To be eligible for VR services you must:

- ▶ Have a documented disability
- ▶ Be able to benefit from services that lead to employment
- ▶ Want to work

If you are eligible, VR will help you determine an appropriate employment goal. You and your counselor will work together to develop a plan which identifies the steps necessary to achieve your goal. VR may be able to help you transition from high school to work or to college in preparation for work by providing:

▶ **Professional Vocational Rehabilitation Counseling & Guidance** – Counseling and Guidance is of no cost to you and includes evaluations of strengths and how your disability may affect your ability to work, a comprehensive assessment of your rehabilitation needs, planning and implementing strategies to overcome barriers, and helping you adjust to and live with a disability.

▶ **Employment** – identification of an employment goal that is consistent with your strengths, resources, abilities, capabilities, priorities, concerns, interests, and informed choice.

▶ **Accommodations** – if needed, adaptive aids, assistive technology, accessibility, and work site evaluations to assist you in achieving your employment goal.

▶ **Training** – tailored to meet your individual rehabilitation needs and attain your employment goal. This may include on-the-job training, internships, job mentoring, job coaching and/or academic training. This may also include helping you learn how to advocate for the services you will need to succeed in college. VR may also assist you with school costs if there is a financial need.

▶ **Job Placement** – develop resume writing skills and interview strategies, job referral, placement and follow-up services.



Vocational Rehabilitation/ Human Services Regional Offices

**Region 1 - Williston
Vocational Rehabilitation
Northwest Human Service
Center**

316 Second Avenue West
Williston, ND 58802-1266
Telephone (701) 774-4662
Toll Free 1-800-231-7724

**Region 2 - Minot
Vocational Rehabilitation
South Central Human
Service Center**

1015 South Broadway, Suite 21A
Minot, ND 58701-4667
Telephone (701) 857-8642
Toll Free 1-888-470-6968

**Region 3 - Devils Lake
Vocational Rehabilitation
Lake Region Human
Service Center**

200 Highway 2 W
Devils Lake, ND 58301
Telephone (701) 665-2235
Toll Free 1-888-607-8610

**Region 4 - Grand Forks
Vocational Rehabilitation
Northeast Human Service
Center**

151 S 4th Street, Suite 501
Grand Forks, ND 58201-4735
Telephone (701) 795-3100
Toll Free 1-888-256-6742

**Region 5 - Fargo
Vocational Rehabilitation
South Central Human
Service Center**

1655 43rd Street South,
Suite 208
Fargo, ND 58103
Telephone (701) 298-4459
Toll Free 1-888-342-4900

**Region 6 - Jamestown
Vocational Rehabilitation
South Central Human
Service Center**

520 Third Street NW
Jamestown, ND 58402-2055
Telephone (701) 253-6388
Toll Free 1-800-639-6292

**Region 7 - Bismarck
Vocational Rehabilitation
South Central Human
Service Center**

1237 West Divide Avenue,
Suite 2
Bismarck, ND 58501
Telephone (701) 328-8800
Toll Free 1-888-862-7342

**Region 8 - Dickinson
Vocational Rehabilitation
South Central Human
Service Center**

1674 15 Street West, Unit E
Dickinson, ND 58601
Telephone (701) 227-7600
Toll Free 1-888-227-7525

Relay ND TTY 1-800-366-6888

For more information about Vocational Rehabilitation,
please visit: www.nd.gov/dhs/dvr

Career and technical education (CTE) is an educational option that provides learners with the knowledge and skills they need to be prepared for college and careers. It gives purpose to learning by emphasizing real-world skills and practical knowledge within a selected career focus.

CTE DELIVERS FOR NORTH DAKOTA



Adult Education provides free classes and programs that help adults over the age of 16 obtain basic educational skills needed to be productive workers, family members, and citizens. Each Adult Learning Center provides instruction for

- ◆ reading/language arts, math, science, social studies, keyboarding, and computer literacy;
- ◆ English Language Learners (ELL) for New Americans and citizenship preparation;
- ◆ the GED exam; and,
- ◆ college and career readiness.



GED... get it now!

The US Census data estimates more than 65,000 individuals in North Dakota are without a high school diploma. Individuals who receive a GED will earn approximately \$10,000 more annually than those who do not. This in turn, improves an individual's economic status, spending patterns and tax contributions. North Dakota needs every able body in the workforce – a GED can provide you the skills to make a difference and launch a new career. Earn your GED now and reap the rewards. Students can now take the GED by computer and receive instant results.

Visit www.nd.gov/dpi/SchoolStaff/AdultEd
for more information.

ADULT LEARNING CENTERS

BELCOURT

Turtle Mountain
Community College
701-477-7913

BISMARCK

Bismarck Public Schools
701-323-4530

DEVILS LAKE

Lake Region State College
701-662-1568

DICKINSON

Dickinson Public Schools
701-456-0008

FARGO

Fargo Public Schools
701-446-2806

GRAND FORKS

Grand Forks Public Schools
701-795-2785

JAMESTOWN

James Valley Career
and Technology Center
701-252-8841

MINOT

Minot Public Schools
701-857-4488

VALLEY CITY

Sheyenne Valley Area
Career & Technology
Center
701-845-0256

WAHPETON

ND State College
of Science
701-671-2184

WILLISTON

Williston State College
701-572-5886



Finding Your First Job...

Early Experiences: Working for friends and neighbors is a great way to get experience. Babysitting, mowing lawns, shoveling snow and taking care of pets can be a part of your work history.

Be Flexible: If your employer knows that you have flexibility as to when you work, it will improve your chances of being hired.

Volunteer: Even if you won't get a paycheck, volunteering will increase your experience and a list of potential references for future paid positions.

Consider a Resume: Having a resume to give to prospective employers can help you stand out from other applicants.

Keep Trying: Job searching isn't easy. Keep applying and you will find a job.

Helpful Sources of Information:

Career Builder • www.careerbuilder.com

Career OneStop • www.careeronestop.org

Indeed • www.indeed.com

Monster • www.monster.com

Job Service ND • www.jobsnd.com

RUReady.ND.gov • www.ruready.nd.gov

START



Reality Check

How Do You Spend Your Money?

Most of us have a limited amount of money to spend each month. Use the budget worksheet below to make good financial decisions.

	Expenses	Monthly Total
Home	Rent/mortgage	\$
	Utilities (electricity, gas, etc.)	\$
	Internet/cable/home phone	\$
	Home repairs and maintenance	\$
	Groceries	\$
	Laundry/dry cleaning	\$
Bills	Student loans	\$
	Credit cards	\$
	Car payments	\$
	Insurance (car, homeowners, etc.)	\$
	Cell Phone	\$
Transportation	Public transportation/taxis	\$
	Gas	\$
	Parking	\$
	Car repairs and maintenance	\$
Health	Prescriptions	\$
	Doctor appointments	\$
	Gym membership	\$
Personal	Entertainment	\$
	Gifts/special occasions	\$
	Travel	\$
	Dining out	\$
	Clothing	\$
Misc.		
	Total Monthly Expenses	\$
	Total Monthly Income	\$
	- Total Monthly Expenses	- \$
	= Total Savings	\$

Source: www.asa.org/wp-content/uploads/2017/06/budget_worksheet-1.pdf

North Dakota Postsecondary Programs and 2018-19 Estimated On-Campus Budgets for Resident Dependent Students

	School	City	Website	Phone Number	Tuition & Fees	Books & Supplies	Room & Board	Total
NDUS 2-Yr.	Bismarck State College	Bismarck	bismarckstate.edu	800-445-5073	\$4,790	\$1,000	\$6,284	\$12,074
	Dakota College at Bottineau	Bottineau	dakotacollege.edu	800-542-6866	\$4,568	\$1,100	\$7,210 ³	\$12,878
	Lake Region State College	Devils Lake	lrsc.edu	800-443-1313	\$4,455	\$1,000	\$6,380	\$11,835
	North Dakota State College of Science	Wahpeton	ndscs.edu	800-342-4325	\$5,086 ⁴	\$1,000	\$6,220	\$12,306
	Williston State College	Williston	willistonstate.edu	888-863-9455	\$5,304 ¹	\$1,100	\$7,572 ³	\$13,976
NDUS 4-Yr.	Dickinson State University	Dickinson	dickinsonstate.edu	800-279-4295	\$6,768	\$1,200	\$6,898	\$14,866
	Mayville State University	Mayville	mayvillestate.edu	800-437-4104	\$6,666	\$1,000	\$7,840	\$15,506
	Minot State University	Minot	minotstateu.edu	800-777-0750	\$7,064	\$1,100	\$6,610	\$14,774
	North Dakota State University	Fargo	ndsu.edu	866-924-8969	\$9,246	\$800	\$8,822	\$18,868
	University of North Dakota	Grand Forks	und.edu	800-225-5863	\$8,696	\$1,000	\$8,974	\$18,670
	Valley City State University	Valley City	vcsu.edu	800-532-8641	\$7,625 ^{1,7}	\$1,100	\$6,677	\$15,402
Private	Burdick Job Corps Center	Minot	quentinnburdick.jobcorps.gov	701-857-9600	See page 55 for more information.			
	Lynnes Welding Training, Inc.	Fargo	learntoweld.com	701-373-0658	\$12,575	\$925	\$3,750 ²	\$17,250
	Lynnes Welding Training, Inc.	Bismarck	learntoweld.com	701-751-4256	\$12,575	\$925	\$4,125 ²	\$17,625
	Rasmussen College	Fargo	rasmussen.edu	800-817-0009	Costs vary. Contact Rasmussen College for more information.			
	Trinity Bible College	Ellendale	trinitybiblecollege.edu	800-523-1603	\$16,320	\$1,000	\$6,132	\$23,452
	University of Jamestown	Jamestown	uj.edu	800-336-2554	\$21,976	\$1,300	\$7,570	\$30,846
	University of Mary	Bismarck	umary.edu	800-288-6279	\$18,444	\$1,262	\$7,034	\$26,740
Tribal	Cankdeska Cikana Community College	Fort Totten	littlehoop.edu	888-783-1463	\$3,300 ⁵	\$1,400	\$4,000 ²	\$8,700
	Nueta Hidatsa Sahnish College	New Town	nhsc.edu	701-627-4738	\$3,870	\$1,200	\$10,440 ²	\$15,510
	Sitting Bull College	Fort Yates	sittingbull.edu	701-854-8000	\$4,010	\$1,200	\$5,846	\$11,056
	Turtle Mountain Community College	Belcourt	tm.edu	701-477-7862	\$2,050	\$400	\$3,664 ²	\$6,114
	United Tribes Technical College	Bismarck	uttc.edu	888-643-8882	\$4,252 ⁶	\$1,400	\$5,100	\$10,752
Cosmetology/Barber	Josef's School of Hair Design, Inc.	Grand Forks	josefsschoolofhairdesign.com	701-772-2728	\$17,100	\$1,800	\$9,170 ²	\$28,070
	Josef's School of Hair Design, Inc.	Fargo	josefsschoolofhairdesign.com	701-235-9910	\$16,600	\$1,800	\$9,170 ²	\$27,570
	JZ Trend Academy Paul Mitchell Partner School	Bismarck	jz.paulmitchell.edu	701-223-8154	\$14,395	\$2,000	\$9,432 ²	\$25,827
	Moler Barber College	Fargo	molerbarberfargo.com	701-232-6773	\$6,437	\$855	\$5,335	\$12,627
	The Hair Academy	Bismarck	thehairacademynd.com	866-793-9594	\$10,920	\$1,499	\$11,560 ²	\$23,979
	The Salon Professional Academy	Fargo	tspafargo.com	877-478-1772	Contact The Salon Professional Academy for more information.			
Flight	Executive Air Taxi Corporation	Bismarck	executive-air.com	701-258-5024	Costs may vary. Contact individual entities for more information.			
	Fargo Jet Center	Fargo	fargojet.com	800-770-0538				
	GFK Flight Support	Grand Forks	flygfk.com	701-772-5504				
	Minot Aero Center/Pietsch Aircraft	Minot	minotaerocenter.com	701-852-4092				

Note: Totals do not include Personal, Recreational or Miscellaneous costs which average approximately \$3,400. Costs may be different for specialized programs. Contact the college/program for more information.

* Bismarck Lynnes Welding Training, Inc. does not qualify for financial aid.

Footnotes:

- 1 Based on 15 credits per term
- 2 Estimate for off campus housing, school does not have dorm facilities
- 3 Based on double occupancy room and standard freshman meal plan
- 4 Based on 16 credits per term
- 5 Based on 12 credits per term
- 6 Based on 14 credits per term
- 7 Includes notebook computer

North Dakota Career and Technical Student Organization (CTSO) Leaders



Preparing emerging leaders and entrepreneurs for careers in marketing, finance, hospitality and management in high schools and colleges around the globe.



**Join a
CTSO to:**

LEARN
more about
careers

DEVELOP
leadership skills
that will prepare
you for college
and career

TEST
your skills
at state and
national
competitions

PARTICIPATE
in community
service
opportunities



Making a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education.



Business and education are brought together in a positive working relationship through innovative leadership and career development programs.



Empowering members to become world-class workers, leaders and responsible American citizens.



Promoting personal growth and leadership development through Family and Consumer Sciences education.



Fostering personal growth, leadership, and opportunities in Science, Technology, Engineering, and Mathematics (STEM).



North Dakota Department of Career & Technical Education

600 E Blvd Ave - Dept 270 • Bismarck, ND 58505 • Ph: 701-328-3180 • Fax: 701-328-1255

E-mail: cte@nd.gov • www.nd.gov/cte