

# Career Outlook

NORTH DAKOTA CAREER RESOURCE NETWORK

37th Edition • 2019-2020





## 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 Students:

What does it mean to be "college and career ready?"

Some may define the mastery of basic academic skills in order to graduate from high school as "college ready." But it takes much more than that to be ready for a career.

Career readiness involves three major skill areas:

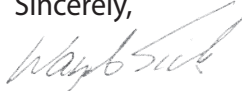
- Core academic skills and the ability to apply those skills to function in the workplace and in routine daily activities,
- Employability skills such as critical thinking and responsibility that are essential in any career area; and
- Technical, job-specific skills related to a specific career pathway.

The goal of Career and Technical Education is to prepare students for success in life. CTE coursework is available in Agriculture, Business, Family and Consumer Sciences, Information Technology, Marketing, Technology Education, and Trades, Industry, Technical and Health Sciences. By enrolling in these and other courses in school, not only are you gaining academic knowledge, but you are building on the employability and technical, job-specific skills necessary to be successful in your chosen career field.

With proper planning, the career you choose will play a role in fulfilling a critical need in your community and our state. The workforce of tomorrow needs to be educated, prepared, adaptable, and competitive. This publication will help guide you in the process of planning and preparing for a lifetime of success in North Dakota.

I wish you the best as you continue to prepare yourself to be "career ready"!

Sincerely,



Wayne Sick, Director  
ND Department of  
Career and Technical  
Education



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# 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 seven individuals pursuing their career goal through postsecondary education, training and work.



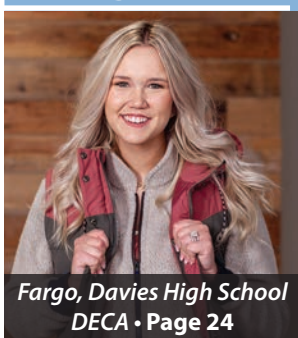
**Bryjett Nordmark**



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FCCLA • Page 5*



**Brenna Bigwood**



*Fargo, Davies High School  
DECA • Page 24*



**Daniel Bjertness**



*Kindred High School  
FFA • Page 16*



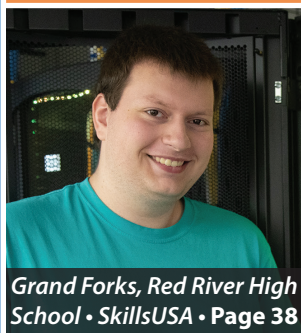
**Kaleb Dschaak**



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**Kyle Korman**



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**Emerson Meidinger**



*Valley City High School  
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**Lee Martinez**



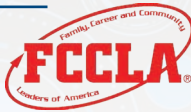
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**APPRENTICE**



# BRYJETT NORDMARK

Rolla High School



CAMPING ENTHUSIAST • AVID READER  
GAME OF THRONES NERD • GUITAR PLAYER



**Q:** You are currently serving in the Air Force. Explain the process of entering the military, the specialized training you have had, and what you are currently doing.

**A:** I left home as an 18-year-old from Rolla, North Dakota, with minimal exposure to the military. A career in the Air Force was never on my radar; I fully expected to graduate from college and go on to law school. However, during my first few weeks of college, I decided to enlist in the Air Force Reserve Officer Training Corps (ROTC) and it completely changed my life. With a lot of hard work and training over four years, I became an Air Force Intelligence Officer while simultaneously earning my bachelor's degree.

While I was in college, the military sent me across the world to learn Chinese, to the Pentagon for an International Affairs internship, and to the Air Force Academy for specialized training – all while paying for my degree.

I am currently learning how to collect information on and analyze adversary threats in the Intelligence Officer training program at Goodfellow Air Force Base, Texas. After I complete the training, I will be sent to Ramstein, Germany, for my first active duty assignment. I will be working on missions pertaining to Russia, Syria, and parts of Africa.

**Q:** What are some of the challenges you have faced and benefits you have experienced in the military?

**A:** The military is a stressful job. How well we perform can sometimes be the difference between life and death. At first, I was intimidated by it all, but now it fuels me to do my best not only

in my job, but the standard of excellence carries over into my everyday life as well.

I am contributing to a purpose bigger than just my own “bubble” of life. America's safety is something worth working for to the best of my ability. Also, I love adventure and experiencing new things and the military forces me out of my comfort zone quite often!

**Q:** In what way has Family, Career and Community Leaders of America (FCCLA) been a factor in the success you have experienced to this point?

**A:** The skills I learned from my parents, teachers, and Family, Career and Community Leaders of America (FCCLA) state presidency are what really helped me succeed throughout my military training. In high school I learned that life is all about giving and growing, and it's no different in the military. As an officer, my job is to make sure those I am overseeing are succeeding and getting the mission done to the best of their ability. The leadership opportunities I had growing up gave me invaluable practice for what I'm doing now.

**Q:** Is there anything you would have done differently while in high school to prepare for your current Air Force involvement and future career?

**A:** The military sends me all over the world, but the trade-off is being away from family. I have two younger sisters who I wish I could see more often, but it's difficult so we keep in touch via Snapchat. Any time spent with family now is very important to me.

# NORTH DAKOTA TOP CAREERS BY EDUCATION

| Typical Entry Level Education & Career |  | Total Openings | Average 2017 Wage | Examples of Tasks Performed  |
|--|--|----------------|-------------------|--|
| High School Diploma or Equivalent      |  |                |                   |  |
| 1                                      | Office Clerks, General   | 11,444         | \$34,340          | Perform office tasks, including answering telephones, word processing, copying documents, and maintaining records.                       |
| 2                                      | Personal Care Aides  | 11,260         | \$31,970          | Assist the elderly, convalescents, or persons with disabilities with daily living activities at the person's home or in a care facility. |
| 3                                      | Customer Service Representatives   | 9,128          | \$35,980          | Handle customer complaints, process orders, and provide information about products and services.   |
| 4                                      | Secretaries and Administrative Assistants, Except Legal, Medical, and Executive              | 8,098          | \$38,570          | Perform clerical functions such as correspondence, appointments, and organizing files.   |
| 5                                      | Bookkeeping, Accounting, and Auditing Clerks   | 7,787          | \$38,260          | Produce financial records for organizations including transactions, statements, and checking records for accuracy.                       |
| 6                                      | Stock Clerks and Order Fillers   | 7,779          | \$29,440          | Receive, store, and issue sales floor merchandise, materials, equipment, and other items from stockroom or warehouse.                    |
| 7                                      | Childcare Workers  | 7,629          | \$23,030          | Care for children's basic needs, such as bathing and feeding, when family members are unavailable.                                       |
| 8                                      | Teacher Assistants   | 6,371          | \$32,010          | Work under a teacher's supervision to give students additional attention and instruction.  |
| 9                                      | Supervisors of Retail Sales Workers  | 4,898          | \$44,640          | Duties may include management functions, such as purchasing, budgeting, accounting, personnel work, and supervisory duties.              |
| 10                                     | Maintenance and Repair Workers, General  | 4,768          | \$41,290          | Duties may involve pipe fitting; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment.                |
| 11                                     | Electricians   | 4,616          | \$62,780          | Install and maintain electrical power, communications, lighting, and control systems in homes and factories.                             |
| 12                                     | Supervisors of Construction Trades and Extraction Workers                                    | 4,521          | \$74,220          | Supervise activities of construction workers and inspect work progress to ensure project specifications are met.                         |
| 13                                     | Supervisors of Food Preparation and Serving Workers  | 4,377          | \$35,580          | Supervise activities of food preparation workers; perform financial activities related to bills and payments.                            |
| 14                                     | Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products | 4,292          | \$66,460          | Sell goods to businesses or groups of individuals. Work requires substantial knowledge of items sold.                                    |
| 15                                     | Operating Engineers and Other Construction Equipment Operators                               | 3,936          | \$59,320          | Operate equipment such as graders, bulldozers or front-end loaders to excavate earth; pour concrete or surface pavement.                 |
| Postsecondary Non-Degree Award*        |  |                |                   |  |
| 1                                      | Heavy and Tractor-Trailer Truck Drivers  | 18,199         | \$53,020          | Transport goods from one location to another. Most tractor-trailer drivers are long-haul drivers.  |
| 2                                      | Nursing Assistants   | 9,169          | \$32,880          | Provide basic care for patients in hospitals and residents of long-term care facilities, such as nursing homes.                          |
| 3                                      | Welders, Cutters, Solderers, and Brazers   | 2,942          | \$53,930          | Weld and solder components, dismantle metal assemblies, and analyze blueprints.  |
| 4                                      | Hairdressers, Hairstylists, and Cosmetologists   | 2,597          | \$30,430          | Determine and recommend beauty treatment, hair styles, and cut hair.   |
| 5                                      | Automotive Service Technicians and Mechanics   | 2,486          | \$43,380          | Examine vehicles, compile estimates of repair costs, and secure approval to perform repairs.   |
| 6                                      | Licensed Practical Nurses  | 2,255          | \$45,100          | Observe patients, chart and report changes in patients' conditions.  |
| 7                                      | Bus and Truck Mechanics and Diesel Engine Specialists  | 2,252          | \$51,940          | Perform routine maintenance such as lubricating equipment and machinery.   |
| 8                                      | Mobile Heavy Equipment Mechanics, Except Engines   | 1,361          | \$65,520          | Diagnose, repair, or overhaul mechanical equipment such as bulldozers, graders, and conveyors used in construction.                      |
| 9                                      | Industrial Machinery Mechanics   | 1,354          | \$69,020          | Repair, install or maintain industrial production and processing machinery.  |
| 10                                     | Farm Equipment Mechanics and Service Technicians   | 1,212          | \$50,890          | Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors and harvesters.                                      |
| 11                                     | Heating, Air Conditioning, and Refrigeration Mechanics and Installers                        | 1,131          | \$57,860          | Reassemble and test equipment following repairs.   |
| 12                                     | Medical Assistants   | 1,020          | \$35,500          | Administrative duties include scheduling appointments, maintaining records, billing, and coding information.                             |
| 13                                     | Dental Assistants  | 924            | \$45,600          | Assist dentist, set up equipment, prepare patient for treatment, and keep records.   |
| 14                                     | Emergency Medical Technicians and Paramedics   | 862            | \$32,470          | Administer first-aid treatment and life-support care to persons in a pre-hospital setting.   |
| 15                                     | Phlebotomists  | 837            | \$30,330          | Draw blood for tests, transfusions, donations, or research. May explain the procedure to patients.                                       |



| Typical Entry Level Education & Career            |  | Total Openings | Average 2017 Wage | Examples of Tasks Performed   |
|---|--|----------------|-------------------|---|
| <b>Associates Degree</b>                          |  |                |                   |   |
| 1   | Computer User Support Specialists  | 1,397          | \$54,660          | Answer user inquiries regarding computer software or hardware to resolve problems.  |
| 2   | Preschool Teachers, Except Special Education                             | 1,224          | \$33,160          | Educate and care for children, ages 3 to 5, in a way that young children can understand.  |
| 3   | Civil Engineering Technicians  | 568            | \$54,170          | Calculate dimensions, profile and component specifications, and material quantities.  |
| 4   | Paralegals and Legal Assistants  | 555            | \$46,840          | Prepare legal documents, including briefs, pleadings, appeals, wills, and contracts.  |
| 5   | Dental Hygienists  | 554            | \$67,660          | Clean teeth, examine gums, develop x-ray film and watch for signs of decay or gum disease.  |
| 6   | Computer Network Support Specialists                                     | 454            | \$59,220          | Analyze, test, troubleshoot, and evaluate existing network systems. Perform network maintenance to ensure networks operate correctly. |
| 7   | Radiologic Technologists   | 417            | \$54,730          | Operate x-ray equipment, process radiographs, and review and evaluate x-ray images.   |
| 8   | Dietetic Technicians   | 375            | \$29,840          | Assist in the provision of food service and nutritional programs, under the supervision of a dietitian.                               |
| 9   | Life, Physical, and Social Science Technicians, All Other                | 357            | \$55,580          | Compile laboratory test data and perform appropriate analyses. Complete documentation needed to support procedures.                   |
| 10  | Electrical and Electronic Engineering Technicians                        | 352            | \$66,780          | Apply electrical and electronic theory to design, build, repair, and modify components, circuitry, controls, and machinery.           |
| 11  | Architectural and Civil Drafters   | 348            | \$49,990          | Prepare detailed drawings of architectural and of buildings and topographical relief maps used in civil engineering projects.         |
| 12  | Power Plant Operators  | 341            | \$82,950          | Control, operate, or maintain machinery to generate electric power. Includes auxiliary equipment operators.                           |
| <b>Bachelor's Degree</b>                          |  |                |                   |   |
| 1   | General and Operations Managers  | 7,150          | \$103,630         | Oversee activities directly related to making products or providing services.   |
| 2   | Registered Nurses  | 6,643          | \$63,140          | Monitor all aspects of patient care, modify treatment, and consult with healthcare team.  |
| 3   | Accountants and Auditors   | 4,708          | \$60,550          | Prepare, examine, or analyze accounting records, financial statements, or financial reports.  |
| 4   | Elementary School Teachers, Except Special Education                     | 3,345          | \$51,090          | Instruct elementary students individually and in groups using various teaching methods.   |
| 5   | Business Operations Specialists, All Other                               | 2,800          | \$69,180          | Plan, direct, or coordinate the operations of public or private sector organizations.   |
| 6   | Secondary School Teachers, Except Special and Career/Technical Education | 2,172          | \$51,400          | Instruct students through lectures, discussions, and demonstrations in one or more subjects.  |
| 7   | Chief Executives   | 1,782          | \$160,590         | Direct an organization to fund operations, maximize investments, and increase efficiency.   |
| 8   | Human Resources Specialists  | 1,571          | \$57,970          | Perform activities in the human resource area. Includes employment specialists who screen, recruit, interview, and place workers.     |
| <b>Master's, Doctoral, or Professional Degree</b> |  |                |                   |   |
| 1   | Lawyers  | 1,061          | \$97,680          | Advise clients, prosecute or defend lawsuits, legal rights, and obligations.  |
| 2   | Educational, Guidance, School, and Vocational Counselors                 | 922            | \$56,260          | Counsel individuals and provide group educational and vocational guidance services.   |
| 3   | Physical Therapists  | 465            | \$77,270          | Prepare and carry out individually designed programs of physical treatment for patients.  |
| 4   | Education Administrators, Elementary and Secondary School                | 459            | \$92,190          | Review, modify or approve new programs, and submit program proposals to school board.   |
| 5   | Healthcare Social Workers  | 440            | \$50,560          | Provide psychosocial support needed to cope with chronic, acute, or terminal illnesses.   |

**METHODOLOGY:** These careers were selected based on the projected growth and replacement openings published in Job Service North Dakota's 2016-2026 Long-Term Employment Projections report.

**TYPICAL ENTRY-LEVEL EDUCATION:** Typical entry-level education describes the education level most workers need to enter the occupation.

**TOTAL OPENINGS:** Total openings are the summation of numeric change, labor force exit openings, and occupational transfer openings.

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

*\* Postsecondary Nondegree Award: These programs lead to a certificate or other award, but not a degree.*

# NORTH DAKOTA Academic and Career & Technical Education Scholarship Programs



North Dakota resident students may apply for either the ND Academic 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 the state, both public and private. Students may be eligible for up to \$6,000 within six academic school 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.

North Dakota seniors must apply by June 5, 2020. 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](http://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.



## Academic Scholarship Requirements

1 unit of mathematics for which Algebra II is a prerequisite.

Complete one of the following:

2 units of the same foreign language; the same Native American language; American Sign Language; Career and Technical Education (CTE) coursework within the same career and technical education coordinated plan of study; or an education pathway including 2 units in teaching profession and educational methodology and at least one additional unit in Advanced Placement or Dual-Credit Psychology, Child Development, Peer-to-Peer leadership, or child-related careers.

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; and

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.



## 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

1 unit selected from foreign languages; Native American languages; American Sign Language; fine arts; or career and technical education; and

2 units of Career and Technical Education (CTE) coursework within the same career and technical education coordinated plan of study; or an education pathway including 2 units in teaching profession and educational methodology and at least one additional unit in Advanced Placement or Dual-Credit Psychology, Child Development, Peer-to-Peer leadership, or child-related careers; and

2 additional units which must be in the area of 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).

Visit [www.nd.gov/cte/programs/career-dev/plans-of-study.html](http://www.nd.gov/cte/programs/career-dev/plans-of-study.html) for more information.



Career planning and exploration is a vital step 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.ndlmi.com](http://www.ndlmi.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.

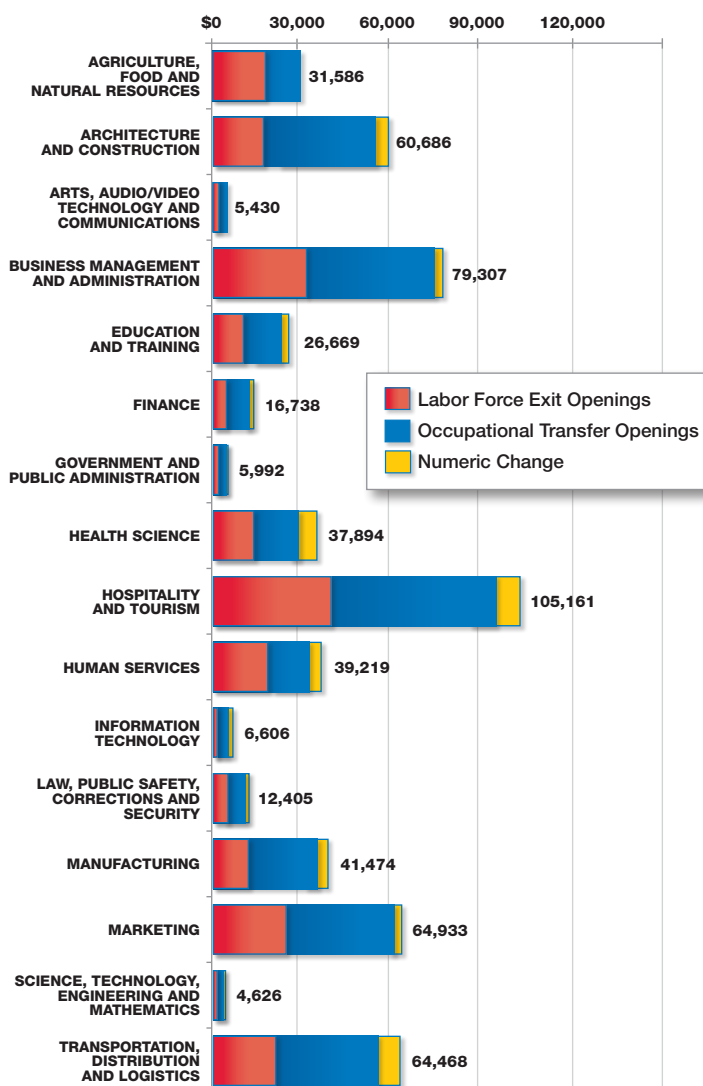
NORTH  
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Be Legendary.™



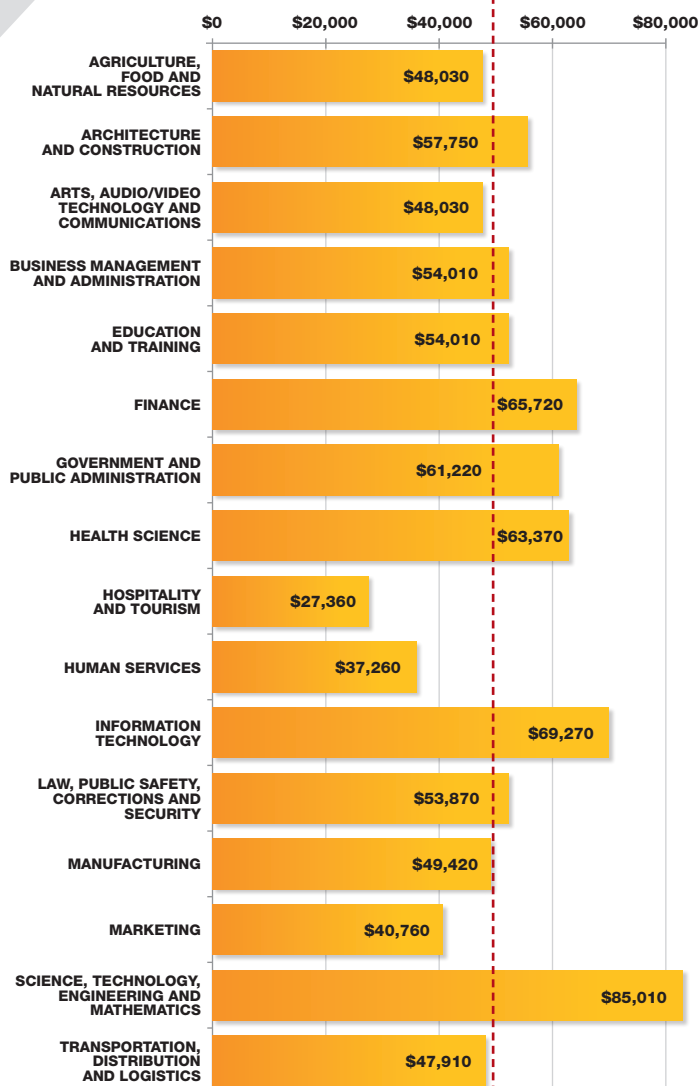
Job Service

## EMPLOYMENT PROJECTIONS 2016-2026 TOTAL OPENINGS



## AVERAGE 2018 WAGES

ND AVG  
\$49,620



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

**Dickinson**  
66 Osborn Dr  
701-227-3100

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

**Minot**  
3416 N Broadway  
701-857-7500

**Williston**  
422 1st Ave W  
701-774-7900

**Devils Lake**  
301 College Dr S  
701-662-9300

**Fargo**  
1350 32nd St S  
701-239-7300

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

**Wahpeton**  
524 2nd Ave N  
701-671-1550

• Central Office  
701-328-2825  
• Statewide TTY Relay ND  
800-366-6888

[jobsnd.com](http://jobsnd.com)



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



|    | 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.<br><input type="checkbox"/> Work with all ages and types of people.<br><input type="checkbox"/> Organize activities in which other people enjoy themselves.<br><input type="checkbox"/> Have a flexible schedule.<br><input type="checkbox"/> Help people make up their minds.<br><input type="checkbox"/> Communicate easily, tactfully, and courteously.<br><input type="checkbox"/> Learn about other cultures.                                | <input type="checkbox"/> Tactful<br><input type="checkbox"/> Self-motivated<br><input type="checkbox"/> Works well with others<br><input type="checkbox"/> Outgoing<br><input type="checkbox"/> Slow to anger  | <input type="checkbox"/> English/Language Arts/Speech<br><input type="checkbox"/> Foreign Language<br><input type="checkbox"/> Social Sciences<br><input type="checkbox"/> Marketing<br><input type="checkbox"/> Food Services               | Total                |
| 10 | <input type="checkbox"/> Care about people, their needs, and their problems.<br><input type="checkbox"/> Volunteer my services for the good of the community.<br><input type="checkbox"/> Listen to other people's viewpoints.<br><input type="checkbox"/> Help people be at their best.<br><input type="checkbox"/> Work with people from preschool age to old age.<br><input type="checkbox"/> Think of new ways to do things.<br><input type="checkbox"/> Make friends with different kinds of people.         | <input type="checkbox"/> Good communicator/good listener<br><input type="checkbox"/> Caring<br><input type="checkbox"/> Non-materialistic<br><input type="checkbox"/> Uses intuition (instinct) and logic<br><input type="checkbox"/> Non-judgmental         | <input type="checkbox"/> English/Language Arts<br><input type="checkbox"/> Psychology/Sociology<br><input type="checkbox"/> Family and Consumer Sciences<br><input type="checkbox"/> Finance<br><input type="checkbox"/> Foreign Language    | Total                |
| 11 | <input type="checkbox"/> Work with computers.<br><input type="checkbox"/> Reason clearly and logically to solve complex problems.<br><input type="checkbox"/> Use machines, techniques, and processes.<br><input type="checkbox"/> Read technical materials and diagrams and solve technical problems.<br><input type="checkbox"/> Adapt to change.<br><input type="checkbox"/> Play video games and figure out how they work.<br><input type="checkbox"/> Concentrate for long periods without being distracted. | <input type="checkbox"/> Logical/analytical thinker<br><input type="checkbox"/> See details in the big picture<br><input type="checkbox"/> Persistent<br><input type="checkbox"/> Good concentration skills<br><input type="checkbox"/> Precise and accurate | <input type="checkbox"/> Math<br><input type="checkbox"/> Science<br><input type="checkbox"/> Computer Technology<br><input type="checkbox"/> Communications<br><input type="checkbox"/> Graphic Design                                      | Total                |
| 12 | <input type="checkbox"/> Work under pressure or in the face of danger.<br><input type="checkbox"/> Make decisions based on my own observations.<br><input type="checkbox"/> Interact with other people.<br><input type="checkbox"/> Be in positions of authority.<br><input type="checkbox"/> Respect rules and regulations.<br><input type="checkbox"/> Debate and win arguments.<br><input type="checkbox"/> Observe and analyze people's behavior.   | <input type="checkbox"/> Adventurous<br><input type="checkbox"/> Dependable<br><input type="checkbox"/> Community-minded<br><input type="checkbox"/> Decisive<br><input type="checkbox"/> Optimistic   | <input type="checkbox"/> English/Language Arts<br><input type="checkbox"/> Psychology/Sociology<br><input type="checkbox"/> Social Studies<br><input type="checkbox"/> Law Enforcement<br><input type="checkbox"/> First Aid/First Responder | Total                |
| 13 | <input type="checkbox"/> Work with hands and learn that way.<br><input type="checkbox"/> Put things together.<br><input type="checkbox"/> Do routine, organized and accurate work.<br><input type="checkbox"/> Perform activities that produce real, concrete results.<br><input type="checkbox"/> Apply math to work out solutions.<br><input type="checkbox"/> Use hand and power tools and operate equipment machinery.<br><input type="checkbox"/> Visualize objects in three dimensions from flat drawings.  | <input type="checkbox"/> Practical<br><input type="checkbox"/> Observant<br><input type="checkbox"/> Physically active<br><input type="checkbox"/> Step-by-step thinker<br><input type="checkbox"/> Coordinated  | <input type="checkbox"/> Math-Geometry<br><input type="checkbox"/> Chemistry<br><input type="checkbox"/> Trade and Industry Courses<br><input type="checkbox"/> Physics<br><input type="checkbox"/> English/Language Arts                    | Total                |
| 14 | <input type="checkbox"/> Shop and go to the mall.<br><input type="checkbox"/> Be in charge.<br><input type="checkbox"/> Make displays and promote ideas.<br><input type="checkbox"/> Give presentations and enjoy public speaking.<br><input type="checkbox"/> Persuade people to buy products or to participate in activities.<br><input type="checkbox"/> Communicate my ideas to other people.<br><input type="checkbox"/> Take advantage of opportunities to make extra money.                                | <input type="checkbox"/> Enthusiastic<br><input type="checkbox"/> Competitive<br><input type="checkbox"/> Creative<br><input type="checkbox"/> Self-motivated<br><input type="checkbox"/> Persuasive   | <input type="checkbox"/> English/Language Arts<br><input type="checkbox"/> Math<br><input type="checkbox"/> Business Education/Marketing<br><input type="checkbox"/> Economics<br><input type="checkbox"/> Computer Applications             | Total                |
| 15 | <input type="checkbox"/> Interpret formulas.<br><input type="checkbox"/> Find the answers to questions.<br><input type="checkbox"/> Work in a laboratory.<br><input type="checkbox"/> Figure out how things work and investigate new things.<br><input type="checkbox"/> Explore new technology.<br><input type="checkbox"/> Experiment to find the best way to do something.<br><input type="checkbox"/> Pay attention to details and be precise.  | <input type="checkbox"/> Detail oriented<br><input type="checkbox"/> Inquisitive<br><input type="checkbox"/> Objective<br><input type="checkbox"/> Methodical<br><input type="checkbox"/> Mechanically inclined  | <input type="checkbox"/> Drafting/Computer-Aided Drafting<br><input type="checkbox"/> Math<br><input type="checkbox"/> Science<br><input type="checkbox"/> Electronics/Computer Networking<br><input type="checkbox"/> Technology Education  | Total                |
| 16 | <input type="checkbox"/> Travel.<br><input type="checkbox"/> See well and have quick reflexes.<br><input type="checkbox"/> Solve mechanical problems.<br><input type="checkbox"/> Design efficient processes.<br><input type="checkbox"/> Anticipate needs and prepare to meet them.<br><input type="checkbox"/> Drive or ride.<br><input type="checkbox"/> Move things from one place to another.  | <input type="checkbox"/> Realistic<br><input type="checkbox"/> Mechanical<br><input type="checkbox"/> Coordinated<br><input type="checkbox"/> Observant<br><input type="checkbox"/> Planner  | <input type="checkbox"/> Math<br><input type="checkbox"/> Trade and Industry Courses<br><input type="checkbox"/> Physical Sciences<br><input type="checkbox"/> Economics<br><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. 39 |
| 4 | Business Management & Administration  | P. 22 | 12 | Law, Public Safety, Corrections & Security     | P. 41 |
| 5 | Education & Training                  | P. 25 | 13 | Manufacturing                                  | P. 43 |
| 6 | Finance                               | P. 27 | 14 | Marketing                                      | P. 46 |
| 7 | Government & Public Administration    | P. 29 | 15 | Science, Technology, Engineering & Mathematics | P. 48 |
| 8 | Health Science                        | P. 31 | 16 | Transportation, Distribution & Logistics       | P. 50 |

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

**RUReady.ND.gov**  
EDUCATION & CAREER PLANNING

# HOW TO USE THE OCCUPATIONAL SECTION

|   |  | National             | 5 ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              | 6                       |
|---|--|----------------------|------------------------|----------------|--------------------------|--|-------------------------|
| Occupational Title/Description 1  | Holland Code 2<br>Related Occupations 3                              | 4<br>Number Employed | Number Employed        | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) 7 |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree  |  |                      |                        |                |                          |  |                         |
| Agricultural Equipment Operators Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops. May perform tasks, such as crop baling or hay bucking. | Realistic<br>Tractor Operator;<br>Hay Baler; Combine Operator        | 63,900               | 706                    | 1,161          | Below Avg Growth         | \$31,050<br>\$39,760                             |                         |
| Derrick Operators, Oil and Gas Rig derrick equipment and operate pumps to circulate mud through drill hole.   | Realistic<br>Rotary Derrick Operator;<br>Well Service Derrick Worker | 11,100               | 606                    | 1,338          | Exceptional Growth       | \$41,670<br>\$59,550                             | ☀️                      |

**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.

**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 2016-2026**

**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 \$60,164.
- ⚙️ 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         |
|--|--------------|---|--------------|
| <b>Agriculture, Food &amp; Natural Resources</b> | <b>P. 14</b> | <b>Information Technology</b>                             | <b>P. 39</b> |
| <b>Architecture &amp; Construction</b>           | <b>P. 17</b> | <b>Law, Public Safety, Corrections &amp; Security</b>     | <b>P. 41</b> |
| <b>Arts, A/V Technology &amp; Communications</b> | <b>P. 20</b> | <b>Manufacturing</b>                                      | <b>P. 43</b> |
| <b>Business Management &amp; Administration</b>  | <b>P. 22</b> | <b>Marketing</b>  | <b>P. 46</b> |
| <b>Education &amp; Training</b>                  | <b>P. 25</b> | <b>Science, Technology, Engineering &amp; Mathematics</b> | <b>P. 48</b> |
| <b>Finance</b>                                   | <b>P. 27</b> | <b>Transportation, Distribution &amp; Logistics</b>       | <b>P. 50</b> |
| <b>Energy</b>                                    | <b>P. 28</b> |   |              |
| <b>Government &amp; Public Administration</b>    | <b>P. 29</b> |   |              |
| <b>Health Science</b>                            | <b>P. 31</b> |   |              |
| <b>Hospitality &amp; Tourism</b>                 | <b>P. 34</b> |   |              |
| <b>Human Services</b>                            | <b>P. 36</b> |   |              |

The occupation information in this section is taken from the 2016-2026 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.....22  | Education Administrators, Preschool and<br>Childcare Center/Program.....25   | Judicial Law Clerks.....41  | Property, Real Estate, and Community<br>Association Managers.....22                                |
| Administrative Services Managers.....22  | Educational, Guidance, School, and<br>Vocational Counselors.....25           | Kindergarten Teachers, Except<br>Special Education.....25                         | Public Address System and Other<br>Announcers.....20   |
| Agricultural Equipment Operators.....14  | Electrical and Electronic Engineering<br>Technicians.....48                  | Landscaping and Groundskeeping<br>Workers.....17                                  | Public Relations and Fundraising<br>Managers.....46  |
| Agricultural Inspectors.....14   | Electrical Engineers.....48  | Lawyers.....41  | Public Relations Specialists.....23  |
| Aircraft Mechanics and Service<br>Technicians.....50                             | Electricians.....17  | Library Technician.....20   | Radiologic Technologists.....31  |
| Ambulance Drivers and Attendants, Except<br>Emergency Medical Technicians.....50 | Elementary School Teachers,<br>Except Special Education.....25               | Lifeguards, Ski Patrol and Other<br>Recreational Protective Workers.....34        | Real Estate Agents.....46  |
| Amusement and Recreation Attendants.....34                                       | Eligibility Interviewers, Government<br>Programs.....29                      | Loan Interviewers and Clerks.....27   | Receptionists and Information Clerks.....22  |
| Appraisers and Assessors of Real Estate.....46                                   | Emergency Management Directors.....29  | Loan Officers.....28  | Recreation Workers.....34  |
| Architects, except landscape and naval.....18                                    | Emergency Medical Technicians.....31   | Logisticians.....51   | Rehabilitation Counselors.....33   |
| Architectural and Civil Drafters.....17  | Environmental Engineers.....14   | Machinery Maintenance Workers.....43  | Residential Advisors.....36  |
| Architectural and Engineering<br>Managers.....18                                 | Environmental Science and Protection<br>Technicians, Including Health.....48 | Machinists.....43   | Respiratory Therapists.....31  |
| Art Directors.....20   | Environmental Scientists and Specialists,<br>Including Health.....48         | Maintenance and Housekeeping Cleaners.....34                                      | Retail Salespersons.....46   |
| Athletic Trainers.....31   | Farm Equipment Mechanics and Service<br>Technicians.....14                   | Maintenance and Repair Workers,<br>General.....17                                 | Rotary Drill Operators, Oil and Gas.....14   |
| Audio and Video Equipment Technicians.....20                                     | Farmworkers and Laborers, Crop, Nursery,<br>and Greenhouse.....14            | Management Analysts.....23  | Roustabouts, Oil and Gas.....14  |
| Automotive Service Technicians and<br>Mechanics.....50                           | Film and Video Editors.....20  | Market Research Analysts and Marketing<br>Specialists.....46                      | Sales Managers.....46  |
| Bakers.....34  | Financial Analysts.....28  | Marketing Managers.....46   | Sales Representatives, Wholesale and<br>Manufacturing, Technical and Scientific<br>Products.....44 |
| Billing and Posting Clerks.....22  | Financial Examiners.....29   | Marriage and Family Therapists.....36   | Secondary School Teachers, Except Special<br>and Career/Technical Education.....26                 |
| Bookkeeping, Accounting, and Auditing<br>Clerks.....22                           | Financial Managers.....28  | Massage Therapists.....36   | Securities and Financial Services<br>Sales Agents.....28   |
| Brokerage Clerks.....27  | Fire Fighting and Prevention Workers<br>Supervisors.....41                   | Mechanical Drafters.....48  | Security Guards.....41   |
| Budget Analysts.....22   | Fire Inspectors and Investigators.....41                                     | Mechanical Engineer.....49  | Self-Enrichment Education Teachers.....25  |
| Bus and Truck Mechanics/Diesel Engine<br>Specialists.....50                      | Firefighters.....41  | Mechanical Engineering Technicians.....48   | Service Unit Operators, Oil, Gas and<br>Mining.....14  |
| Bus Drivers, School or Special Client.....50                                     | Fish and Game Wardens.....41   | Medical and Health Services Managers.....32                                       | Skincare Specialists.....36  |
| Career/Technical Education Teachers,<br>Secondary School.....25                  | Fitness Trainers and Aerobics<br>Instructors.....25                          | Medical Records and Health Information<br>Technicians.....31                      | Social and Community Service<br>Managers.....37  |
| Cargo and Freight Agents.....50  | Food Preparation Workers.....34  | Medical Secretaries.....22  | Social and Human Service Assistants.....36   |
| Carpenters.....17  | Food Scientists and Technologists.....14                                     | Meeting, Convention, and<br>Event Planners.....34                                 | Software Developers, Applications.....39   |
| Cashiers.....46  | Food Service Managers.....34   | Mental Health and Substance Abuse<br>Social Workers.....37                        | Soil and Plant Scientists.....15   |
| Chefs and Head Cooks.....34  | Forest and Conservation Technicians.....48                                   | Merchandise Displayers and Window<br>Trimmers.....46                              | Special Education Teachers, Kindergarten<br>and Elementary School.....26                           |
| Chemical Technicians.....48  | Freight, Stock and Material Handlers.....50                                  | Millwrights.....17  | Speech-Language Pathologists.....33  |
| Child, Family, and School Social<br>Workers.....36                               | Fundraisers.....46   | Mining and Geological Engineers.....49  | Statisticians.....49   |
| Childcare Workers.....25   | Gaming Surveillance Officers and<br>Gaming Investigators.....41              | Morticians, Undertakers, and Funeral<br>Directors.....36                          | Stock Clerks and Order Fillers.....22  |
| Childcare Workers.....36   | General and Operations Managers.....22                                       | Multiple Machine Tool Setters, Operators<br>and Tenders, Metal and Plastic.....43 | Supervisors of Construction Trades<br>Workers.....17   |
| Civil Engineering Technicians.....48   | Graphic Designers.....20   | Network and Computer Systems<br>Administrators.....39                             | Supervisors of Office/Administrative<br>Support Workers.....22                                     |
| Civil Engineers.....18   | Hairdressers, Hairstylists, and<br>Cosmetologists.....36                     | Nurse Practitioners.....33  | Supervisors of Production and Operating<br>Workers.....43  |
| Cleaners of Vehicles and Equipment.....50  | Hazardous Materials Removal Workers.....17                                   | Nurses, Registered.....31   | Supervisors of Retail Sales Workers.....46   |
| Clergy.....36  | Health Specialties Teachers,<br>Postsecondary.....25                         | Nursing Instructors and Teachers,<br>Postsecondary.....25                         | Surgical Technologists.....31  |
| Clinical, Counseling, and School<br>Psychologists.....36                         | Healthcare Social Workers.....32   | Occupational Health and Safety<br>Specialists.....15                              | Surveying and Mapping Technicians.....17   |
| Coating, Painting, and Spraying Machine<br>Setters.....43                        | Heating and Air Conditioning<br>Mechanics.....17                             | Occupational Therapists.....33  | Surveyors.....18   |
| Commercial and Industrial Designers.....20                                       | Heavy and Tractor-Trailer Drivers.....50                                     | Operations Research Analysts.....39   | Tank Car, Truck, and Ship Loaders.....50   |
| Commercial Pilots.....50   | Helpers—Installation, Maintenance, and<br>Repair.....43                      | Ophthalmic Medical Technicians.....31   | Tax Examiners and Collectors, and<br>Revenue Agents.....29   |
| Community Health Workers.....36  | Highway Maintenance Workers.....17   | Optometrists.....33   | Tax Preparers.....28   |
| Computer Network Support Specialists.....38                                      | Home Health Aides.....31   | Paralegals and Legal Assistants.....41  | Teacher Assistants.....25  |
| Computer User Support Specialists.....38   | Hosts and Hostesses.....34   | Parts Salespersons.....14   | Technical Writers.....20   |
| Computer-Controlled Machine Tool<br>Operators, Metal and Plastic.....43          | Hotel, Motel, and Resort Desk Clerks.....34                                  | Payroll and Timekeeping Clerks.....22   | Telecommunications Equipment Installers<br>and Repairers.....20                                    |
| Conservation Scientists.....14   | Human Resources Specialists.....23   | Personal Care Aides.....36  | Telecommunications Line Installers and<br>Repairers.....20   |
| Construction and Building Inspectors.....17                                      | Hydrologists.....48  | Personal Financial Advisors.....28  | Title Examiners, Abstractors, and<br>Searchers.....29  |
| Construction Managers.....18   | Industrial Engineering Technicians.....48                                    | Petroleum Engineers.....49  | Tool and Die Makers.....43   |
| Cooks, Restaurant.....34   | Industrial Engineers.....48  | Pharmacy Technicians.....31   | Training and Development Specialists.....23  |
| Cost Estimators.....18   | Industrial Machinery Mechanics.....43  | Physician Assistants.....33   | Transportation, Storage, and Distribution<br>Managers.....50                                       |
| Crane and Tower Operators.....50   | Industrial Production Managers.....44  | Physical Therapists.....33  | Veterinarians.....15   |
| Credit Analysts.....28   | Industrial Truck and Tractor Operators.....50                                | Plumbers and Pipefitters.....17   | Veterinary Technologists and<br>Technicians.....14   |
| Credit Authorizers, Checkers, and Clerks.....27                                  | Information Security Analysts.....39   | Police and Sheriff's Patrol Officers.....41                                       | Waiters and Waitresses.....34  |
| Credit Counselors.....28   | Inspectors, Testers, Sorters, Samplers,<br>and Weighers.....43               | Police, Fire, and Ambulance<br>Dispatchers.....41                                 | Web Developers.....38  |
| Crushing, Grinding, and Polishing Machine<br>Setters.....43                      | Instructional Coordinators.....25  | Power Plant Operators.....43  | Welders, Cutters, Solderers, and Brazers.....43  |
| Customer Service Representatives.....22  | Insurance Claims and Policy Processing<br>Clerks.....27                      | Preschool Teachers, Except<br>Special Education.....25                            | Wind Turbine Service Technicians.....17  |
| Demonstrators and Product Promoters.....46                                       | Insurance Sales Agents.....27  | Probation Officers and Correctional<br>Treatment Specialists.....41               | Woodworking Machine Setters and<br>Operators.....44  |
| Dental Hygienists.....31   | Interior Designers.....20  | Procurement Clerks.....22   | Writers and Authors.....20   |
| Dentists.....31  | Interpreters and Translators.....20  | Producers and Directors.....20  |  |
| Derrick Operators, Oil and Gas.....14  | Judges, Magistrate Judges, and<br>Magistrates.....41                         | Production, Planning, and<br>Expediting Clerks.....43                             |  |
| Diagnostic Medical Sonographers.....31   |  |   |  |
| Dietetic Technicians.....31  |  |   |  |
| Dietitians and Nutritionists.....32  |  |   |  |
| Directors, Religious Activities and<br>Education.....36                          |  |   |  |
| Education Administrators, Elementary and<br>Secondary School.....25              |  |   |  |

# 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 2016-2026 |                |                          | ND Earnings Outlook                              |                       |
|--|---|-----------------|----------------------|----------------|--------------------------|--|-----------------------|
| Occupational Title/Description   | Holland Code<br>Related Occupations   | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree   |   |                 |                      |                |                          |  |                       |
| <b>Agricultural Equipment Operators</b> Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops. May perform tasks, such as crop baling or hay bucking.   | Realistic<br><br>Tractor Operator;<br>Hay Baler; Combine Operator   | 63,900          | 706                  | 1,161          | Below Avg Growth         | \$31,050<br>\$39,760                             |                       |
| <b>Derrick Operators, Oil and Gas</b> Rig derrick equipment and operate pumps to circulate mud through drill hole.   | Realistic<br><br>Rotary Derrick Operator;<br>Well Service Derrick Worker                                      | 11,100          | 606                  | 1,338          | Exceptional Growth       | \$41,670<br>\$59,550                             | ☀️                    |
| <b>Farm Equipment Mechanics and Service Technicians</b> Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.  | Realistic<br><br>Combine Mechanic;<br>Irrigation Equipment Mechanic   | 42,500          | 1,035                | 1,212          | Avg to Near Avg Growth   | \$35,500<br>\$49,000                             |                       |
| <b>Farmworkers and Laborers, Crop, Nursery, and Greenhouse</b> 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.                      | Realistic<br><br>Greenhouse Transplanter  | 503,700         | 3,108                | 4,781          | Below Avg Growth         | \$20,630<br>\$30,830                             |                       |
| <b>Parts Salespersons</b> Sell spare and replacement parts and equipment in repair shop or parts store.  | Enterprising<br><br>Auto Parts Salesperson;<br>Electronic Parts Salesperson                                   | 251,900         | 1,673                | 2,272          | Below Avg Growth         | \$27,610<br>\$41,290                             |                       |
| <b>Rotary Drill Operators, Oil and Gas</b> 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<br><br>Oil Well Cable Tool Operator   | 16,700          | 847                  | 1,804          | Exceptional Growth       | \$39,110<br>\$66,440                             | 🇺🇸☀️💰                 |
| <b>Roustabouts, Oil and Gas</b> Assemble or repair oil field equipment using hand and power tools. Perform other tasks as needed.  | Realistic<br><br>Oil Field Roustabout;<br>Oil Rig Roughneck   | 50,000          | 2,640                | 5,711          | Exceptional Growth       | \$43,870<br>\$53,490                             | ☀️                    |
| <b>Service Unit Operators, Oil, Gas and Mining</b> 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<br><br>Well Servicing Rig Operator  | 41,400          | 743                  | 1,516          | Exceptional Growth       | \$38,680<br>\$60,760                             | 🇺🇸☀️💰                 |
| <b>Veterinary Technologists and Technicians</b> Perform medical tests in a laboratory environment for use in the treatment and diagnosis of diseases in animals.   | Realistic<br><br>Veterinary Laboratory Technician; Veterinary Surgery Technologist; Veterinary X-ray Operator | 102,000         | 197                  | 231            | High Growth              | \$26,820<br>\$35,990                             | ☀️🗣️                  |
| Postsecondary Programs – Bachelor’s Degree or Higher   |   |                 |                      |                |                          |  |                       |
| <b>Agricultural Inspectors</b> 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<br><br>Grain Sampler; Milk Tester   | 15,600          | 198                  | 305            | Avg to Near Avg Growth   | \$31,680<br>\$43,130                             | 🗣️🇺🇸                  |
| <b>Conservation Scientists</b> 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<br><br>Range Ecologist; Soil Conservationist  | 22,300          | 291                  | 257            | Below Avg Growth         | \$43,890<br>\$64,900                             | 🇺🇸🗣️🗣️💰               |
| <b>Environmental Engineers</b> Research, design, plan, or perform engineering duties in the prevention, control, and remediation of environmental hazards using various engineering disciplines.   | Investigative<br><br>Pollution Control Engineer;<br>Soil Engineer; Water Treatment Engineer                   | 53,800          | 162                  | 132            | Avg to Near Avg Growth   | \$54,260<br>\$76,770                             | 🗣️💰🇺🇸                 |
| <b>Food Scientists and Technologists</b> 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<br><br>Dairy Bacteriologist;<br>Food Safety Scientist   | 17,000          | 43                   | 45             | Below Avg Growth         | \$42,120<br>\$65,520                             | 🗣️💰                   |

# AGRICULTURE, FOOD & NATURAL RESOURCES

|   |  | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |   |
|---|--|-----------------|----------------------|----------------|--------------------------|--|---|
| Occupational Title/Description  | Holland Code<br>Related Occupations  | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s)   |
| Postsecondary Programs – Bachelor’s Degree or Higher  |  |                 |                      |                |                          |  |   |
| <b>Occupational Health and Safety Specialists</b> 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  | 83,700          | 376                  | 296            | High Growth              | \$61,930   |  |
|   | Environmental Health Sanitarian; Health and Safety Inspector; Industrial Hygienist |                 |                      |                |                          | \$88,470   |  |
| <b>Soil and Plant Scientists</b> 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  | 19,900          | 228                  | 265            | Avg to Near Avg Growth   | \$48,650   |  |
|   | Arboreal Scientist; Horticulturist; Plant Physiologist                             |                 |                      |                |                          | \$75,800   |   |
| <b>Veterinarians</b> 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  | 79,600          | 250                  | 164            | High Growth              | \$67,940   |  |
|   | Veterinary Medicine Scientist  |                 |                      |                |                          | \$92,200   |  |

## North Dakota Agriculture, Food & Natural Resources Related Postsecondary Programs

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

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

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





# DANIEL BJERTNESS

Kindred High School



AGRICULTURAL ENGINEER  
MACHINIST/FABRICATOR

**FFA** quickly became the focus for Dan Bjertness after a 9th grade football injury ended his involvement in sports. The organization provided an opportunity to develop leadership and personal skills through the various activities, competitions, and conferences he was involved in. FFA also gave him a strong foundation to prepare for college and a future career. He began to strengthen his mechanical and engineering skills through the designing and building of various projects.

Dan grew up immersed in the agricultural industry. His passion for creating, designing, and agriculture made North Dakota State University's (NDSU) Agricultural Engineering program a great choice.

When asked about paying for college, Dan indicated that he started at NDSU with several scholarships. "Organizations, families, businesses, etc. are looking for young individuals to invest in. Give them a reason to invest in you. Apply for the scholarship and show them your potential. Take pride in what you've accomplished and prove you are worthy of an investment."

During college he had two internship experiences. During his first year, he worked for Titan Innovation which was a small engineering firm within Titan Machinery. A large part of his time was spent testing issues within the hydraulic system. He also gained personal skills from shadowing supervisors, co-workers and interacting with customers. During his last year of college, he interned with Helena Chemical. Responsibilities included assisting with product trials and documentation, customer visits and support, and product training. The most beneficial aspect of the last internship was the ability to network with individuals within the agriculture industry.

Dan is currently a field test engineer for Appareo, a company situated in numerous industries, including agriculture. As a test engineer, he is responsible for providing accurate studies of

performance, reliability, compatibility, and compliance of both existing and emerging technologies. When in the office, he creates and reviews test plans, procedures and reports, reviews product specifications, and provides insight to agricultural operations and equipment. Dan spends a significant portion of his work time traveling to field test equipment. Within the past six months, he has spent time in various locations within the United States and South America.

As an engineer, technical skills are vital in day-to-day operations. Dan continually uses problem-solving methods, technical skills, and critical thinking to root cause issues in design, develop test procedures and conditions, and assist in developing new technologies. Engineering typically involves creating unique solutions to unique challenges. Teamwork is essential in the practice of engineering. Very few individuals solely design products, processes, and technologies on their own. They are most likely working with a group of skilled and knowledgeable individuals.



# ARCHITECTURE & CONSTRUCTION

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



|  |   | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |                       |
|--|---|-----------------|----------------------|----------------|--------------------------|--|-----------------------|
| Occupational Title/Description   | Holland Code<br>Related Occupations   | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree   |   |                 |                      |                |                          |  |                       |
| <b>Architectural and Civil Drafters</b> 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<br>Building Drafter; Civil Computer-Aided Design Technician                    | 99,600          | 320                  | 348            | Avg to Near Avg Growth   | \$43,780<br>\$57,230                             |                       |
| <b>Carpenters</b> Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; and also wood stairways, window and door frames, and hardwood floors.                                   | Realistic<br>Building Carpenter; Wood Stair Builder; Wood Floor Layer                   | 1,025,600       | 3,081                | 3,039          | Below Avg Growth         | \$31,930<br>\$42,850                             |                       |
| <b>Construction and Building Inspectors</b> Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations.   | Realistic<br>Electrical Inspector; Elevator Inspector; Highway Inspector                | 105,100         | 247                  | 353            | High Growth              | \$41,800<br>\$85,040                             |                       |
| <b>Electricians</b> Install, maintain and repair electrical wiring, equipment and fixtures. Ensure that work is in accordance with relevant codes.   | Realistic<br>Solar Photovoltaic Electrician   | 666,900         | 3,827                | 4,616          | Below Avg Growth         | \$41,980<br>\$63,260                             |                       |
| <b>Hazardous Materials Removal Workers</b> Identify, remove, pack, transport, or dispose of hazardous materials, including asbestos, lead-based paint, waste oil, fuel, transmission fluid, radioactive materials, or contaminated soil. Specialized training and certification is generally required. | Realistic<br>Asbestos Abatement Worker; Decontamination Worker; Irradiated Fuel Handler | 46,200          | 125                  | 221            | High Growth              | \$42,830<br>\$54,940                             |                       |
| <b>Heating and Air Conditioning Mechanics</b> Install or repair heating, central air conditioning or refrigeration systems, including oil burners, hot-air furnace and heating stoves.   | Realistic<br>Plumbers, Sheet Metal Workers  | 332,900         | 999                  | 1,131          | Avg to Near Avg Growth   | \$37,000<br>\$56,120                             |                       |
| <b>Highway Maintenance Workers</b> 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 roadways.                  | Realistic<br>Road Patcher; Road Sign Installer  | 149,900         | 1,258                | 1,410          | Below Avg Growth         | \$35,820<br>\$47,370                             |                       |
| <b>Landscaping and Groundskeeping Workers</b> Landscape or maintain grounds of property using hand or power tools or equipment. Workers perform a variety of tasks including sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, and sprinkler installation.               | Realistic<br>Greenskeeper; Hedge Trimmer  | 1,197,900       | 2,827                | 4,014          | Avg to Near Avg Growth   | \$24,580<br>\$33,680                             |                       |
| <b>Maintenance and Repair Workers, General</b> 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<br>Building Maintenance Mechanic  | 1,432,600       | 4,049                | 4,768          | Avg to Near Avg Growth   | \$28,630<br>\$39,990                             |                       |
| <b>Millwrights</b> Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings.   | Realistic<br>Machine Assembler; Machinery Dismantler; Maintenance Millwright            | 39,500          | 164                  | 171            | Avg to Near Avg Growth   | \$42,790<br>\$52,750                             |                       |
| <b>Plumbers and Pipefitters</b> 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<br>Fire Sprinkler Installer; Sprinkler Fitter                                 | 480,600         | 1,740                | 2,250          | Avg to Near Avg Growth   | \$38,340<br>\$53,800                             |                       |
| <b>Supervisors of Construction Trades Workers</b> Directly supervise and coordinate activities of construction or extraction workers.  | Enterprising<br>Quarry Boss; Rig Supervisor   | 602,500         | 3,693                | 4,521          | Avg to Near Avg Growth   | \$52,060<br>\$80,780                             |                       |
| <b>Surveying and Mapping Technicians</b> 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<br>Field Map Technician; GIS Mapping Technician                               | 60,200          | 201                  | 278            | High Growth              | \$34,930<br>\$51,200                             |                       |
| <b>Wind Turbine Service Technicians</b> Inspect, diagnose, adjust, or repair wind turbines. Perform maintenance on wind turbine equipment including resolving electrical, mechanical, and hydraulic malfunctions.  | Realistic<br>Wind Energy Technician   | 5,800           | 194                  | 468            | Exceptional Growth       | \$45,200<br>\$67,520                             |                       |



Energy Occupation



Bright Outlook



High Skill
























High Wage



Military

# ARCHITECTURE & CONSTRUCTION

|  |  | National        | ND Outlook 2016 -2026 |                |                          | ND Earnings Outlook                              |  |
|--|--|-----------------|-----------------------|----------------|--------------------------|--|--|
| Occupational Title/Description   | Holland Code<br>Related Occupations                            | Number Employed | Number Employed       | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s)  |
| Postsecondary Programs – Bachelor's Degree or Higher   |  |                 |                       |                |                          |  |  |
| <b>Architects, except landscape and naval</b> Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property.  | Artistic   | 128,800         | 301                   | 262            | Avg to Near Avg Growth   | \$54,680   |    |
|  | Architectural Designer;<br>Structural Architect                |                 |                       |                |                          | \$79,570   |   |
| <b>Architectural and Engineering Managers</b> Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields.   | Enterprising   | 180,100         | 392                   | 354            | High Growth              | \$92,690   |    |
|  | Engineering Design Manager;<br>Mechanical Engineering Director |                 |                       |                |                          | \$122,500  |    |
| <b>Civil Engineers</b> Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, irrigation projects, pipelines, and water and sewage systems. | Realistic  | 303,500         | 1,215                 | 1,207          | High Growth              | \$57,840   |    |
|  | Bridge Engineer; Highway Engineer                              |                 |                       |                |                          | \$83,460   |   |
| <b>Construction Managers</b> Plan, organize, direct, and coordinate personnel activities concerned with alteration, maintenance, and repair of structures, facilities, and systems such as houses, office buildings, bridges, roads, and similar structures.             | Enterprising   | 403,800         | 1,099                 | 901            | Avg to Near Avg Growth   | \$60,880   |    |
|  | Construction Superintendent;<br>General Contractor             |                 |                       |                |                          | \$109,640  |   |
| <b>Cost Estimators</b> Prepare cost estimates for product manufacturing, construction projects or services to aid management in bidding or determining price of product or service.  | Conventional   | 217,900         | 607                   | 681            | Avg to Near Avg Growth   | \$46,210   |    |
|  | Job Cost Estimator; Production Cost Estimator                  |                 |                       |                |                          | \$69,010   |   |
| <b>Surveyors</b> Make exact measurements and determine property boundaries. Provide data relevant to shape, contour, gravitation, location, elevation, or dimension of land or land features.  | Realistic  | 44,800          | 368                   | 382            | High Growth              | \$52,760   |    |
|  | Land Surveyor; Mineral Surveyor                                |                 |                       |                |                          | \$75,360   |  <br> |



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                         |
|--------------------------------|--|---|---|
| <b>Construction</b>            | Building Construction Technology (BJCC, NDSCS, TMCC)<br>Building Trades (SBC)<br>Carpentry (BSC, BJCC, CCCC)<br>Concrete Technology (TMCC)<br>Construction Management/Technology (NDSCS, NHSC)<br>Electrical Technology (NDSCS, SBC)<br>Heating, Ventilation & Air Conditioning (BSC, NDSCS, TMCC)<br>Lineworker-Electrical (BSC)<br>Plumbing (NDSCS, TMCC)<br>Residential Electric (TMCC) | Construction Engineering (NDSU)<br>Construction Management (NDSU, UM)   | Construction Management (NDSU)                  |
| <b>Design/Pre-Construction</b> | Architectural Drafting and Estimating Technology (NDSCS)<br>Land Surveying and Civil Engineering Technology (NDSCS)<br>Pre-Engineering transfer (CCCC, NHSC)   | Architecture (NDSU)<br>Civil Engineering (NDSU)<br>Construction Engineering (NDSU)<br>Landscape Architecture (NDSU) | Architecture (NDSU)<br>Civil Engineering (NDSU) |
| <b>Maintenance/Operations</b>  | Mechanical Maintenance Technology (BSC)<br>Mechanical Systems (NDSCS)  |   |   |

## North Dakota Postsecondary Institutions Offering Architecture & Construction Related Programs

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



# APPRENTICESHIP

## LEE MARTINEZ

### Grafton High School



#### HIGH-PRECISION SKILLED CRAFTSMAN

Lee Martinez started attending college at Mayville State University after graduating from Grafton High School. His first career choice was to be an Athletic Trainer with a minor in Coaching. After a year and a half, he realized that continuing to go to college wasn't what he wanted, and he didn't have any other ideas on what he wanted to study. He started working in a welding shop to support himself while trying to decide his next life move. After working in the welding shop for six years, he started to look for an alternative.

Millwrights install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings. Lee had some knowledge about Union Millwrights and decided to give it a chance. According to Lee, the benefits of being a millwright are "great benefits, many opportunities, and having some control as to where and when you work." He is currently a foreman after just three years and runs the jobs with a crew. He is the first one at the work site and last one to leave. A typical week includes running tool talks every morning, creating a daily work plan, and filling out daily reports. What you are doing for the job determines how many hours you will have to work in a week. Lee considers 10 hours as a normal day.



Some of his work tasks include being able to identify and diagnose problems, read blue prints, and assemble machines valued at a million dollars. Lee has

also learned the importance of being on time, working well with others, having a great attitude, and being teachable.

The millwright apprenticeship includes a minimum of 7,000 work hours prior to graduating to Journeyman. Lee must also successfully complete 800 classroom hours. The classes are scheduled Monday through Friday, 7:30 a.m. to 4:00 p.m. Classroom weeks are scheduled five times each year for the length of the apprenticeship. Opportunities to advance to Foreman, General Foreman, and Superintendent would be available after becoming a Journeyman.

Being a millwright can give you opportunities to travel. Lee traveled to Maine last year to work in a paper mill. The job was to install a new machine made in Finland. More recently, he went to work on 98 wind towers scattered across three counties in Iowa. He saw all stages of building the tower from installing the base and tightening anchor bolts to climbing the tower and zipping on the rotor at the very top. He has also worked on ethanol and sugar beet plants in eastern North Dakota.

"I appreciate all the nice people and places I have visited because of this career. Not too many people have an opportunity to work and travel all over the world and gain so much from the experience. After choosing this career, I've grown physically and mentally strong."



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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 2016-2026 |                |                          | ND Earnings Outlook                              |   |
|--|---|-----------------|----------------------|----------------|--------------------------|--|---|
| Occupational Title/Description   | Holland Code<br>Related Occupations   | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s)   |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree   |   |                 |                      |                |                          |  |   |
| <b>Audio and Video Equipment Technicians</b> 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   | 83,300          | 174                  | 233            | High Growth              | \$33,560   |          |
|  | Multimedia Production Assistant; Video Control Operator                       |                 |                      |                |                          | \$49,370   |   |
| <b>Interpreters and Translators</b> Interpret oral or sign language, or translate written text from one language into another.   | Artistic  | 68,200          | 125                  | 147            | High Growth              | \$27,320   |     |
|  | American Sign Language Interpreter; Court Interpreter; Diplomatic Interpreter |                 |                      |                |                          | \$35,250   |   |
| <b>Library Technician</b> Assist librarians by helping readers in the use of library catalogs, databases, and indexes to locate books and other materials. Compile records; sort and shelve books or other media; remove or repair damaged books or other media.                         | Conventional  | 99,200          | 162                  | 232            | Below Avg Growth         | \$23,030   |   |
|  | Library Acquisitions Technician; Library Circulation Technician               |                 |                      |                |                          | \$32,510   |   |
| <b>Public Address System and Other Announcers</b> Make announcements over public address system at sporting or other public events. May act as master of ceremonies or disc jockey at weddings, parties, clubs, or other gathering places.   | Social  | 11,400          | 83                   | 112            | High Growth              | \$21,570   |    |
|  | Emcee; Ringmaster; Train Caller   |                 |                      |                |                          | \$41,220   |   |
| <b>Telecommunications Equipment Installers and Repairers</b> Service or repair telephone, cable television, Internet, and other communications equipment on customers’ property. May install communications equipment or communications wiring in buildings.                             | Realistic   | 237,600         | 670                  | 737            | Below Avg Growth         | \$45,170   |         |
|  | Fiber Optic Installer; Private Branch Exchange (PBX) Installer and Repairer   |                 |                      |                |                          | \$63,360   |   |
| <b>Telecommunications Line Installers and Repairers</b> Install and repair telecommunications cable, including fiber optics.   | Realistic   | 106,100         | 302                  | 298            | Zero to Declining Growth | \$41,200   |    |
|  | Cable Television Installer; FIOS Line Installer                               |                 |                      |                |                          | \$62,740   |   |
| Postsecondary Programs – Bachelor’s Degree or Higher   |   |                 |                      |                |                          |  |   |
| <b>Art Directors</b> Formulate design concepts and presentation approaches for visual communications media, such as print, broadcasting, and advertising. Direct workers engaged in art work or layout design.   | Artistic  | 90,300          | 76                   | 60             | Below Avg Growth         | \$46,480   |     |
|  | Magazine Designer   |                 |                      |                |                          | \$76,520   |   |
| <b>Commercial and Industrial Designers</b> 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  | 39,700          | 37                   | 42             | Avg to Near Avg Growth   | \$37,620   |    |
|  | Automobile Designer; Package Designer   |                 |                      |                |                          | \$49,640   |   |
| <b>Film and Video Editors</b> Edit moving images on film, video, or other media. May edit or synchronize soundtracks with images.  | Artistic  | 34,200          | 28                   | 37             | High Growth              | \$33,400   |    |
|  | Cue Selector; Film Editor; Television News Video Editor                       |                 |                      |                |                          | \$61,260   |   |
| <b>Graphic Designers</b> Design or create graphics to meet a client’s specific commercial or promotional needs, such as packaging, displays or logos.  | Artistic  | 266,300         | 674                  | 656            | Below Avg Growth         | \$30,090   |     |
|  | Catalogue Illustrator   |                 |                      |                |                          | \$41,800   |   |
| <b>Interior Designers</b> Plan, design, and furnish interiors of residential, commercial, or industrial buildings. Formulate design which is practical, aesthetic, and conducive to intended purposes.   | Artistic  | 66,500          | 201                  | 214            | Avg to Near Avg Growth   | \$32,500   |    |
|  | Home Lighting Advisor; Kitchen Designer                                       |                 |                      |                |                          | \$48,960   |   |
| <b>Producers and Directors</b> Produce or direct stage, television, radio, video, or motion picture productions for entertainment, information, or instruction. Responsible for decisions such as script, choice of actors or guests, set design and choreography.                       | Enterprising  | 134,700         | 243                  | 239            | Below Avg Growth         | \$24,490   |    |
|  | Casting Director; Independent Film Maker                                      |                 |                      |                |                          | \$42,570   |   |
| <b>Technical Writers</b> Write technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. May assist in layout work.   | Artistic  | 52,400          | 72                   | 86             | Avg to Near Avg Growth   | \$37,580   |    |
|  | Documentation Writer; Medical Writer; Specifications Writer                   |                 |                      |                |                          | \$56,140   |   |
| <b>Writers and Authors</b> Writers and authors develop written content for advertisements, books, magazines, movie and television scripts, songs, and online publications.   | Enterprising  | 131,200         | 363                  | 336            | Below Avg Growth         | \$28,910   |    |
|  | Advertising Copy Writer; Playwright   |                 |                      |                |                          | \$48,060   |   |

# ARTS, A/V TECHNOLOGY & COMMUNICATIONS

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

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

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

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



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# BUSINESS MANAGEMENT & ADMINISTRATION

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

|  |  | National        | ND Outlook 2016 -2026 |                |                          | ND Earnings Outlook                              |                       |
|--|--|-----------------|-----------------------|----------------|--------------------------|--|-----------------------|
| Occupational Title/Description   | Holland Code<br>Related Occupations  | Number Employed | Number Employed       | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree   |  |                 |                       |                |                          |  |                       |
| <b>Billing and Posting Clerks</b> 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   | 501,000         | 933                   | 1,140          | Avg to Near Avg Growth   | \$33,280   |                       |
|  | Invoice Control Clerk;<br>Patient Account Representative;<br>Statement Processor |                 |                       |                |                          | \$41,120   |                       |
| <b>Bookkeeping, Accounting, and Auditing Clerks</b> 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   | 1,730,500       | 6,744                 | 7,787          | Below Avg Growth         | \$25,750   |                       |
|  | Accounts Receivable Clerk;<br>Bookkeeper;<br>Mortgage Accounting Clerk           |                 |                       |                |                          | \$38,220   |                       |
| <b>Customer Service Representatives</b> Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints.  | Enterprising   | 2,784,500       | 6,498                 | 9,028          | Below Avg Growth         | \$27,240   |                       |
|  | Customer Complaint Clerk;<br>Warranty Clerk                                      |                 |                       |                |                          | \$37,910   |                       |
| <b>Medical Secretaries</b> 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.                                | Conventional   | 574,200         | 873                   | 1,228          | High Growth              | \$28,070   |                       |
|  | Dental Secretary;<br>Psychiatric Secretary                                       |                 |                       |                |                          | \$37,790   |                       |
| <b>Payroll and Timekeeping Clerks</b> 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   | 166,300         | 655                   | 680            | Below Avg Growth         | \$29,390   |                       |
|  | Time and Attendance Clerk  |                 |                       |                |                          | \$45,190   |                       |
| <b>Procurement Clerks</b> Compile information and records to draw up purchase orders for procurement of materials and services.  | Conventional   | 74,900          | 355                   | 400            | Below Avg Growth         | \$34,510   |                       |
|  | Purchasing Clerk   |                 |                       |                |                          | \$43,970   |                       |
| <b>Property, Real Estate, and Community Association Managers</b> Plan, direct, or coordinate the selling, buying, leasing, or governance activities of commercial, industrial, or residential real estate properties.  | Enterprising   | 317,300         | 694                   | 685            | Avg to Near Avg Growth   | \$29,110   |                       |
|  | Apartment Manager;<br>Building Rental Manager;<br>Leasing Property Manager       |                 |                       |                |                          | \$52,550   |                       |
| <b>Receptionists and Information Clerks</b> 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   | 1,053,700       | 1,899                 | 2,737          | Below Avg Growth         | \$22,370   |                       |
|  | Appointment Clerk;<br>Front Desk Receptionist                                    |                 |                       |                |                          | \$29,480   |                       |
| <b>Stock Clerks and Order Fillers</b> 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.  | Conventional   | 2,008,600       | 5,586                 | 7,779          | Below Avg Growth         | \$21,740   |                       |
|  | Inventory Control Clerk;<br>Tool Crib Attendant;<br>Warehouse Clerk              |                 |                       |                |                          | \$29,330   |                       |
| <b>Supervisors of Office/Administrative Support Workers</b> Directly supervise and coordinate the activities of clerical and administrative support workers.   | Enterprising   | 1,506,300       | 3,214                 | 3,473          | Below Avg Growth         | \$38,410   |                       |
|  | Clerical Supervisor;<br>Payroll Supervisor                                       |                 |                       |                |                          | \$55,100   |                       |
| Postsecondary Programs – Bachelor’s Degree or Higher   |  |                 |                       |                |                          |  |                       |
| <b>Accountants and Auditors</b> Examine, analyze, and interpret accounting records to prepare financial statements, give advice, or audit and evaluate statements prepared by others.  | Conventional   | 1,397,700       | 4,257                 | 4,708          | Avg to Near Avg Growth   | \$37,710   |                       |
|  | Certified Public Accountant;<br>Internal Auditor                                 |                 |                       |                |                          | \$61,870   |                       |
| <b>Administrative Services Managers</b> 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   | 281,700         | 664                   | 661            | Avg to Near Avg Growth   | \$56,530   |                       |
|  | Facilities Manager; Records and Information Manager                              |                 |                       |                |                          | \$87,470   |                       |
| <b>Budget Analysts</b> Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Analyze budgeting and accounting reports.   | Conventional   | 58,400          | 122                   | 106            | Below Avg Growth         | \$54,530   |                       |
|  | Budget Examiner; Cost Analyst  |                 |                       |                |                          | \$70,030   |                       |
| <b>General and Operations Managers</b> 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   | 2,263,100       | 6,909                 | 7,150          | Avg to Near Avg Growth   | \$53,070   |                       |
|  | General Superintendent;<br>Television Station Manager                            |                 |                       |                |                          | \$103,100  |                       |

# BUSINESS MANAGEMENT & ADMINISTRATION

|   |   | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |   |
|---|---|-----------------|----------------------|----------------|--------------------------|--|---|
| Occupational Title/Description  | Holland Code<br>Related Occupations                               | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s)   |
| Postsecondary Programs – Bachelor’s Degree or Higher  |   |                 |                      |                |                          |  |   |
| <b>Human Resources Specialists</b> Perform activities in the human resource area. Includes employment specialists who screen, recruit, interview, and place workers.  | Enterprising  | 547,800         | 1,325                | 1,571          | Avg to Near Avg Growth   | \$41,340   |   |
|   | Personnel Recruiter;<br>Staffing Coordinator                      |                 |                      |                |                          | \$60,230   |   |
| <b>Management Analysts</b> Conduct organizational studies and evaluations, design systems and procedures to assist management in operating more efficiently and effectively.                                      | Investigative   | 806,400         | 626                  | 657            | Avg to Near Avg Growth   | \$48,410   |   |
|   | Business Management Analyst;<br>Business Process Consultant       |                 |                      |                |                          | \$79,130   |   |
| <b>Public Relations Specialists</b> 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         | 650                  | 741            | Avg to Near Avg Growth   | \$39,830   |   |
|   | Press Secretary; Publicity Writer                                 |                 |                      |                |                          | \$62,260   |   |
| <b>Training and Development Specialists</b> Design and conduct training and development programs to improve individual and organizational performance. May analyze training needs.                                | Social  | 282,800         | 660                  | 806            | Avg to Near Avg Growth   | \$41,020   |    |
|   | Computer Training Specialist;<br>Workforce Development Specialist |                 |                      |                |                          | \$59,830   |   |

| North Dakota Business Management & Administration Related Postsecondary Programs |  |   |   |
|--|--|---|---|
| Pathway  | Certificate or Associate's Degree  | Bachelor's Degree   | Master's Degree or More   |
| <b>Administrative Support</b>  | Administrative Assistant (BSC, NHSC)<br>Bookkeeping (DCB)<br>Computer Support Specialist (TMCC)<br>General Office Aide (DCB)<br>Office Administration (BJCC, DSU)<br>Office Technology (CCCC)<br>Reception Services (DCB)  |   |   |
| <b>Business Information Management</b>   | Business Management (MaSU, NDSCS, RC, UTTC, WSC)<br>Business Technology Management (NDSCS)<br>Business Transfer (NDSCS)<br>Computer Information Systems/Technology (DCB, UTTC)<br>Information Processing Specialist (BSC)<br>Information Technology/Management (DCB, LRSC, NDSCS, RC, SBC, WSC)<br>Management Information Systems transfer (NDSCS) | Applied Business Information Technology (MiSU)<br>Business Management (RC)<br>Business Process Integration Management (VCSU)<br>Information Systems (UND, TBC)<br>Information Technology Management (RC, UJ, UM)<br>Management Communication (NDSU)<br>Management Information Science (UJ)<br>Management Information Systems (MiSU, NDSU) | Information Systems (MiSU)  |
| <b>General Management</b>  | Business Administration (BSC, CCCC, DCB, LRSC, NDSCS, NHSC, SBC, TBC, TMCC, UTTC)<br>Business Education transfer (BSC, DCB)<br>Computer Support Specialist (TMCC)<br>Computerized Office Management (DCB)<br>Entrepreneurship (NDSCS, NHSC, TMCC)<br>Management (BSC)<br>Management Entrepreneurship (BSC)<br>Small Business Management (DCB)      | Business Administration (DSU, MaSU, NDSU, SBC, TBC, UTTC, UJ, UM, VCSU)<br>Business Education (DSU, MiSU, UM, VCSU)<br>Entrepreneurship (MiSU, UND, TBC)<br>International Business (MiSU)<br>Management (MiSU, NDSU, UND, VCSU)   | Business (UM, UND)<br>Business Administration (NDSU, UM)<br>Management (MiSU)<br>Project Management (UM)<br>Public Administration (UM, UND)<br>Sports Management (MiSU) |
| <b>Human Resources Management</b>  |  | Human Resource Management (UND)<br>Human Resources and Organizational Leadership (RC)   |   |
| <b>Operations Management</b>   |  | Business Economics (UND)<br>Business Management (RC, UM)<br>Management Communication (NDSU)<br>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.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      |
| NHSC   | Nueta Hidatsa Sahnish College      | http://nhsc.edu                     |      |                                   |                             |



# BRENNA BIGWOOD

Fargo, Davies High School



SHOPAHOLIC • BOOK LOVER  
FRENCH FRY FANATIC

Pharmacy was the career Brenna focused on while attending Davies High School. Science came easily for her and she wanted a job that would make her a lot of money. But after learning that a 12th grade AP science course she planned to take would not count as college credit, she decided to take more business classes. Her course load during senior year was the most enjoyable ever.

Brenna changed her major to Marketing. She didn't realize until her first day of classes at NDSU that the Retail Merchandising major even existed. She stumbled across the program and realized that it combined her love for both fashion and business. She changed her major and has never looked back. While in college, Brenna was fortunate to be selected as a Retail Merchandising Intern at Scheels, which gave her a glimpse of the career she is in today. The internship was an opportunity to see if her dream job was the right fit and to apply what she was learning in the classroom.

A typical day in the office for Brenna begins at 7:00 a.m. She checks her emails along with daily company sales and other reports. She meets with vendors to view their product lines and to select what Scheels wants to carry in all of its 27 stores. After viewing lines, they work on writing orders for the product that will be sold in the Scheels stores. Afternoons are spent on emails and helping stores with any questions. She also travels to all store locations to meet with each of the teams and help find ways to grow sales.

Communication is the most significant skill for Brenna. She needs to be able to effectively communicate with many different people including vendors, store employees and other leaders in the office. Each of these groups require slightly different communications styles when delivering the same message.

Brenna suggests two things regarding college debt. 1) Apply for as many scholarships as possible. Even small ones add up and impact the bigger picture. 2) Only borrow what you actually NEED in student loans. It's very easy to get caught up in wanting to take out extra for "fun money," but it all adds up so fast and it's not worth it. Find a part-time job for fun money rather than taking out a loan and having to pay it back later with interest.

She also suggests getting comfortable with being uncomfortable. College and your career will push you outside of your box. "I wish I would have tried a wider variety of courses in high school. Don't limit yourself to certain subjects. Try a new course that you may not feel as confident in as others."

Brenna knows she chose the right career path because she loves her job so much that she plans to still be working for Scheels in the Line Leader Office in 10 years.







# EDUCATION & TRAINING

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

|  |  | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |                       |
|--|--|-----------------|----------------------|----------------|--------------------------|--|-----------------------|
| Occupational Title/Description   | Holland Code<br>Related Occupations  | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree   |  |                 |                      |                |                          |  |                       |
| <b>Childcare Workers</b> 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<br><br>Au Pair; Daycare Provider; Nanny   | 1,216,600       | 4,754                | 7,629          | Below Avg Growth         | \$19,730<br>\$25,190                             |                       |
| <b>Fitness Trainers and Aerobics Instructors</b> 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<br><br>Personal Trainer; Yoga Instructor  | 299,200         | 1,046                | 1,916          | Below Avg Growth         | \$19,060<br>\$31,730                             |                       |
| <b>Preschool Teachers, Except Special Education</b> 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.           | Social<br><br>Head Start Teacher; Nursery School Teacher; Pre-Kindergarten Teacher           | 478,500         | 993                  | 1,224          | Avg to Near Avg Growth   | \$20,970<br>\$28,220                             | 🧠                     |
| <b>Self-Enrichment Education Teachers</b> 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<br><br>Citizenship Teacher; Horseback Riding Instructor                               | 354,200         | 742                  | 1,102          | High Growth              | \$25,360<br>\$43,940                             | ☀️                    |
| <b>Teacher Assistants</b> 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<br><br>Instructional Aide; Special Education Classroom Aide                           | 1,308,100       | 5,420                | 6,371          | Avg to Near Avg Growth   | \$25,170<br>\$32,550                             |                       |
| Postsecondary Programs – Bachelor’s Degree or Higher   |  |                 |                      |                |                          |  |                       |
| <b>Career/Technical Education Teachers, Secondary School</b> Teach occupational, career and technical, or vocational subjects at the secondary school level in public or private schools.  | Social<br><br>Auto Repair Teacher; Vocational Education Teacher                              | 78,700          | 435                  | 353            | Below Avg Growth         | \$42,670<br>\$57,480                             | 🧠                     |
| <b>Education Administrators, Elementary and Secondary School</b> Plan, direct, or coordinate the academic, administrative, or auxiliary activities of public or private elementary or secondary level schools.   | Enterprising<br><br>Curriculum Administrator   | 251,300         | 522                  | 459            | Avg to Near Avg Growth   | \$70,680<br>\$100,080                            | 🧠💰                    |
| <b>Education Administrators, Preschool and Childcare Center/Program</b> Plan, direct, or coordinate the academic and nonacademic activities of preschool and childcare centers or programs.  | Investigative<br><br>Childcare Center Administrator; Head Start Director; Preschool Director | 61,800          | 174                  | 176            | High Growth              | \$30,770<br>\$45,350                             | ☀️🧠                   |
| <b>Educational, Guidance, School, and Vocational Counselors</b> Counsel individuals and provide group educational and vocational guidance services.  | Social<br><br>Career Counselor; Student Development Advisor                                  | 291,700         | 772                  | 922            | Avg to Near Avg Growth   | \$42,340<br>\$57,250                             | 🧠                     |
| <b>Elementary School Teachers, Except Special Education</b> Teach students basic academic, social, and other formative skills in public or private schools at the elementary level.  | Social<br><br>Elementary Band Director; 4th Grade Math Teacher                               | 1,410,900       | 3,975                | 3,345          | Avg to Near Avg Growth   | \$42,160<br>\$55,860                             | 🧠                     |
| <b>Health Specialties Teachers, Postsecondary</b> Teach courses in health specialties, in fields such as dentistry, laboratory technology, medicine, pharmacy, public health, therapy, and veterinary medicine.  | Social<br><br>Nutrition Professor; Pharmacology Professor; Public Health Professor           | 233,500         | 334                  | 329            | Avg to Near Avg Growth   | \$60,410<br>\$123,130                            | 🧠💰                    |
| <b>Instructional Coordinators</b> Develop instructional material, coordinate educational content, and incorporate current technology in specialized fields that provide guidelines to educators and instructors.   | Social<br><br>Curriculum and Assessment Director; Special Education Curriculum Specialist    | 163,200         | 272                  | 278            | Below Avg Growth         | \$42,190<br>\$63,030                             | 🧠💰                    |
| <b>Kindergarten Teachers, Except Special Education</b> Teach elemental natural and social science, personal hygiene, music, art, and literature to kindergarten students. Promote physical, mental, and social development.  | Social<br><br>Bilingual Kindergarten Teacher   | 154,400         | 485                  | 544            | Avg to Near Avg Growth   | \$39,950<br>\$53,440                             | 🧠                     |
| <b>Nursing Instructors and Teachers, Postsecondary</b> 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<br><br>Clinical Nursing Professor; Registered Nursing Professor                       | 67,900          | 181                  | 184            | Avg to Near Avg Growth   | \$49,940<br>\$75,650                             | 🧠💰                    |

# EDUCATION & TRAINING

|   |  | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |   |
|---|--|-----------------|----------------------|----------------|--------------------------|--|---|
| Occupational Title/Description  | Holland Code<br>Related Occupations  | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s)   |
| Postsecondary Programs – Bachelor’s Degree or Higher  |  |                 |                      |                |                          |  |   |
| <b>Secondary School Teachers, Except Special and Career/Technical Education</b> Teach students in one or more subjects, such as English, mathematics, or social studies at the secondary level in public or private schools. May be designated according to subject matter specialty.                               | Social<br><br>High School English Teacher;<br>High School French Teacher;<br>High School History Teacher | 1,018,700       | 2,646                | 2,172          | Avg to Near Avg Growth   | \$41,350<br>\$55,400                             |  |
| <b>Special Education Teachers, Kindergarten and Elementary School</b> 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<br><br>Severe Emotional Disorders Teacher; Special Education<br>Preschool Teacher                 | 188,900         | 642                  | 536            | Avg to Near Avg Growth   | \$43,860<br>\$56,660                             |  |



**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  |
| <b>Administration &amp; Administration Support</b>               |  |  | Educational Leadership (NDSU, UND)   |
| <b>Professional Support Services</b>                             | American Sign Language and Interpreting Studies (LRSC)<br>Child Development Associate (DCB, NHSC)<br>Paraprofessional Education (DCB)<br>Speech Language Pathology<br>Paraprofessional (LRSC, WSC)   | Communication (DSU)<br>Communication Sciences & Disorders (MiSU, UND)<br>Interpreting & Sign Language Studies (MiSU)   | Communication Sciences and Disorders (MiSU, UND)<br>Counseling (NDSU)<br>Counseling Psychology (UND)<br>Counseling with K-12 School Emphasis (UND)<br>Library and Information Technologies (VCSU)<br>School Psychology (MiSU)<br>Speech-Language Pathology (UM)  |
| <b>Teaching/ Training</b>  | Anishinaabe Language (TMCC)<br>Business Education transfer (BSC, DCB)<br>Dakota Studies (CCCC)<br>Early Childhood Education (BSC, CCCC, DCB, LRSC, MaSU, NDSCS, NHSC, RC, SBC)<br>Education transfer (NDSCS, SBC)<br>Elementary Education transfer (BSC, DCB, UTTC)<br>Health, Physical Education and Recreation transfer (CCCC, NDSCS, UTTC)<br>Lakhotiyapi/Dakhotiyapi I/II (SBC)<br>Middle School Math Certificate (NHSC)<br>Middle School Science Certificate (NHSC)<br>Native American Studies (SBC)<br>Physical Education transfer (BSC, DCB)<br>Secondary Education transfer (BSC, DCB)<br>Special Education transfer (DCB)<br>Teacher Education transfer (SBC) | Agriculture Education (NDSU)<br>Art Education (DSU, MiSU, NDSU, VCSU)<br>Biology Education (DSU, MaSU, MiSU, NDSU, UM, VCSU)<br>Business Education (DSU, MiSU, UM, VCSU)<br>Career and Technical Education (VCSU)<br>Chemistry Education (DSU, MaSU, MiSU, NDSU, VCSU)<br>Comprehensive Science Education (NDSU)<br>Early Childhood Educ. (MaSU, MiSU, RC, SBC, UM, UND)<br>Earth Science Education (MiSU, NDSU)<br>Elementary Education (DSU, MaSU, MiSU, NHSC, SBC, TBC, UTTC, UJ, UM, UND, VCSU)<br>English Education (DSU, MaSU, MiSU, NDSU, UM, VCSU)<br>Exceptional Learners (UM)<br>Family & Consumer Sciences Education (NDSU)<br>Foreign Language Education (MiSU)<br>French Education (NDSU)<br>Health Education (MaSU, NDSU, VCSU)<br>History Education (DSU, MaSU, MiSU, NDSU, UM, VCSU)<br>Math Education (DSU, MaSU, MiSU, NDSU, UM, UND, VCSU)<br>Middle Level Education (UND)<br>Music Education (DSU, MiSU, UM, UND, VCSU)<br>Native American Studies (NHSC, SBC)<br>Physical Educ. (DSU, MaSU, MiSU, NDSU, TBC, UJ, UM, VCSU)<br>Physics Education (NDSU)<br>Science Education (SBC, UND)<br>Social Science Educ. (DSU, MaSU, MiSU, UM, UND, VCSU)<br>Spanish Education (NDSU)<br>Special Education (MaSU, MiSU, UM)<br>Teacher Education (TMCC)<br>Technology Education (DSU, VCSU) | Agriculture Education (NDSU)<br>Curriculum and Instruction (SBC, UM, UND)<br>Early Childhood Education (UND)<br>Education (MiSU, NDSU, UJ, UM, VCSU)<br>Education Leadership (NDSU, UND)<br>Education Studies (UND)<br>Educational Foundations and Research (UND)<br>Elementary Education (UM, UND)<br>English Language Learner (ELL) Education (UND)<br>Extension Education (NDSU)<br>Family & Consumer Sciences Education (NDSU)<br>Higher Education (UND)<br>Instructional Design and Technology (UND)<br>Mathematics (UND)<br>Music Education (MiSU, UND)<br>Reading Education (UND)<br>Special Education (MiSU, UND)<br>Teaching (DSU, MaSU)<br>Teaching and Learning (UND) |

## North Dakota Postsecondary Institutions Offering Education & Training Related Programs

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

# FINANCE

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

|  |   | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |                       |
|--|---|-----------------|----------------------|----------------|--------------------------|--|-----------------------|
| Occupational Title/Description   | Holland Code<br>Related Occupations   | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) |
| Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree   |   |                 |                      |                |                          |  |                       |
| <b>Brokerage Clerks</b> 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  | 60,400          | 90                   | 117            | Avg to Near Avg Growth   | \$38,210   |                       |
|  | Commodities Clerk;<br>Dividend Clerk  |                 |                      |                |                          | \$47,230   |                       |
| <b>Credit Authorizers, Checkers, and Clerks</b> Authorize credit charges against customers' accounts. Investigate history and credit standing of individuals or business establishments applying for credit.   | Conventional  | 38,500          | 246                  | 271            | Below Avg Growth         | \$26,680   |                       |
|  | Charge Authorizer;<br>Commercial Credit Reviewer;<br>Credit Rating Checker    |                 |                      |                |                          | \$38,330   |                       |
| <b>Insurance Claims and Policy Processing Clerks</b> 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  | 308,500         | 409                  | 525            | Avg to Near Avg Growth   | \$30,610   |                       |
|  | Insurance Policy Issue Clerk;<br>Underwriting Clerk                           |                 |                      |                |                          | \$41,610   |                       |
| <b>Insurance Sales Agents</b> 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  | 501,400         | 1,574                | 1,832          | Avg to Near Avg Growth   | \$33,390   | 💰                     |
|  | Life Insurance Salesperson;<br>Pension Agent                                  |                 |                      |                |                          | \$63,940   |                       |
| <b>Loan Interviewers and Clerks</b> Interview loan applicants; investigate applicants' backgrounds and verify references; and forward findings, reports, and documents to appraisal department.  | Conventional  | 229,800         | 666                  | 853            | High Growth              | \$34,020   | ☀️                    |
|  | Loan Processor;<br>Mortgage Loan Closer                                       |                 |                      |                |                          | \$42,990   |                       |
| Postsecondary Programs – Bachelor's Degree or Higher   |   |                 |                      |                |                          |  |                       |
| <b>Credit Analysts</b> 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  | 73,800          | 186                  | 201            | Avg to Near Avg Growth   | \$45,620   | 🧠💰                    |
|  | Credit Assessment Analyst;<br>Credit Risk Analyst                             |                 |                      |                |                          | \$65,200   |                       |
| <b>Credit Counselors</b> 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  | 38,300          | 62                   | 68             | High Growth              | \$34,260   | ☀️🧠                   |
|  | Debt Management Counselor;<br>Financial Assistance Advisor                    |                 |                      |                |                          | \$43,330   |                       |
| <b>Financial Analysts</b> Conduct quantitative analyses of information affecting investment programs of public or private institutions.  | Conventional  | 296,100         | 291                  | 326            | High Growth              | \$49,170   | ☀️🧠                   |
|  | Corporate Securities Research Analyst   |                 |                      |                |                          | \$82,770   |                       |
| <b>Financial Managers</b> Plan, direct, or coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment.  | Conventional  | 580,400         | 1,220                | 1,344          | High Growth              | \$70,590   | ☀️🧠                   |
|  | Comptroller; Financial Director   |                 |                      |                |                          | \$123,890  |                       |
| <b>Loan Officers</b> Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers on financial status and payment methods.   | Conventional  | 318,600         | 1,245                | 1,336          | Avg to Near Avg Growth   | \$42,760   | 🧠💰                    |
|  | Commercial Lender;<br>Loan Reviewer;<br>Real Estate Loan Officer              |                 |                      |                |                          | \$74,330   |                       |
| <b>Personal Financial Advisors</b> Advise clients on financial plans using knowledge of tax and investment strategies, securities, insurance, pension plans, and real estate. Duties include assessing clients' assets and financial objectives.                             | Enterprising  | 271,900         | 600                  | 661            | High Growth              | \$46,870   | 🧠💰                    |
|  | Estate Planner;<br>Individual Pension Advisor;<br>Personal Investment Advisor |                 |                      |                |                          | \$100,360  |                       |
| <b>Securities and Financial Services Sales Agents</b> 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  | 375,700         | 540                  | 648            | Avg to Near Avg Growth   | \$37,020   | 🧠💰                    |
|  | Investment Banker;<br>Securities Trader                                       |                 |                      |                |                          | \$100,060  |                       |
| <b>Tax Preparers</b> Prepare tax returns for individuals or small businesses.  | Conventional  | 95,900          | 152                  | 188            | Avg to Near Avg Growth   | \$31,450   | 🧠                     |
|  | Tax Advisor;<br>Licensed Tax Consultant                                       |                 |                      |                |                          | \$53,920   |                       |

 **Energy Occupation**

 **Bright Outlook**

 **High Skill**

 **High Wage**

 **Military**



# FINANCE

## North Dakota Finance Related Postsecondary Programs

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

## North Dakota Postsecondary Institutions Offering Finance Related Programs

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




Thousands of people in the state are working in energy industry occupations doing research, production, construction, and design. Learn about the opportunities today.

## Discover More About North Dakota's Energy Industry

**There's a lot of opportunity in the energy industry in North Dakota. Get the facts – and discover the education programs that can make your future bright!**

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

### Information can be found here:

Look for the  in the Occupational Section, pages 12-51 for energy occupations in North Dakota.

Want a job in the energy industry? You'll have more opportunities if you get training that matches the energy industry's needs. Learn all about programs at schools near you! North Dakota colleges and universities, including private and tribal, have programs for certificate and degree options.



Energy industry jobs can also be found at <http://jobsnd.com>.

# 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 2016-2026 |                |                          |  | ND Earnings Outlook   |  |
|---|--|-----------------|----------------------|----------------|--------------------------|--|-----------------------|--|
| Occupational Title/Description  | Holland Code<br>Related Occupations          | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>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         | 399                  | 422            | Avg to Near Avg Growth   | \$39,450   |                       |  |
|   | Unemployment Benefits Claims Taker           |                 |                      |                |                          | \$46,730   |                       |  |
| Title Examiners, Abstractors, and Searchers Search real estate records, examine titles, or summarize pertinent legal or insurance documents or details for a variety of purposes. May compile lists of mortgages, contracts, and other instruments by searching public and private records. | Conventional                                 | 69,000          | 479                  | 505            | Avg to Near Avg Growth   | \$37,450   |                       |  |
|   | Escrow Officer; Lien Searcher; Title Officer |                 |                      |                |                          | \$57,610   |                       |  |
| 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          | 84                   | 73             | Below Avg Growth         | \$46,440   |                       |  |
|   | Disaster Response Director                   |                 |                      |                |                          | \$69,480   |                       |  |
| 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          | 161                  | 139            | Below Avg Growth         | \$46,290   |                       |  |
|   | Bank Examiner                                |                 |                      |                |                          | \$75,770   |                       |  |
| 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          | 89                   | 63             | Below Avg Growth         | \$42,540   |                       |  |
|   | Internal Revenue Service Agent               |                 |                      |                |                          | \$67,120   |                       |  |

## North Dakota Government & Public Administration Related Postsecondary Programs

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

## North Dakota Postsecondary Institutions Offering Government & Public Administration Related Programs

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



# KALEB DSCHAAK



Dickinson High School

STUDENT LEADER • EDUCATION LOBBYIST  
AVID LEAGUE OF LEGENDS PLAYER



Kaleb Dschaak was very active in Future Business Leaders of America (FBLA) throughout high school. Being named state president is a favorite memory. “FBLA really helped sharpen my skill set. The experiences I gained have made me a strong communicator, an innovator, and a passionate leader. I think these skills are really prized in the modern workforce and I’m glad that I was able to develop them through the programs offered within the organization.”

As University of North Dakota (UND) Student Body Vice President, Kaleb serves as a leader to many students. He has developed strong teamwork skills that are used to make the student experience better at UND. Representing students to the university administration and state policy makers is an exciting challenge. It is vital when representing your constituents to understand that students come from diverse backgrounds and have different needs.

Last year, Governor Doug Burgum invited Kaleb to speak about the importance of innovating the higher education process at a press conference announcing the new higher education task force. “The experience was rewarding because I got to speak to key decision makers about what modern students are facing. The governor and his team, the legislators, and other key figures were welcoming and interested in what I had to say.”

Kaleb is majoring in Political Science. He describes the major as “an opportunity to tackle complex issues with incredible toolsets.” Many college students have at least one internship while on campus. His most recent internship was with UND’s Information Technology department. He is combining communication and marketing skills with the ability to understand new and complex technologies for problem solving.

As an avid gamer, Kaleb has been able to work with interested student groups in providing more opportunities to interact with E-sports. Video game competitions have been growing in popularity in America. In Europe and Asia, they are already very mainstream, and students are getting scholarships to play. A new facility for gaming will be available on UND’s campus in the fall of 2019. The collegiate team has competed for prizes against universities from across the country. New E-sports tournaments are being planned across North Dakota and Minnesota and high schools are starting programs, too.

Kaleb is keeping his options open for the future. “I know I have to stay connected with people and I love public service. I could easily be working on or running my own campaign for a public office.”





# HEALTH SCIENCE

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

|  |  | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |   |
|--|--|-----------------|----------------------|----------------|--------------------------|--|---|
| Occupational Title/Description   | Holland Code<br>Related Occupations  | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s)   |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree   |  |                 |                      |                |                          |  |   |
| <b>Dental Hygienists</b> 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<br><br>Oral Hygienist, Dental Assistant   | 207,900         | 696                  | 554            | Avg to Near Avg Growth   | \$58,560<br>\$72,580                             |      |
| <b>Diagnostic Medical Sonographers</b> Produce ultrasonic recordings of internal organs for use by physicians.   | Investigative<br><br>Ultrasound Technologist   | 67,300          | 121                  | 106            | High Growth              | \$58,950<br>\$70,950                             |     |
| <b>Dietetic Technicians</b> Assist in the provision of food service and nutritional programs, under the supervision of a dietitian. May plan and produce meals based on established guidelines, teach principles of food and nutrition, or counsel individuals.      | Social<br><br>Dietary Technician;<br>Registered Diet Technician                              | 33,400          | 410                  | 375            | Avg to Near Avg Growth   | \$21,190<br>\$28,160                             |    |
| <b>Emergency Medical Technicians</b> Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities.   | Social<br><br>Flight Paramedic   | 248,000         | 1,063                | 862            | Avg to Near Avg Growth   | \$17,250<br>\$32,680                             |     |
| <b>Home Health Aides</b> 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<br><br>Home Health Attendant;<br>Home Hospice Aide                                    | 911,500         | 1,478                | 2,144          | High Growth              | \$26,280<br>\$34,100                             |    |
| <b>Medical Records and Health Information Technicians</b> 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<br><br>Health Information Coder;<br>Medical Records Specialist                  | 206,300         | 898                  | 778            | High Growth              | \$31,300<br>\$43,380                             |      |
| <b>Nurses, Registered</b> 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.  | Social<br><br>Coronary Care Unit Nurse;<br>Psychiatric Nurse                                 | 2,955,200       | 8,844                | 6,643          | Avg to Near Avg Growth   | \$54,340<br>\$65,740                             |      |
| <b>Ophthalmic Medical Technicians</b> 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<br><br>Ocular Care Technologist   | 44,500          | 185                  | 185            | Avg to Near Avg Growth   | \$30,170<br>\$37,520                             |     |
| <b>Pharmacy Technicians</b> Assist licensed pharmacists to dispense prescription medication to customers or health professionals.  | Conventional<br><br>Pharmacist; Pharmacy Assistant   | 402,500         | 732                  | 753            | Avg to Near Avg Growth   | \$32,830<br>\$39,770                             |   |
| <b>Radiologic Technologists</b> 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<br><br>Computed Tomography (CT) Scanner Operator;<br>X-ray Technician              | 205,200         | 599                  | 417            | Avg to Near Avg Growth   | \$42,150<br>\$55,970                             |     |
| <b>Respiratory Therapists</b> 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<br><br>Inhalation Therapist;<br>Oxygen Therapist;<br>Registered Respiratory Therapist | 130,200         | 299                  | 260            | High Growth              | \$46,350<br>\$57,720                             |     |
| <b>Surgical Technologists</b> Assist in operations, under supervision of surgeons, registered nurses or other surgical personnel.  | Realistic<br><br>Operating Room (OR) Tech;<br>Surgical Scrub Technologist                    | 107,700         | 300                  | 302            | Avg to Near Avg Growth   | \$35,850<br>\$45,000                             |     |
| Postsecondary Programs – Bachelor’s Degree or Higher   |  |                 |                      |                |                          |  |   |
| <b>Athletic Trainers</b> 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<br><br>Fitness Trainer  | 27,800          | 54                   | 39             | Avg to Near Avg Growth   | \$37,270<br>\$45,470                             |    |
| <b>Dentists</b> 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<br><br>Maxillofacial Surgeon;<br>Dental Hygienist                              | 132,800         | 245                  | 109            | Avg to Near Avg Growth   | \$109,790<br>\$212,380                           |      |



Energy Occupation



Bright Outlook



High Skill



High Wage



Military
















# HEALTH SCIENCE

|   |   | National        | ND Outlook 2016 -2026 |                |                          | ND Earnings Outlook                              |                       |
|---|---|-----------------|-----------------------|----------------|--------------------------|--|-----------------------|
| Occupational Title/Description  | Holland Code<br>Related Occupations   | Number Employed | Number Employed       | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) |
| Postsecondary Programs – Bachelor’s Degree or Higher  |   |                 |                       |                |                          |  |                       |
| <b>Dietitians and Nutritionists</b> Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease.  | Investigative<br><br>Clinical Dietitian,<br>Public Health Nutritionist  | 68,000          | 283                   | 214            | Avg to Near Avg Growth   | \$40,010<br>\$56,240                             |                       |
| <b>Healthcare Social Workers</b> Provide individuals, families, and groups with the psychosocial support needed to cope with chronic, acute, or terminal illnesses, including advising family care givers, providing patient education and counseling, and making referrals for other services. | Social<br><br>Hospice Social Worker;<br>Oncology Social Worker;<br>Public Health Social Worker                            | 176,500         | 362                   | 440            | Avg to Near vg Growth    | \$42,010<br>\$53,300                             |                       |
| <b>Medical and Health Services Managers</b> Plan, direct, or coordinate medical and health services in hospitals, clinics, managed care organizations, public health agencies, or similar organizations.  | Enterprising<br><br>Clinic Director; Hospital Administrator; Medical Records Administrator; Mental Health Program Manager | 352,200         | 903                   | 952            | High Growth              | \$67,630<br>\$111,430                            |                       |

| North Dakota Health Science Related Postsecondary Programs |  |   |  |
|--|--|---|--|
| Pathway  | Certificate or Associate's Degree  | Bachelor's Degree   | Master's Degree or More  |
| <b>Biotechnology Research &amp; Development</b>            | Biotechnology transfer (NDSCS)   | Bioinformatics (MiSU)<br>Biotechnology (NDSU)   | Biomedical Sciences (UND)<br>Genomics and Bioinformatics (NDSU)  |
| <b>Diagnostic Services</b>                                 | Clinical Laboratory Science transfer (NDSCS)<br>EMT-Paramedic Technician (BSC, DCB, NDSCS)<br>Medical Assistant (DCB)<br>Medical Laboratory Science/Technician (BSC, TMCC)<br>Phlebotomy Technician (BSC, TMCC)<br>Speech Language Pathology Assistant (LRSC, WSC)   | Clinical Laboratory Science (UJ)<br>Communication Sciences and Disorders (UM, UND)<br>Human Nutrition (UND)<br>Medical Lab Science (MaSU, MiSU, NDSU, UM, UND, VCSU)<br>Radiologic Science/Technology (MiSU, NDSU, UM)  | Medical Lab Science (UND)  |
| <b>Health Informatics</b>                                  | Health Information Technician/Management (DCB, NDSCS, RC)<br>Medical Administrative Asst. (BSC, DCB, RC, TMCC)<br>Medical Coding/Billing (DCB, NDSCS, RC, WSC)   | Forensic Science (UND)<br>Health Information Management (RC)<br>Health Science (VCSU)<br>Healthcare/Fitness Administration (UJ, UM)   | Health Care Administration (RC, UM)<br>Public Health (NDSU, UND)   |
| <b>Support Services</b>                                    | Caregiver Services (DCB)<br>Health/Fitness Trainer Technician (LRSC, TMCC)<br>Medical Exercise Specialist (TMCC)<br>Patient Access Specialist (TMCC)<br>Personal Trainer (TMCC)<br>Pharmacy Technician (NDSCS)<br>Prevention and Care of Athletic Injuries (TMCC)<br>Social Work transfer (BSC, CCCC, NDSCS, NHSC)<br>Sports Nutrition (TMCC)  | Biomechanics (UM)<br>Exercise Science (DSU, NDSU, TBC, UJ, UM)<br>Exercise Science and Sport Management (VCSU)<br>Fitness and Wellness (MaSU)<br>Kinesiology (UND)<br>Social Work (MiSU, NDSU, UM, UND, TMCC)<br>Sport/Leisure Management (MaSU, NDSU, UM)  | Clinical Exercise Physiology (UM)<br>Exercise Science and Nutrition (NDSU)<br>Kinesiology (UM, UND)<br>Social Work (UND)<br>Sports Management (MiSU)   |
| <b>Therapeutic Services</b>                                | Addictions Studies Transfer (NHSC)<br>Dental Assisting or Dental Hygiene (NDSCS)<br>Health Professions transfer (DCB)<br>Health/Medical Assistant (BJCC, DCB)<br>Massage Therapy (JSHDF, JSHDGF, TSPA, WSC)<br>Nursing transfer (BSC, CCCC, DCB, LRSC, NDSCS, SBC, WSC)<br>Occupational Therapy Assistant (NDSCS)<br>Practical Nursing (BSC, DCB, DSU, NDSCS, RC, SBC, WSC)<br>Pre-Professional transfer (BSC, NDSCS)<br>Surgical Technology (BSC) | Addiction Studies (MiSU)<br>Athletic Training (UM, UND)<br>Corporate Fitness and Wellness Mgmt. (MiSU)<br>Dietetics (NDSU, UND)<br>Nursing (DSU, MaSU, MiSU, NDSU, RC, UJ, UM, UND)<br>Pharmacy (NDSU)<br>Pre-Professional programs (MaSU, MiSU, NDSU, UM, UND)<br>Rehabilitation and Human Services (UND)<br>Respiratory Care/Therapy (NDSU, UM) | Athletic Training (NDSU)<br>Health, Nutrition and Exercise Science (NDSU)<br>Medicine (UND)<br>Nursing (NDSU, RC, UM, UND)<br>Nutrition (UND)<br>Occupational Therapy (UM, UND)<br>Pharmaceutical Sciences (NDSU)<br>Physical Therapy (UJ, UM, UND)<br>Physician Assistant (UND)<br>Respiratory Therapy (UM)<br>Speech-Language Pathology (MiSU) |

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

# HEALTH SCIENCE

|  |   | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |   |
|--|---|-----------------|----------------------|----------------|--------------------------|--|---|
| Occupational Title/Description   | Holland Code<br>Related Occupations   | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s)   |
| Postsecondary Programs – Bachelor’s Degree or Higher   |   |                 |                      |                |                          |  |   |
| <b>Nurse Practitioners</b> Diagnose and treat acute, episodic, or chronic illness. May focus on health promotion and disease prevention. May order, perform, or interpret diagnostic tests such as lab work and x-rays. May prescribe medication.                  | Social<br><br>Cardiology Nurse Practitioner;<br>Family Practice Nurse Practitioner; Gerontological Nurse Practitioner | 155,500         | 444                  | 412            | High Growth              | \$84,710<br>\$106,200                            | <br>  |
| <b>Occupational Therapists</b> 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<br><br>Physical Therapists   | 130,400         | 483                  | 371            | High Growth              | \$51,210<br>\$67,420                             | <br><br> |
| <b>Optometrists</b> 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<br><br>Ophthalmologist; Optician  | 40,200          | 194                  | 91             | High Growth              | \$70,190<br>\$175,090                            | <br>  |
| <b>Physical Therapists</b> 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<br><br>Geriatric Physical Therapist;<br>Physiotherapist  | 239,800         | 658                  | 465            | High Growth              | \$65,130<br>\$78,120                             | <br><br> |
| <b>Physician Assistants</b> Provide healthcare services typically performed by a physician, under the supervision of a physician. Conduct complete physicals, provide treatment and counsel patients.  | Social<br><br>Physician Assistant;<br>Nurse Practitioner  | 106,200         | 252                  | 239            | High Growth              | \$86,080<br>\$107,340                            | <br><br> |
| <b>Rehabilitation Counselors</b> 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<br><br>Veterans Rehabilitation Counselor   | 119,300         | 258                  | 325            | Avg to Near Avg Growth   | \$34,750<br>\$47,930                             |    |
| <b>Speech-Language Pathologists</b> 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<br><br>Public School Speech Therapist;<br>Speech Clinician   | 145,100         | 551                  | 380            | Avg to Near Avg Growth   | \$51,200<br>\$67,340                             |    |

 **Energy Occupation**

 **Bright Outlook**

 **High Skill**

 **High Wage**

 **Military**



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# HOSPITALITY & TOURISM

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

|  |  | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |   |
|--|--|-----------------|----------------------|----------------|--------------------------|--|---|
| Occupational Title/Description   | Holland Code<br>Related Occupations                    | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s)   |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree   |  |                 |                      |                |                          |  |   |
| <b>Amusement and Recreation Attendants</b> 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.           | Enterprising   | 300,000         | 949                  | 2,336          | Avg to Near Avg Growth   | \$18,890   |   |
|  | Arcade Attendant; Golf Caddy; Ski Lift Operator        |                 |                      |                |                          | \$25,030   |   |
| <b>Bakers</b> Mix and bake ingredients to produce breads, rolls, cookies, cakes, pies, pastries, or other baked goods.   | Realistic  | 191,000         | 632                  | 991            | Avg to Near Avg Growth   | \$22,910   |    |
|  | Bagel Maker; Pastry Finisher                           |                 |                      |                |                          | \$29,720   |   |
| <b>Chefs and Head Cooks</b> Direct and may participate in the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts.                 | Enterprising   | 146,500         | 362                  | 540            | Avg to Near Avg Growth   | \$38,200   |   |
|  | Executive Chef; Pastry Chef; Sous Chef                 |                 |                      |                |                          | \$46,320   |   |
| <b>Cooks, Restaurant</b> Prepare, season, and cook dishes such as soups, meats, vegetables, or desserts in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.  | Realistic  | 1,231,900       | 2,667                | 4,619          | High Growth              | \$21,480   |    |
|  | Banquet Cook; Line Cook; Saucier                       |                 |                      |                |                          | \$28,130   |   |
| <b>Food Preparation Workers</b> Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea.  | Realistic  | 871,100         | 2,409                | 4,474          | Avg to Near Avg Growth   | \$21,110   |   |
|  | Fruit and Vegetable Parer; Salad Maker; Sandwich Maker |                 |                      |                |                          | \$26,160   |   |
| <b>Food Service Managers</b> Plan, direct, or coordinate activities of an organization or department that serves food and beverages.   | Enterprising   | 308,700         | 694                  | 898            | Avg to Near Avg Growth   | \$39,360   |    |
|  | Banquet Director; Food Service Director                |                 |                      |                |                          | \$54,700   |   |
| <b>Hosts and Hostesses</b> Welcome patrons, seat them at table or in lounge, and help ensure quality of facilities and service.  | Enterprising   | 409,200         | 894                  | 2,312          | Avg to Near Avg Growth   | \$17,380   |   |
|  | Dining Room Host, Maitre D’                            |                 |                      |                |                          | \$21,860   |   |
| <b>Hotel, Motel, and Resort Desk Clerks</b> 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         | 1,771                | 3,060          | Avg to Near Avg Growth   | \$21,740   |  |
|  | Hotel Front Desk Clerk; Hotel Registration Clerk       |                 |                      |                |                          | \$26,120   |   |
| <b>Lifeguards, Ski Patrol and Other Recreational Protective Workers</b> Monitor recreational areas, such as pools, beaches, or ski slopes to provide assistance and protection to participants.  | Realistic  | 152,100         | 641                  | 1,718          | Avg to Near Avg Growth   | \$20,380   |   |
|  | Beach Lifeguard; Outdoor Emergency Care Technician     |                 |                      |                |                          | \$25,030   |   |
| <b>Maids and Housekeeping Cleaners</b> 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.  | Realistic  | 1,443,200       | 5,409                | 7,682          | Below Avg Growth         | \$20,600   |   |
|  | Chambermaid; House Cleaner; Housekeeping Staff         |                 |                      |                |                          | \$25,720   |   |
| <b>Recreation Workers</b> 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         | 985                  | 1,805          | Below Avg Growth         | \$22,640   |  |
|  | Activities Aide; Camp Counselor; Playground Worker     |                 |                      |                |                          | \$31,470   |   |
| <b>Waiters and Waitresses</b> Take orders and serve food and beverages to patrons at tables in dining establishment.   | Social   | 2,600,500       | 7,262                | 15,835         | Avg to Near Avg Growth   | \$17,500   |   |
|  | Flight Attendants, Hosts and Hostesses                 |                 |                      |                |                          | \$21,140   |   |
| Postsecondary Programs – Bachelor’s Degree or Higher   |  |                 |                      |                |                          |  |   |
| <b>Meeting, Convention, and Event Planners</b> Coordinate activities of staff, convention personnel, or clients to make arrangements for group meetings, events, or conventions.   | Enterprising   | 116,700         | 217                  | 310            | Avg to Near Avg Growth   | \$32,420   |  |
|  | Conference Planner; Wedding Planner                    |                 |                      |                |                          | \$47,780   |   |

 **Energy Occupation**

 **Bright Outlook**

 **High Skill**

 **High Wage**

 **Military**

# HOSPITALITY & TOURISM

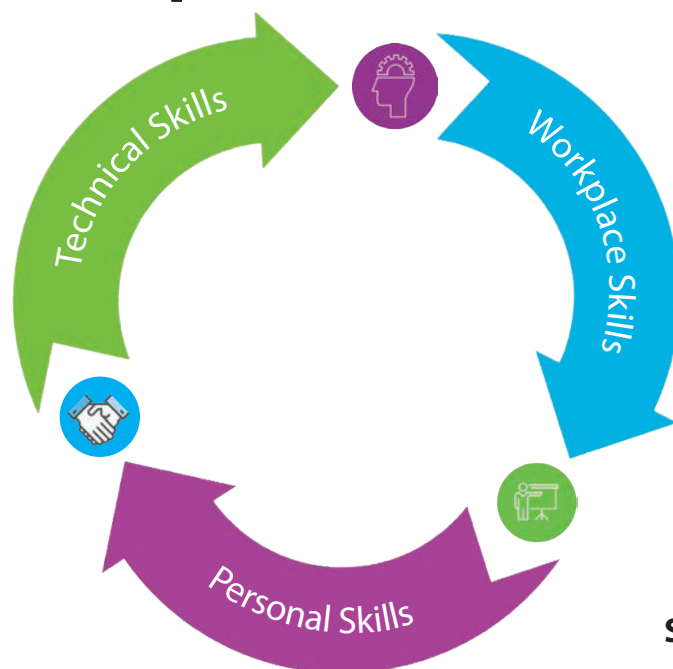
## North Dakota Hospitality and Tourism Related Postsecondary Programs

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

## North Dakota Postsecondary Institutions Offering Hospitality & Tourism Related Programs

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

## Impact of CTSOs



- Integrity
- Work Ethic
- Professionalism
- Adaptability
- Flexibility
- Responsibility
- Communication
- Decision Making
- Teamwork
- Leadership
- Resilience
- Goal Setting

**Career and Technical Student Organizations (CTSOs) enhance Academic Skills, Workplace Skills, and Technical Skills.**



# 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 2016-2026 |                |                          | ND Earnings Outlook                              |                       |
|---|---|-----------------|----------------------|----------------|--------------------------|--|-----------------------|
| Occupational Title/Description  | Holland Code<br>Related Occupations                             | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree  |   |                 |                      |                |                          |  |                       |
| <b>Childcare Workers</b> 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  | 1,216,600       | 4,754                | 7,629          | Below Avg Growth         | \$19,730   |                       |
|   | Au Pair; Daycare Provider; Nanny                                |                 |                      |                |                          | \$25,190   |                       |
| <b>Community Health Workers</b> 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  | 57,500          | 153                  | 248            | High Growth              | \$29,890   | ☀️                    |
|   | Lay Health Advocate; Peer Health Promoter                       |                 |                      |                |                          | \$45,210   |                       |
| <b>Hairdressers, Hairstylists, and Cosmetologists</b> 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  | 617,300         | 1,990                | 2,597          | Below Avg Growth         | \$17,670   | 🧠                     |
|   | Beautician; Wig Stylist   |                 |                      |                |                          | \$28,240   |                       |
| <b>Massage Therapists</b> 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  | 160,300         | 340                  | 447            | High Growth              | \$22,630   | ☀️🧠                   |
|   | Deep Tissue Massage Therapist; Swedish Masseuse                 |                 |                      |                |                          | \$39,640   |                       |
| <b>Morticians, Undertakers, and Funeral Directors</b> 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  | 28,700          | 114                  | 139            | Zero to Declining Growth | \$44,150   | 🧠💰                    |
|   | Certified Mortician; Funeral Arranger                           |                 |                      |                |                          | \$72,220   |                       |
| <b>Personal Care Aides</b> Assist the elderly, convalescents, or persons with disabilities with daily living activities. Duties performed may include keeping house (making beds, doing laundry, washing dishes) and preparing meals.   | Social  | 2,016,100       | 5,655                | 11,260         | High Growth              | \$26,520   | ☀️                    |
|   | Blind Escort; Elderly Companion; Geriatric Personal Care Aide   |                 |                      |                |                          | \$32,890   |                       |
| <b>Residential Advisors</b> 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  | 118,800         | 1,038                | 1,951          | Avg to Near Avg Growth   | \$20,980   |                       |
|   | Dormitory Counselor; House Parent; Residence Life Coordinator   |                 |                      |                |                          | \$32,710   |                       |
| <b>Skincare Specialists</b> Provide skincare treatments to face and body to enhance an individual's appearance. Includes electrologists and laser hair removal specialists.   | Enterprising  | 61,300          | 118                  | 151            | Avg to Near Avg Growth   | \$21,640   | 🧠                     |
|   | Facialist; Medical Esthetician                                  |                 |                      |                |                          | \$33,520   |                       |
| <b>Social and Human Service Assistants</b> 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 problem.  | Conventional  | 389,800         | 1,531                | 2,334          | High Growth              | \$28,110   | ☀️                    |
|   | Case Work Aide; Family Service Assistant; Human Services Worker |                 |                      |                |                          | \$37,120   |                       |
| Postsecondary Programs – Bachelor’s Degree or Higher  |   |                 |                      |                |                          |  |                       |
| <b>Child, Family, and School Social Workers</b> Provide assistance to improve the social and psychological functioning of children and their families. May assist parents, arrange adoptions, and find foster homes. May also address concerns such as teenage pregnancy, misbehavior, and truancy. | Social  | 317,600         | 745                  | 979            | High Growth              | \$41,310   | 🧠☀️                   |
|   | Certified Social Worker; Child Abuse Worker; Foster Care worker |                 |                      |                |                          | \$54,870   |                       |
| <b>Clergy</b> Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious faith or denomination.   | Social  | 243,900         | 1,277                | 1,531          | Below Avg Growth         | \$32,680   | 🧠🇺🇸                   |
|   | Imam; Priest; Rabbi   |                 |                      |                |                          | \$48,020   |                       |
| <b>Clinical, Counseling, and School Psychologists</b> Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems, using individual, child, family, and group therapies.  | Investigative   | 147,500         | 293                  | 244            | Avg to Near Avg Growth   | \$49,700   | 🧠💰🇺🇸                  |
|   | Child Psychologist; School Psychologist                         |                 |                      |                |                          | \$87,090   |                       |
| <b>Directors, Religious Activities and Education</b> 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  | 147,100         | 326                  | 432            | Below Avg Growth         | \$29,840   | 🧠                     |
|   | Religious Education Director; Youth Ministry Director           |                 |                      |                |                          | \$47,930   |                       |
| <b>Marriage and Family Therapists</b> Diagnose and treat mental and emotional disorders, whether cognitive, affective, or behavioral, within the context of marriage and family systems.  | Social  | 41,500          | 137                  | 216            | High Growth              | \$41,450   | ☀️🧠🇺🇸                 |
|   | Child and Family Counselor; Marriage Counselor                  |                 |                      |                |                          | \$45,210   |                       |



# HUMAN SERVICES

| Occupational Title/Description   | Holland Code<br>Related Occupations  | National           | ND Outlook 2016-2026 |                   |                                | ND Earnings<br>Outlook                                  | Occupational<br>Trait(s)  |
|--|--|--------------------|----------------------|-------------------|--------------------------------|---|---|
|  |  | Number<br>Employed | Number<br>Employed   | Total<br>Openings | Long-Term<br>Growth<br>Outlook | Annual Entry-<br>Level Wages<br>Annual<br>Average Wages |   |
| <b>Mental Health and Substance Abuse Social Workers</b> Assess and treat individuals with mental, emotional, or substance abuse problems, including abuse of alcohol, tobacco, and/or other drugs.   | Social<br><br>Community Mental Health Social Worker; Drug Abuse Social Worker; Psychiatric Social Worker | 123,900            | 309                  | 390               | Avg to Near Avg Growth         | \$43,500<br>\$53,760                                    |  |
| <b>Social and Community Service Managers</b> 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<br><br>Child Welfare Director; Family Service Center Director; Youth Program Director       | 147,300            | 630                  | 697               | Avg to Near Avg Growth         | \$50,750<br>\$65,850                                    |  |



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

## North Dakota Postsecondary Institutions Offering Human Services Related Programs

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



# KYLE KORMAN



Grand Forks, Red River High School



COLLEGE SENIOR • JOKESTER  
TECHNOLOGY ENTHUSIAST

Kyle Korman is attending Dakota State University (DSU) in Madison, South Dakota and is working on degrees in Cyber Operations and Network and Security Administration. The degree programs cover a broad range of topics within the Information Technology (IT) world, ranging from programming, managing network devices, defending and attacking computers, and other common enterprise technologies. While some college majors focus primarily on programming and the theory behind it, the DSU program is very hands-on with computers.

While in high school, Kyle took all the technology courses available and joined SkillsUSA. He learned about Cisco networking configurations which led to greater understanding when talking with seasoned IT people. He received six college credits for a minimal fee because of the Cisco certification.

During the summer of his junior and senior years of high school, Kyle had an internship with Networking Specialists, Inc. He went to different locations each day and worked on the issues presented to him. It helped him develop the ability to quickly understand the infrastructure of a network and the computers on it, as well as working with many different types of hardware and software.

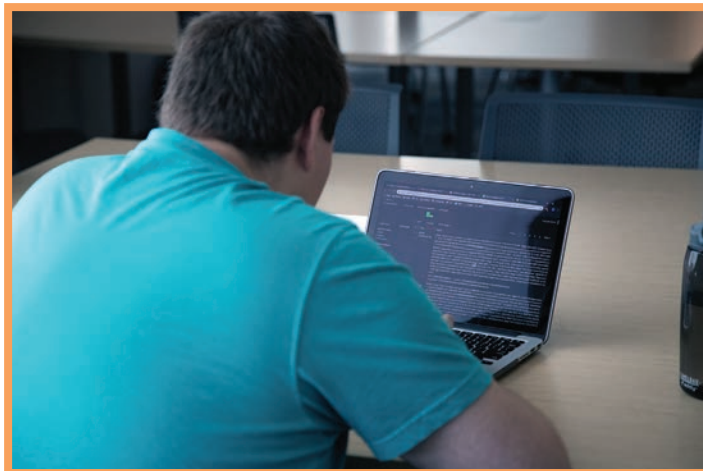
More recently, Kyle has had internship opportunities ranging from private companies to state and federal government. This year, he and two other students stepped in as interim IT Coordinators for a local school district. The students managed the entire IT infrastructure of the district, performing any necessary tasks and coordinating with outside entities as needed. There are many internships available because IT people, especially those in cybersecurity, are in high demand.

Some of Kyle's favorite experiences have been the competitions he has helped to set up and compete in. The competitions have culminated in a fantastic learning environment that is incredibly engaging and realistic. One such competition, CyberForce, is a competition sponsored by the Department of Energy. Teams are provided an environment that is lacking necessary security features. Teams search for malicious/unnecessary programs,

backdoor user accounts, and mischievous scheduled tasks. The blue team (defenders) set up and secure the environment. Then the red team (attackers) are released and allowed to do whatever they can to get into the system. The competition simulates a very strong attack from an outside source, and the blue team is tasked with defending the network as much as possible. Kyle and his team took fourth nationally.

Kyle is vice president of the Offensive Security Club at DSU. The club is based around offensive computer tasks, or what many would call "hacking." Hacking can be done for good when helping others or it can be malicious. The club focuses on promoting a solid ethical foundation since offensive activities sometimes end up in a gray area. An example of hacking for good is when a company hires someone who is skilled to attack their company and identify weaknesses. It provides the company with information needed to be more secure with their data.

In the world of IT, you will always be learning. There is such a massive breadth of IT topics, it is likely that someone is looking for your exact skill set.



# INFORMATION TECHNOLOGY

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



|   |  | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |                       |
|---|--|-----------------|----------------------|----------------|--------------------------|--|-----------------------|
| Occupational Title/Description  | Holland Code<br>Related Occupations  | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) |
| Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree  |  |                 |                      |                |                          |  |                       |
| <b>Computer Network Support Specialists</b> 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<br><br>Network Diagnostic Support Technician; Network Support Technician             | 198,800         | 489                  | 454            | Avg to Near Avg Growth   | \$45,120<br>\$64,640                             |                       |
| <b>Computer User Support Specialists</b> 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<br><br>Desktop Support Specialist; End-User Support Specialist; Help Desk Technician | 636,600         | 1,493                | 1,397          | Avg to Near Avg Growth   | \$34,780<br>\$53,020                             |                       |
| <b>Web Developers</b> 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<br><br>Internet Developer; Intranet Developer; Web Designer                       | 162,900         | 242                  | 230            | Avg to Near Avg Growth   | \$40,720<br>\$59,090                             |                       |
| Postsecondary Programs – Bachelor's Degree or Higher  |  |                 |                      |                |                          |  |                       |
| <b>Information Security Analysts</b> 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<br><br>Computer Security Specialist; Internet Security Specialist                 | 100,000         | 213                  | 259            | High Growth              | \$54,170<br>\$79,940                             |                       |
| <b>Network and Computer Systems Administrators</b> 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<br><br>Network Security Administrator; Wide Area Network Administrator           | 391,300         | 696                  | 573            | Avg to Near Avg Growth   | \$48,880<br>\$71,180                             |                       |
| <b>Operations Research Analysts</b> Formulate and apply mathematical modeling to develop and interpret information that assists management with decision making, policy formulation, or other managerial functions.   | Investigative<br><br>Operations Analyst; Procedure Analyst; Process Analyst                    | 114,000         | 128                  | 135            | High Growth              | \$45,340<br>\$64,580                             |                       |
| <b>Software Developers, Applications</b> 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<br><br>Computer Applications Engineer; Software Applications Engineer            | 831,300         | 1,251                | 1,324          | High Growth              | \$52,340<br>\$80,620                             |                       |



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  |
|---|---|--|--|
| <b>Information Support &amp; Services</b>     | Computer Applications (CCCC)<br>Computer Support Specialist (TMCC)<br>Computer Information Technology (DCB, UTTC)<br>Computerized Office Management (DCB)<br>Geographic Information Systems Technician (BSC)<br>Information Systems Administrator (NDSCS)<br>Information Processing Specialist (BSC)<br>Information Management (NHSC)<br>Information Technology (LRSC, NDSCS, RC, SBC, WSC)<br>IT Forensics & Security (NDSCS)<br>Management Information Systems transfer (NDSCS) | Applied Business Information Technology (MiSU)<br>Computer Technology Management (DSU)<br>Data Analytics (RC)<br>Information Security (RC)<br>Information Technology Management (RC, UJ, UM)<br>Technology Education (DSU, VCSU) | Information Systems (MiSU)<br>Library/Information Technology (VCSU)        |
| <b>Network Systems</b>                        | Cybersecurity & Computer Networks (BSC)<br>Information Management (NHSC)<br>Information and Communications Technology (NDSCS, SBC)<br>Network Systems Administration (RC)   | Computer Information Systems (UM, VCSU)<br>Information Systems (UND)<br>Management Information Systems (NDSU, UJ)  | Computer Science (NDSU, UND)<br>Electrical and Computer Engineering (NDSU) |
| <b>Programming &amp; Software Development</b> | Computer Science transfer (BSC, NDSCS)  | Computer Engineering (NDSU)<br>Computer Science (DSU, MiSU, NDSU, RC, UJ, UM, UND)<br>Electrical Engineering (NDSU)<br>Software Application Development (RC)<br>Software Engineering (VCSU)                                      | Electrical and Computer Engineering (NDSU)<br>Software Engineering (NDSU)  |
| <b>Web &amp; Digital Communications</b>       | Web Design (DCB, NDSCS)<br>Web Developer/Webmaster (DCB, NDSCS)<br>Web Page Development and Design (BSC)<br>Web Programming (RC)  | New Media and Web Design (NDSU)  |  |



# INFORMATION TECHNOLOGY

## North Dakota Postsecondary Institutions Offering Information Technology Related Programs

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

## Is Your Digital Identity Secure?

Answer the questions below to discover how vulnerable you are to digital fraud.

- \_\_\_ Yes \_\_\_ No 1. Do you know how strong your passwords are?
- \_\_\_ Yes \_\_\_ No 2. Do you use different passwords for different accounts?
- \_\_\_ Yes \_\_\_ No 3. Do you have a short screen-lock time on your mobile devices?
- \_\_\_ Yes \_\_\_ No 4. Have you checked what personal information is published on your social media accounts?
- \_\_\_ Yes \_\_\_ No 5. Do you keep the software on all your devices up to date?
- \_\_\_ Yes \_\_\_ No 6. Do you always check the web address (URL) of sites before you enter personal information?
- \_\_\_ Yes \_\_\_ No 7. Do you know how to spot suspicious emails?
- \_\_\_ Yes \_\_\_ No 8. Do you ever access banking or shopping sites over a public wi-fi connection?



## Cyber Security Tips

1. Complex passwords made up of a mixture of letters, numbers, and special characters are a safer bet.
2. Using the same password for numerous accounts makes it especially easy for hackers to gain access to all your personal details.
3. It may be annoying to constantly unlock your phone, but a few seconds could be all it takes for a thief to gain access to your personal information.
4. Your email, phone number, date of birth and home address are all very useful information to would-be identity thieves.
5. Viruses and malware can exploit vulnerabilities and gain access to and control your devices. Continually update software to counteract these threats.
6. Always double-check you are in the right place before you enter any private information.
7. Emails, social media accounts and mobile phones are all easy targets for hackers. If it looks weird, don't click it.
8. Quickly paying a bill may seem super-convenient, but any information sent over a public connection is fair game for hackers and potential thieves.

Note: Adapted from "How Vulnerable Are You? A Digital Security Quiz" <https://simplisafe.com/resource/digital-security>



# 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 2016-2026 |                |                          | ND Earnings Outlook                              |                       |
|---|--|-----------------|----------------------|----------------|--------------------------|--|-----------------------|
| Occupational Title/Description  | Holland Code<br>Related Occupations  | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree  |  |                 |                      |                |                          |  |                       |
| <b>Fire Fighting and Prevention Workers Supervisors</b> Directly supervise and coordinate activities of workers engaged in fire fighting and fire prevention and control.   | Enterprising<br><br>Fire Lieutenant; Municipal Fire Fighting and Prevention Supervisor; Supervising Fire Marshal | 59,100          | 151                  | 125            | Avg to Near Avg Growth   | \$47,190<br>\$70,560                             |                       |
| <b>Fire Inspectors and Investigators</b> Conduct investigations related to suspected violations of Federal, State, or local laws to prevent or solve crimes.  | Conventional<br><br>Deputy United States Marshal; Homicide Detective; Narcotics Investigator                     | 12,300          | 21                   | 22             | Below Avg Growth         | \$48,590<br>\$61,850                             |                       |
| <b>Firefighters</b> 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<br><br>Engine Pump Operator; Forest Firefighter; Smoke Jumper  | 327,300         | 444                  | 364            | Avg to Near Avg Growth   | \$29,310<br>\$42,980                             |                       |
| <b>Gaming Surveillance Officers and Gaming Investigators</b> Act as oversight and security agent for management and customers. Observe casino or casino hotel operation for irregular activities such as cheating or theft by either employees or patrons.                                      | Realistic<br><br>Casino Investigator; Casino Surveillance Officer; Gambling Monitor                              | 10,700          | 86                   | 115            | Below Avg Growth         | \$25,510<br>\$31,740                             |                       |
| <b>Paralegals and Legal Assistants</b> 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<br><br>Legal Aide   | 285,600         | 449                  | 555            | Avg to Near Avg Growth   | \$28,730<br>\$45,870                             |                       |
| <b>Police and Sheriff’s Patrol Officers</b> Perform the following duties to protect life and property by enforcing local, tribal, State, or Federal laws and ordinances: patrol a specific area; direct traffic; investigate accidents; apprehend suspects, or serve legal processes of courts. | Realistic<br><br>Border Patrol Officer; Motorcycle Police; Park Police; State Trooper                            | 684,200         | 1,591                | 1,276          | Avg to Near Avg Growth   | \$44,190<br>\$57,190                             |                       |
| <b>Police, Fire, and Ambulance Dispatchers</b> Operate radio, telephone, or computer equipment at emergency response centers. Relay information to law enforcement and emergency response personnel.  | Conventional<br><br>Emergency Operator; 911 Operator; Police Radio Dispatcher                                    | 98,600          | 170                  | 182            | Avg to Near Avg Growth   | \$35,150<br>\$44,490                             |                       |
| <b>Security Guards</b> Guard, patrol, or monitor premises to prevent theft, violence, or infractions of rules. May operate x-ray and metal detector equipment.  | Realistic<br><br>Bank Guard; Bodyguard; Bouncer  | 1,123,300       | 1,535                | 2,222          | Below Avg Growth         | \$23,440<br>\$35,420                             |                       |
| Postsecondary Programs – Bachelor’s Degree or Higher  |  |                 |                      |                |                          |  |                       |
| <b>Fish and Game Wardens</b> Patrol assigned area to prevent fish and game law violations. Investigate reports of damage to crops or property by wildlife. Compile biological data.   | Realistic<br><br>Conservation Enforcement Officer; Wildlife and Game Protector; Wildlife Officer                 | 7,000           | 101                  | 98             | Below Avg Growth         | \$35,480<br>\$58,200                             |                       |
| <b>Judges, Magistrate Judges, and Magistrates</b> Arbitrate, advise, adjudicate, or administer justice in a court of law. May sentence defendant in criminal cases according to government statutes or sentencing guidelines. May determine liability of defendant in civil cases.              | Enterprising<br><br>Circuit Court Judge; Justice; Tribal Judge   | 28,400          | 90                   | 46             | Below Avg Growth         | \$96,740<br>\$132,550                            |                       |
| <b>Judicial Law Clerks</b> Assist judges in court or by conducting research or preparing legal documents.   | Conventional<br><br>Judicial Clerk   | 14,000          | 39                   | 22             | Below Avg Growth         | \$55,320<br>\$71,580                             |                       |
| <b>Lawyers</b> Represent clients in criminal and civil litigation and other legal proceedings, draw up legal documents, or manage or advise clients on legal transactions.  | Enterprising<br><br>Attorney; Corporate Counsel; Public Defender   | 792,500         | 2,076                | 1,061          | Below Avg Growth         | \$63,070<br>\$107,290                            |                       |
| <b>Probation Officers and Correctional Treatment Specialists</b> Assist in rehabilitation of law offenders in custody, on probation or parole. Make recommendations for actions involving the rehabilitation plan and treatment of offender.  | Social<br><br>Juvenile Probation Officer; Parole Agent; Parole Officer   | 91,300          | 179                  | 170            | Below Avg Growth         | \$43,620<br>\$54,950                             |                       |



Energy Occupation



Bright Outlook



High Skill



High Wage



Military

# 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      |
|---|---|--|------------------------------|
| <b>Correction Services</b>                      | Criminal Justice (BSC)<br>Criminal Justice Transfer (BSC, NDSCS, RC, SBC, UTTC)   | Criminal Justice (MiSU, NDSU, RC, UTTC, UJ, UM, UND)                           | Criminal Justice (NDSU, UND) |
| <b>Emergency &amp; Fire Management Services</b> | Advanced Emergency Medical Technician-AEMT (NDSCS)<br>Emergency Management Transfer (NDSCS)<br>Emergency Medical Technician-EMT (NDSCS)<br>Paramedic Technology (BSC, DCB, NDSCS) | Emergency Management (NDSU)  | Emergency Management (NDSU)  |
| <b>Law Enforcement Services</b>                 | Criminal Justice (BSC)<br>Criminal Justice Transfer (BSC, NDSCS, RC, SBC, UTTC)<br>Law Enforcement (LRSC, RC)<br>Peace Officer (LRSC)   | Criminal Justice (MiSU, NDSU, RC, UTTC, UJ, UM, UND)<br>Forensic Science (UND) | Criminal Justice (NDSU, UND) |
| <b>Legal Services</b>                           | Administrative Assistant/ Legal (BSC)<br>Law Transfer (NDSCS)<br>Paralegal/Lay Advocate (RC, SBC)<br>Political Science transfer (BSC, TMCC)                                       | Political Science (DSU, NDSU, UJ, UND)   | Law (UND)                    |
| <b>Security &amp; Protective Services</b>       | Military Science (BSC)  | Military Science-ROTC (NDSU, UND)  |                              |

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

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

# ACT<sup>®</sup>

## RESOURCES FOR STUDENTS & FUTURE GRADUATES

Transitioning through high school to college can be difficult... here are some resources to help.

Find all this and more at [act.org/student](http://act.org/student).



### ADVICE BY GRADE

Find eBooks with useful tips and strategies for planning a successful path to college and career.

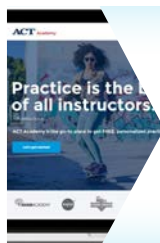
- **Avoiding the Senior Slide** - Senior Year
- **5 Questions Students Must Ask While College and Career Planning** - Junior Year
- **Keep Your Eyes on the Prize** - Sophomore Year
- **Starting Your High School Journey** - Freshman Year



### PREPARING FOR THE ACT<sup>®</sup> TEST AND BEYOND

What to do before, during, and after the ACT<sup>®</sup> test.

- **Before, During and After: 3 Stages of Taking a College Entrance Exam** eBook
- **Using Your ACT Score Report** eBook



### ACT<sup>®</sup> ACADEMY<sup>™</sup>

The free online learning tool and test practice program designed to help you get the best score possible on the ACT<sup>®</sup> test.

- **FREE access to videos and activities targeted to your needs, to help you do your best on the ACT<sup>®</sup> and beyond.**

# 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 2016-2026 |                |                          | ND Earnings Outlook                              |                       |
|---|--|-----------------|----------------------|----------------|--------------------------|--|-----------------------|
| Occupational Title/Description  | Holland Code<br>Related Occupations  | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) |
| Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree  |  |                 |                      |                |                          |  |                       |
| <b>Coating, Painting, and Spraying Machine Setters</b> Set up, operate, or tend machines to coat or paint any of a wide variety of products, including glassware, cloth, ceramics, metal, plastic, paper, or wood, with lacquer, silver, copper, rubber, varnish, glaze, enamel, oil, or rust-proofing materials.     | Realistic<br><br>Electrostatic Paint Operator;<br>Lacquer Spray Booth Operator   | 89,900          | 296                  | 407            | High Growth              | \$29,680<br>\$36,670                             | ☀️                    |
| <b>Computer-Controlled Machine Tool Operators, Metal and Plastic</b> Operate computer-controlled machines or robots to perform one or more machine functions on metal or plastic work pieces.   | Realistic<br><br>Jig Boring Machine Operator for Metal; Welding Robot Operator   | 145,700         | 194                  | 255            | High Growth              | \$34,850<br>\$49,590                             | ☀️                    |
| <b>Crushing, Grinding, and Polishing Machine Setters</b> Set up, operate, or tend machines to crush, grind, or polish materials, such as coal, glass, grain, stone, food, or rubber.  | Realistic<br><br>Beveling and Edging Machine Operator; Industrial Coffee Grinder; Marble and Granite Polisher; Pulverizer Operator | 30,200          | 201                  | 228            | Below Avg Growth         | \$34,100<br>\$45,160                             |                       |
| <b>Helpers--Installation, Maintenance, and Repair</b> Help installation, maintenance, and repair workers in maintenance, parts replacement, and repair of vehicles, industrial machinery, and electrical and electronic equipment. Perform duties such as furnishing tools, materials, and supplies to other workers. | Realistic<br><br>Automobile Body Repairer Helper; Locksmith Helper; Motorboat Mechanic Helper                                      | 120,200         | 494                  | 824            | High Growth              | \$26,930<br>\$36,500                             | ☀️                    |
| <b>Industrial Machinery Mechanics</b> Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.  | Realistic<br><br>Foundry Equipment Mechanic; Hydroelectric Machinery Mechanic  | 346,900         | 1,157                | 1,354          | High Growth              | \$45,310<br>\$66,110                             | ☀️💰                   |
| <b>Inspectors, Testers, Sorters, Samplers, and Weighers</b> 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<br><br>Parts Quality Inspector; Petroleum Sampler   | 520,700         | 1,237                | 1,813          | Avg to Near Avg Growth   | \$34,980<br>\$52,620                             |                       |
| <b>Machinery Maintenance Workers</b> Lubricate machinery, change parts, or perform other routine machinery maintenance.   | Realistic<br><br>Crane Oiler   | 89,700          | 911                  | 1,235          | High Growth              | \$38,190<br>\$53,790                             | ☀️                    |
| <b>Machinists</b> 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.   | Realistic<br><br>Automotive Machinist; Gear Machinist; Production Machinist  | 396,200         | 693                  | 819            | Avg to Near Avg Growth   | \$39,730<br>\$52,070                             | 🇺🇸                    |
| <b>Multiple Machine Tool Setters, Operators and Tenders, Metal and Plastic</b> Set up, operate, or tend more than one type of cutting or forming machine tool or robot.   | Realistic<br><br>Multi-Operation Forming Machine Setter  | 117,800         | 380                  | 527            | High Growth              | \$28,550<br>\$38,740                             | ☀️                    |
| <b>Power Plant Operators</b> Control, operate, or maintain machinery to generate electric power. Includes auxiliary equipment operators.  | Realistic<br><br>Hydroelectric Plant Operator  | 36,100          | 350                  | 341            | Below Avg Growth         | \$68,110<br>\$87,130                             | ⚙️🔧💰                  |
| <b>Production, Planning, and Expediting Clerks</b> Coordinate and expedite the flow of work and materials within or between departments of an establishment according to production schedule.   | Conventional<br><br>Expeditor; Material Control Clerk; Production Scheduler  | 329,400         | 943                  | 1,119          | Avg to Near Avg Growth   | \$33,240<br>\$49,610                             |                       |
| <b>Supervisors of Production and Operating Workers</b> 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<br><br>Assembly Line Supervisor; Machinist Supervisor   | 621,400         | 1,757                | 2,094          | Avg to Near Avg Growth   | \$41,160<br>\$66,480                             | 💰                     |
| <b>Tool and Die Makers</b> 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<br><br>Jig Bore Tool Maker; Metal Die Finisher; Metal Gauge Maker  | 72,500          | 24                   | 27             | Avg to Near Avg Growth   | \$42,440<br>\$55,680                             |                       |
| <b>Welders, Cutters, Solderers, and Brazers</b> 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<br><br>Arc Welder; Cutting Torch Operator  | 404,800         | 2,217                | 2,942          | Avg to Near Avg Growth   | \$36,580<br>\$50,860                             | 🔧                     |





# MANUFACTURING

|   |   | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                                  |   |
|---|---|-----------------|----------------------|----------------|--------------------------|--|---|
| Occupational Title/Description  | Holland Code<br><br>Related Occupations   | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br><br>Annual Average Wages | Occupational Trait(s)   |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree  |   |                 |                      |                |                          |  |   |
| <b>Woodworking Machine Setters and Operators</b> Set up, operate, or tend woodworking machines, such as drill presses, lathes, shapers, routers, sanders, planers, and wood nailing machines. May operate CNC equipment.  | Realistic<br><br>Wood Dowel Machine Operator;<br>Wood Lathe Operator; Wood Planer                     | 77,100          | 85                   | 127            | High Growth              | \$30,100<br><br>\$33,570                             |    |
| Postsecondary Programs – Bachelor’s Degree or Higher  |   |                 |                      |                |                          |  |   |
| <b>Industrial Production Managers</b> Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.   | Enterprising<br><br>Manufacturing Director;<br>Production Control Manager                             | 170,600         | 458                  | 409            | Avg to Near Avg Growth   | \$64,820<br><br>\$104,450                            |   |
| <b>Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products</b> Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics. | Enterprising<br><br>Pharmaceutical Sales Representative;<br>Surgical Instruments Sales Representative | 343,600         | 1,079                | 1,262          | Avg to Near Avg Growth   | \$42,140<br><br>\$71,520                             |   |

**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   |
|---|--|---|---|
| <b>Health, Safety &amp; Environmental Assurance</b> | Emergency Management transfer (NDSCS)<br>Environmental Technology/Science transfer (NHSC, SBC, UTTC)   | Emergency Management (NDSU)<br>Environmental Design (NDSU)<br>Environmental Health (DSU)<br>Environmental Science (DSU, NHSC, SBC, UTTC, VCSU)  | Emergency Management (NDSU)<br>Environmental and Conservation Sciences (NDSU, SBC)<br>Environmental Engineering (UND) |
| <b>Logistics &amp; Inventory Control</b>            | Information Processing Specialist (BSC)<br>Information Technology (DCB)<br>Management Information Systems (NDSCS)  | Business Process Integration Management (VCSU)<br>Computer Technology Management (DSU)<br>Management Information Systems (MiSU, NDSU)<br>Operations and Supply Chain Management (UND) | Supply Chain Management (NDSU)<br>Transportation and Urban Systems (NDSU)   |
| <b>Maintenance, Installation &amp; Repair</b>       | Electrical Lineworker (BSC)<br>Electrical Power Technology (BSC)<br>Electrical Transmission Systems Technology (BSC)<br>Electronics Technology (BSC)<br>Electronics/Telecommunications Technology (BSC)<br>Mechanical Maintenance Technology (BSC)<br>Simulation Technology (LRSC)<br>Welding Technology (BSC, BJCC, LW, NDSCS, NHSC, SBC, TMCC, UTTC, WSC)<br>Wind Energy Technician (LRSC) |   |   |
| <b>Manufacturing Process Production Development</b> | Energy Services & Renewable Technician (BSC)<br>Instrumentation & Control Technology (BSC)<br>Power Plant Technology (BSC, TMCC)<br>Process Plant Technology (BSC, TMCC)   | Industrial Engineering and Management (NDSU)<br>Manufacturing Engineering (NDSU)  | Industrial Engineering and Management (NDSU)<br>Manufacturing Engineering (NDSU)                                      |
| <b>Production</b>                                   | Heating, Ventilation, and Air Conditioning (BSC, NDSCS, TMCC)<br>Precision Machining Technology (NDSCS)<br>Robotics, Automation and Mechatronics Technology (NDSCS)<br>Welding Technology (BSC, BJCC, LW, NDSCS, NHSC, SBC, TMCC, UTTC, WSC)   | Energy Management (BSC)   | Materials and Nanotechnology (NDSU)   |
| <b>Quality Assurance</b>                            | Instrumentation and Control Technology (BSC)   | Industrial Engineering and Management (NDSU)  | Industrial Engineering and Management (NDSU)  |

## North Dakota Postsecondary Institutions Offering Manufacturing Related Programs

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

# EMERSON MEIDINGER

Valley City High School



CREATIVE WELDER  
UNIQUE • CARING • FUN



Everything fell into place when Emerson Meidinger started taking welding classes in 11th grade. "Once I walked into that shop, I knew that's where I belonged. Welding will always be in my future, whether for fun or work." Her welding teacher helped guide her in the right direction and showed her all different types of welding. Emerson credits the welding teacher with helping her to find her true talent.

Emerson was a member of SkillsUSA during high school. She earned first place in the Welding Sculpture competition at the state level and finished in fifth place at the national event in Kentucky. She has learned much from being involved in the organization and has a lot of memories and shared many laughs with other members.

She is currently enrolled at North Dakota State College of Science (NDSCS) in Fargo. Each day on campus begins in the classroom and then continues in the welding shop. The work time in the shop must be at least three hours per day, whether working on projects for the instructor or personal welding.

Welding is the joining together of metal pieces or parts by heating the surfaces to the point of melting. Emerson is learning about metal compounds, how they melt, and the temperature at which they melt. One of her challenges in welding has been learning how to weld with wire. She practiced a lot and even took extra classes to further develop her skill. She finally feels comfortable with it.

The welding industry has many different certifications including Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW), and Gas Metal Arc Welding (GMAW). Certifications

in the different positions of welding such as flat, vertical, horizontal and overhead are also available. After completing her training, Emerson hopes to have the skills and knowledge to perform and successfully pass the certified welding tests.

Emerson loves everything about welding. Working with fire and electricity and even the smell of the burning rods makes her happy. She enjoys working with her hands and making art. She always has an idea to make a sculpture.



# MARKETING

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

|  |   | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |                       |
|--|---|-----------------|----------------------|----------------|--------------------------|--|-----------------------|
| Occupational Title/Description   | Holland Code<br>Related Occupations   | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s) |
| Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree   |   |                 |                      |                |                          |  |                       |
| <b>Cashiers</b> 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<br><br>Cash Register Operator;<br>Toll Collector                                     | 3,555,500       | 10,167               | 19,099         | Below Avg Growth         | \$20,460<br>\$25,150                             |                       |
| <b>Demonstrators and Product Promoters</b> Demonstrate merchandise and answer questions for the purpose of creating public interest in buying the product. May sell demonstrated merchandise.  | Enterprising<br><br>Home Demonstrator;<br>In-Store Demonstrator                                   | 94,700          | 95                   | 180            | Avg to Near Avg Growth   | \$27,630<br>\$30,440                             |                       |
| <b>Merchandise Displayers and Window Trimmers</b> Plan and erect commercial displays, such as those in windows and interiors of retail stores and at trade exhibitions.  | Artistic<br><br>Display Artist;<br>Window Decorator   | 141,400         | 277                  | 295            | Avg to Near Avg Growth   | \$25,850<br>\$33,520                             |                       |
| <b>Real Estate Agents</b> 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<br><br>Apartment Rental Agent  | 348,800         | 787                  | 791            | Below Avg Growth         | \$31,260<br>\$61,430                             | 💰                     |
| <b>Retail Salespersons</b> Sell merchandise, such as furniture, motor vehicles, appliances, or apparel to consumers.   | Enterprising<br><br>Car Salesperson;<br>Apparel Salesperson                                       | 4,602,500       | 13,458               | 20,561         | Below Avg Growth         | \$20,780<br>\$32,830                             |                       |
| <b>Supervisors of Retail Sales Workers</b> 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<br><br>Cashier Supervisor; Delicatessen Department Manager                           | 1,532,400       | 4,240                | 4,898          | Below Avg Growth         | \$29,890<br>\$44,620                             |                       |
| Postsecondary Programs – Bachelor's Degree or Higher   |   |                 |                      |                |                          |  |                       |
| <b>Appraisers and Assessors of Real Estate</b> Appraise real property and estimate its fair value. May assess taxes in accordance with prescribed schedules.   | Enterprising<br><br>Land Appraiser;<br>Property Appraiser   | 80,800          | 139                  | 116            | Avg to Near Avg Growth   | \$42,540<br>\$53,840                             | 🧠                     |
| <b>Fundraisers</b> Organize activities to raise funds or otherwise solicit and gather monetary donations or other gifts for an organization. May design and produce promotional materials.   | Enterprising<br><br>Campaign Fundraiser;<br>Donor Relations Officer;<br>Fundraising Officer       | 90,400          | 149                  | 182            | Avg to Near Avg Growth   | \$37,830<br>\$59,490                             | 🧠                     |
| <b>Market Research Analysts and Marketing Specialists</b> 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<br><br>Research Specialist;<br>Marketing Consultant;<br>Marketing Forecaster        | 595,400         | 785                  | 1,076          | High Growth              | \$35,830<br>\$52,870                             | ☀️🧠                   |
| <b>Marketing Managers</b> 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<br><br>Internet Marketing Manager;<br>Marketing Administrator;<br>Marketing Director | 218,300         | 319                  | 334            | Avg to Near Avg Growth   | \$71,080<br>\$111,880                            | 🧠💰                    |
| <b>Public Relations and Fundraising Managers</b> Plan, direct, or coordinate activities designed to create or maintain a favorable public image or raise issue awareness for their organization or client; or if engaged in fundraising, plan, direct, or coordinate activities to solicit and maintain funds. | Enterprising<br><br>Fundraising Director;<br>Public Affairs Director;<br>Publicity Director       | 73,500          | 181                  | 177            | Avg to Near Avg Growth   | \$63,970<br>\$102,720                            | 🧠💰                    |
| <b>Sales Managers</b> 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.  | Enterprising<br><br>District Sales Manager;<br>Export Manager                                     | 385,500         | 724                  | 727            | Avg to Near Avg Growth   | \$68,850<br>\$108,500                            | 🧠💰                    |

 **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  |
|---------------------------------|---|---|--|
| <b>Marketing Communications</b> | Advertising and Marketing (DCB)<br>Information & Communications Technology (NDSCS)<br>Mass Communication (BSC)  | Communication (UM, UND)<br>Management Communication (NDSU)<br>Marketing and Communications (TBC)  | Communication (UND)  |
| <b>Marketing Management</b>     | Advertising & Marketing (DCB)<br>Business Management (NDSCS, RC, WSC)<br>Management (BSC)<br>Management Entrepreneurship (BSC)<br>Marketing (LRSC, RC)<br>Marketing and Management transfer (DCB) | Business Management (MaSU, RC, UM)<br>Management (MiSU, NDSU)<br>Marketing (MiSU, NDSU, RC, UM, UND)<br>Sport Management (MaSU, NDSU, UM)<br>Supply Chain and Logistics Management (RC) | Management (MiSU)<br>Sport Management (MiSU)<br>Supply Chain Management (NDSU) |
| <b>Marketing Research</b>       |   | International Entrepreneurship (TBC)  |  |
| <b>Merchandising</b>            |   | Apparel, Retail Merchandising, & Design (NDSU)<br>Operations and Supply Chain Management (UND)  | Merchandising (NDSU)   |
| <b>Professional Selling</b>     | Entrepreneurship (NHSC, NDSCS, TMCC)<br>Marketing, Sales and Hospitality Services (NDSCS)<br>Sales (NDSCS)  | Entrepreneurship (MiSU, UND)  |  |

## North Dakota Postsecondary Institutions Offering Marketing Related Programs

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

## Is Entrepreneurship in Your Future?

People choose to become self-employed for many reasons, including greater independence and flexibility. But they also need to consider other concerns, such as long hours and lack of benefits.

As part of the decision-making process, you should weight the pros and cons of starting a business, along with the reasons for pursuing self-employment.

The opportunities are boundless if you possess the necessary skills and abilities, are willing to work hard and take risks, and have the time and financial resources needed.

To help determine if this route is best for you, do an honest self-assessment to decide what business skills you have, what skills you will need, and if you have the desire to learn what you need to know.

### Are you ready to start your own business?

Answer "Yes" or "No" to each of the following questions.

- \_\_\_\_\_ Do you have a skill or service that is marketable in today's economy?
- \_\_\_\_\_ Do you have potential clients or customers? How many?
- \_\_\_\_\_ Are you able to take personal and financial risks?
- \_\_\_\_\_ Are you a hard and diligent worker?
- \_\_\_\_\_ Do you have good planning and organizational skills?
- \_\_\_\_\_ Are you a good decision-maker?
- \_\_\_\_\_ Can you handle periods of high stress?
- \_\_\_\_\_ Are you willing to put in long hours?
- \_\_\_\_\_ Are you highly self-motivated?
- \_\_\_\_\_ Can you sell yourself and your product to clients and customers?
- \_\_\_\_\_ Do you have good business communication and marketing skills?
- \_\_\_\_\_ Do you have the money or the resources needed to start a business?
- \_\_\_\_\_ Do you have the technical skills you need or can you acquire the training needed?
- \_\_\_\_\_ Do you have the space needed to operate and run a business?

### You can get more information and assistance at these sites:

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  
[www.nd.gov/veterans/benefits/entrepreneurship](http://www.nd.gov/veterans/benefits/entrepreneurship)















# 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 2016-2026 |                |                          | ND Earnings Outlook                              |   |
|---|---|-----------------|----------------------|----------------|--------------------------|--|---|
| Occupational Title/Description  | Holland Code<br>Related Occupations   | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s)   |
| Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree  |   |                 |                      |                |                          |  |   |
| <b>Chemical Technicians</b> 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.  | Investigative   | 67,300          | 66                   | 65             | Below Avg Growth         | \$32,720   |    |
|   | Assayer; Chemical Laboratory Technician; Inorganic Chemical Technician  |                 |                      |                |                          | \$50,370   |   |
| <b>Civil Engineering Technicians</b> 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   | 74,500          | 496                  | 568            | High Growth              | \$43,210   |     |
|   | Geotechnical Engineering Technician; Highway Engineering Technician   |                 |                      |                |                          | \$56,070   |   |
| <b>Electrical and Electronic Engineering Technicians</b> Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use. | Realistic   | 137,000         | 332                  | 352            | Avg to Near Avg Growth   | \$53,240   |     |
|   | Electrical Design Technician; Lighting Engineering Technician; Semiconductor Development Technician                         |                 |                      |                |                          | \$67,860   |   |
| <b>Environmental Science and Protection Technicians, Including Health</b> 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   | 34,600          | 110                  | 157            | Avg to Near Avg Growth   | \$33,070   |    |
|   | Groundwater Monitoring Technician; Infectious Waste Technician; Pollution Control Technician; Waste Minimization Technician |                 |                      |                |                          | \$49,910   |   |
| <b>Forest and Conservation Technicians</b> Provide technical assistance regarding the conservation of soil, water, forests, or related natural resources. May assist conservation scientists in managing, improving, and protecting rangelands and wildlife habitats.   | Realistic   | 33,200          | 142                  | 177            | Below Avg Growth         | \$32,160   |    |
|   | Forestry Aide; Soil Conservation Technician; Timber Management Technician   |                 |                      |                |                          | \$44,480   |   |
| <b>Industrial Engineering Technicians</b> Apply engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff. May perform time and motion studies on worker operations in a variety of industries.                                | Investigative   | 63,900          | 227                  | 248            | Avg to Near Avg Growth   | \$36,850   |    |
|   | Motion Study Technician; Production Control Technologist; Time Study Technician   |                 |                      |                |                          | \$52,000   |   |
| <b>Mechanical Drafters</b> Prepare detailed working diagrams of machinery and mechanical devices, including dimensions, fastening methods, and other engineering information.   | Realistic   | 64,800          | 139                  | 154            | Avg to Near Avg Growth   | \$39,650   |    |
|   | Aeronautical Drafter; Automotive Design Drafter   |                 |                      |                |                          | \$51,970   |   |
| <b>Mechanical Engineering Technicians</b> 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          | 115                  | 136            | High Growth              | \$40,140   |     |
|   | Gyroscope Engineering Technician; Heat Transfer Technician; Optomechanical Technician                                       |                 |                      |                |                          | \$59,350   |   |
| Postsecondary Programs – Bachelor’s Degree or Higher  |   |                 |                      |                |                          |  |   |
| <b>Electrical Engineers</b> Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use.   | Investigative   | 188,300         | 559                  | 522            | High Growth              | \$63,040   |    |
|   | Electrical Systems Engineer; Power Distribution Engineer  |                 |                      |                |                          | \$89,680   |   |
| <b>Environmental Scientists and Specialists, Including Health</b> Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population.  | Investigative   | 89,500          | 298                  | 341            | Avg to Near Avg Growth   | \$52,690   |     |
|   | Hazardous Substances Scientist; Health Environmentalist; Water Pollution Scientist  |                 |                      |                |                          | \$72,860   |   |
| <b>Hydrologists</b> Research the distribution, circulation, and physical properties of underground and surface waters; study the form/intensity of precipitation, its rate of infiltration into the soil, movement through the earth, and its return to the ocean and atmosphere.                                     | Investigative   | 6,700           | 60                   | 63             | Avg to Near Avg Growth   | \$57,670   |     |
|   | Hydrogeologist; Surface Hydrologist   |                 |                      |                |                          | \$71,890   |   |
| <b>Industrial Engineers</b> 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   | 257,900         | 432                  | 406            | High Growth              | \$51,920   |    |
|   | Efficiency Engineer; Manufacturing Engineer   |                 |                      |                |                          | \$79,980   |   |

# SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

| Occupational Title/Description   | Holland Code<br>Related Occupations  | National           | ND Outlook 2016-2026 |                   |                                | ND Earnings<br>Outlook                                  | Occupational<br>Trait(s)   |
|--|--|--------------------|----------------------|-------------------|--------------------------------|---|--|
|  |  | Number<br>Employed | Number<br>Employed   | Total<br>Openings | Long-Term<br>Growth<br>Outlook | Annual Entry-<br>Level Wages<br>Annual<br>Average Wages |  |
| <b>Mechanical Engineer</b> 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<br><br>Combustion Engineer; Engine Designer; Tool and Die Engineer                     | 288,800            | 591                  | 581               | High Growth                    | \$53,210<br>\$75,770                                    |  <br>   |
| <b>Mining and Geological Engineers</b> 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.          | Investigative<br><br>Geophysical Engineer; Mineral Engineer; Seismic Engineer                    | 7,300              | 71                   | 76                | High Growth                    | \$58,810<br>\$80,350                                    |  <br>  |
| <b>Petroleum Engineers</b> 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<br><br>Natural Gas Engineer;<br>Oil Drilling Engineer;<br>Oil Exploration Engineer | 33,700             | 107                  | 122               | High Growth                    | \$78,230<br>\$124,880                                   |    |
| <b>Statisticians</b> Develop or apply mathematical or statistical theory and methods to collect, organize, interpret, and summarize numerical data in fields such as bio-statistics, agricultural statistics, business statistics, or economic statistics.                             | Conventional<br><br>Biostatistician; Statistical Analyst;<br>Time Study Statistician             | 37,200             | 74                   | 80                | High Growth                    | \$51,960<br>\$75,230                                    |  <br>   |



Energy Occupation



Bright Outlook



High Skill



High Wage



Military

## North Dakota STEM Related Postsecondary Programs

| Pathway                             | Certificate or Associate's Degree  | Bachelor's Degree  | Master's Degree or More  |
|-------------------------------------|--|--|--|
| <b>Engineering &amp; Technology</b> | Architectural Drafting & Estimating Technology (NDSCS)<br>Engineering Technology (BSC)<br>Engineering transfer (BSC, CCCC, DCB, NDSCS, NHSC, SBC, UTTC)<br>Land Surveying and Civil Engineering (NDSCS)<br>Nuclear Power Technology (BSC)<br>Petroleum Production Technology (BSC)<br>Robotics, Automation & Mechatronics Technology (NDSCS)<br>Simulation Technology (LRSC)<br>Technical Studies (BSC, NDSCS)   | Agricultural and Biosystems Engineering (NDSU)<br>Chemical Engineering (UND)<br>Civil Engineering (NDSU, UND)<br>Computer Engineering (NDSU)<br>Construction Engineering (NDSU)<br>Electrical Engineering (NDSU, UND)<br>Engineering Science (UM)<br>Geological Engineering (UND)<br>Industrial Engineering and Management (NDSU)<br>Manufacturing Engineering (NDSU)<br>Mechanical Engineering (NDSU, UJ, UND)<br>Petroleum Engineering (UND)   | Agricultural and Biosystems Engineering (NDSU)<br>Biomedical Engineering (UND)<br>Chemical Engineering (UND)<br>Civil Engineering (NDSU, UND)<br>Electrical Engineering (UND)<br>Electrical/Computer Engineering (NDSU)<br>Energy Engineering (UND)<br>Environmental Engineering (UND)<br>Geological Engineering (UND)<br>Industrial Engineering & Management (NDSU)<br>Manufacturing Engineering (NDSU)<br>Mechanical Engineering (NDSU, UND)<br>Petroleum Engineering (UND)<br>Software Engineering (NDSU)   |
| <b>Science &amp; Mathematics</b>    | Biology transfer (BSC, DCB)<br>Biotechnology transfer (NDSCS)<br>Chemistry transfer (BSC, DCB, NDSCS)<br>Environmental Science Transfer (NHSC, SBC, UTTC)<br>Environmental Tech - Lab & Field Technician (DCB)<br>Environmental Tech - Natural Resource Mgmt. (DCB)<br>Mathematics transfer (BSC, DCB, NDSCS, NHSC)<br>Natural Science transfer (NDSCS)<br>Pharmacy transfer (DCB)<br>Physical Science transfer (NDSCS)<br>Physics transfer (BSC)<br>Science transfer (NHSC) | Atmospheric Sciences (UND)<br>Biochemistry and Molecular Biology (NDSU, UJ)<br>Biology/Biological Science (DSU, MaSU, MiSU, NDSU, UJ, UM, UND, VCSU)<br>Biotechnology (NDSU)<br>Chemistry (DSU, MaSU, MiSU, NDSU, UJ, UM, UND, VCSU)<br>Computer Science (DSU, MiSU, NDSU, RC, UM, UND)<br>Earth Science (UND)<br>Environmental Science (DSU, NHSC, SBC, UTTC, UND, VCSU)<br>Forensic Science (UND)<br>Geology (MiSU, NDSU, UND)<br>Horticulture (NDSU)<br>Mathematics (DSU, MaSU, MiSU, NDSU, UJ, UM, UND, VCSU)<br>Medicinal Plant Chemistry (MiSU)<br>Microbiology (NDSU)<br>Molecular and Integrative Biology (UND)<br>Physics/Astrophysics (NDSU, UND)<br>Statistics (NDSU) | Aerospace Sciences (UND)<br>Atmospheric Sciences (UND)<br>Biochemistry (NDSU)<br>Biology (NDSU, UND)<br>Biomedical Engineering (NDSU)<br>Chemistry (NDSU, UND)<br>Computer Science (UND)<br>Earth System Science and Policy (UND)<br>Entomology (NDSU)<br>Environmental/Conservation Science (NDSU, SBC)<br>Geology (UND)<br>Horticulture (NDSU)<br>Materials and Nanotechnology (NDSU)<br>Mathematics (NDSU, UND)<br>Microbiology (NDSU)<br>Physics/Astrophysics (NDSU, UND)<br>Plant Pathology (NDSU)<br>Plant Sciences (NDSU)<br>Scientific Computing (UND) |

## North Dakota Postsecondary Institutions Offering STEM Related Programs

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

# 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.

| Occupational Title/Description   | Holland Code<br>Related Occupations  | National           | ND Outlook 2016-2026 |                   |                                | ND Earnings<br>Outlook                                  | Occupational<br>Trait(s)   |
|--|--|--------------------|----------------------|-------------------|--------------------------------|---|--|
|  |  | Number<br>Employed | Number<br>Employed   | Total<br>Openings | Long-Term<br>Growth<br>Outlook | Annual Entry-<br>Level Wages<br>Annual<br>Average Wages |  |
| <b>Aircraft Mechanics and Service Technicians</b> Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. Includes helicopter and aircraft engine specialists.   | Realistic<br><br>Aircraft Engine Specialist;<br>Flight Test Mechanic                                   | 132,000            | 241                  | 236               | Avg to Near<br>Avg Growth      | \$41,850<br>\$57,360                                    |    |
| <b>Ambulance Drivers and Attendants, Except Emergency Medical Technicians</b> Drive ambulance or assist ambulance driver in transporting sick, injured, or convalescent persons. Assist in lifting patients.   | Realistic<br><br>Emergency Medical Services (EMS) Driver   | 17,300             | 398                  | 682               | Avg to Near<br>Avg Growth      | \$17,620<br>\$28,860                                    |  |
| <b>Automotive Service Technicians and Mechanics</b> 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<br><br>Transmission Specialist;<br>Brake Technician;<br>Hybrid Car Mechanic                  | 749,900            | 2,415                | 2,486             | Below Avg<br>Growth            | \$29,190<br>\$44,970                                    |    |
| <b>Bus and Truck Mechanics/Diesel Engine Specialists</b> 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<br><br>Biodiesel Engine Specialist;<br>Tractor Trailer Mechanic                              | 278,800            | 1,806                | 2,252             | High<br>Growth                 | \$39,400<br>\$54,080                                    |  <br>  |
| <b>Bus Drivers, School or Special Client</b> 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<br><br>School Bus Operator;<br>Special Education Bus Driver                                  | 507,900            | 1,358                | 1,888             | Avg to Near<br>Avg Growth      | \$24,360<br>\$42,830                                    |  |
| <b>Cargo and Freight Agents</b> 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.       | Conventional<br><br>Cargo Router;<br>Freight Shipping Agent  | 89,800             | 109                  | 166               | Avg to Near<br>Avg Growth      | \$33,640<br>\$41,100                                    |  |
| <b>Cleaners of Vehicles and Equipment</b> Wash or otherwise clean vehicles, machinery, and other equipment. Use such materials as water, cleaning agents, brushes, cloths, and hoses.  | Realistic<br><br>Aircraft Cleaner; Auto Detailer;<br>Car Wash Attendant                                | 369,200            | 1,269                | 2,157             | Avg to Near<br>Avg Growth      | \$22,520<br>\$29,710                                    |  |
| <b>Commercial Pilots</b> 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<br><br>Aerial Crop Duster; Flight<br>Instructor (Commercial Pilots);<br>Helicopter Pilot     | 40,800             | 275                  | 297               | Avg to Near<br>Avg Growth      | \$53,480<br>\$82,880                                    |    |
| <b>Crane and Tower Operators</b> Operate mechanical boom and cable or tower and cable equipment to lift and move materials, machines, or products in many directions.  | Realistic<br><br>Boom Crane Operator;<br>Cherry Picker Operator;<br>Coal Tower Operator                | 46,000             | 231                  | 307               | Avg to Near<br>Avg Growth      | \$49,180<br>\$63,450                                    |   |
| <b>Freight, Stock and Material Handlers</b> Manually move freight, stock, or other materials or perform other general labor. Includes all manual laborers not elsewhere classified.  | Realistic<br><br>Cargo Handler   | 2,628,400          | 8,143                | 13,123            | Avg to Near<br>Avg Growth      | \$25,530<br>\$34,470                                    |   |
| <b>Heavy and Tractor-Trailer Drivers</b> Drive a tractor-trailer combination or a truck with a capacity of at least 26,000 pounds Gross Vehicle Weight (GVW). May be required to unload truck. Requires commercial drivers' license.                                   | Realistic<br><br>Auto Carrier Driver; Cement<br>Truck Driver; Moving Van Driver                        | 1,871,700          | 12,388               | 18,199            | High<br>Growth                 | \$38,250<br>\$52,080                                    |    |
| <b>Industrial Truck and Tractor Operators</b> Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location.  | Realistic<br><br>Forklift Operator   | 549,900            | 1,333                | 1,769             | Avg to Near<br>Avg Growth      | \$32,490<br>\$39,920                                    |   |
| <b>Tank Car, Truck, and Ship Loaders</b> 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.  | Realistic<br><br>Barge Loader; Rail Car Loader;<br>Ship Unloader                                       | 10,800             | 183                  | 268               | Avg to Near<br>Avg Growth      | \$33,140<br>\$45,030                                    |   |
| <b>Transportation, Storage, and Distribution Managers</b> Plan, direct, or coordinate transportation, storage, or distribution activities in accordance with organizational policies and applicable government laws or regulations. Includes logistics managers.       | Enterprising<br><br>Distribution Center Manager;<br>Traffic Safety Administrator;<br>Warehouse Manager | 115,500            | 399                  | 387               | Avg to Near<br>Avg Growth      | \$62,350<br>\$97,720                                    |    |

# TRANSPORTATION, DISTRIBUTION & LOGISTICS

|   |   | National        | ND Outlook 2016-2026 |                |                          | ND Earnings Outlook                              |   |
|---|---|-----------------|----------------------|----------------|--------------------------|--|---|
| Occupational Title/Description  | Holland Code<br>Related Occupations                         | Number Employed | Number Employed      | Total Openings | Long-Term Growth Outlook | Annual Entry-Level Wages<br>Annual Average Wages | Occupational Trait(s)   |
| Postsecondary Programs – Bachelor’s Degree or Higher  |   |                 |                      |                |                          |  |   |
| <b>Logisticians</b> 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<br><br>Logistics Analyst;<br>Logistics Planner | 148,700         | 319                  | 371            | Avg to Near Avg Growth   | \$45,570<br>\$64,300                             |   |

 **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   |
|---|--|--|---|
| <b>Facility &amp; Mobile Equipment Maintenance</b>                                  | Auto Body Repair and Refinishing Technology (NDSCS)<br>Auto Collision Technology (BSC)<br>Auto Technology (BSC, BJCC, LRSC, NDSCS, UTTC)<br>Case IH Technology (NDSCS)<br>Caterpillar Dealer Service Technician (NDSCS)<br>Electronics Technology (BSC)<br>Electronics/Telecommunications Technology (BSC)<br>General Diesel Technology (NDSCS)<br>Geographic Information Systems Technology (BSC)<br>Komatsu Technology (NDSCS)<br>Power Sports Technology (NDSCS)<br>Transportation Technology (WSC) |  |   |
| <b>Health, Safety &amp; Environmental Management</b>                                |  | Environmental Design (NDSU)<br>Environmental Health (DSU)  |   |
| <b>Logistics Planning &amp; Management Services</b>                                 | Information and Communications Technology (NDSCS)<br>Information Processing Specialist (BSC)<br>Information Technology (DCB, LRSC, WSC)<br>Management Information Systems transfer (NDSCS)   | Business Management (UM)<br>Business Process Integration Management (VCSU)<br>Information Technology Management (UM)<br>Management Information Systems (MiSU, NDSU, RC)<br>Operations/Supply Chain & Logistics Mgmt. (RC, UND) | Project Management (UM)<br>Public Administration (UM)<br>Transportation and Logistics (NDSU)<br>Transportation and Urban Systems (NDSU) |
| <b>Sales &amp; Service</b>  | Business Management (NDSCS, WSC)<br>Marketing & Management transfer (DCB, RC)  | Airport Management (UND)<br>Marketing (MiSU, NDSU, RC, UM, UND)  |   |
| <b>Transportation Operations</b>  | Airline Transport Pilot (FFS)<br>CDL/Heavy Equipment (CCCC, SBC, TMCC, UTTC)<br>Commercial Pilot (EATC, FFS, GFKFS)<br>Commercial Vehicle Operations (TMCC)<br>Instrumental/Multi-Engine Rating (EATC, FFS, GFKFS)<br>Private Pilot/Drone Training (EATC, FFS, GFKFS)<br>Recreational/Sport Pilot (EATC)   | Air Traffic Management (UND)<br>Aviation Management (UND)<br>Aviation Studies (UND)<br>Commercial Aviation (UND)<br>Flight Education (UND)<br>Unmanned Aircraft Systems Operations (UND)                                       | Aerospace Sciences (UND)<br>Aviation (UND)<br>Unmanned Aircraft Systems Engineering (UND)   |
| <b>Transportation Systems/ Infrastructure Planning, Management &amp; Regulation</b> |  | Airport Management (UND)   | Public Administration (UND)<br>Transportation and Logistics (NDSU)<br>Transportation and Urban Systems (NDSU)                           |
| <b>Warehousing &amp; Distribution Center Operations</b>                             | Business Management (NDSCS)<br>Management (BSC)  | Business Process Integration Management (VCSU)   |   |

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

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



# 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](http://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.

## Checklist for Admission to a College or University



- ✓ **Consider** more than one campus at [www.NDChoose.com](http://www.NDChoose.com).
- ✓ **Look** through course catalogues and schedule campus visits.
- ✓ **Take** the ACT—go to [www.actstudent.org](http://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.



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.



## NORTH DAKOTA UNIVERSITY SYSTEM (NDUS)



## ADMISSION REQUIREMENTS

### 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.

## 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 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.

#### CONTACT US AT:

**North Dakota Center  
for Distance Education**

**701-298-4830 • [www.NDCDE.org](http://www.NDCDE.org)**



## 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.



**CONNECTING YOUTH TO  
OPPORTUNITIES IN NORTH DAKOTA**

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[www.NDYouthForward.com](http://www.NDYouthForward.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. Operating year-round, Job Corps provides the chance to finish high school, learn a trade and even start college. Job Corps is a structured, residential program that focuses on learning life skills and employability, in addition to education and training.

### ACADEMIC TRAINING

- Basic literacy and math skills are important in any job; therefore, Job Corps will provide assessment testing after arrival to determine if you need some additional skills support in areas such as reading and math.
- Students can obtain their GED or high school diploma; Burdick offers several options to achieve academic credentials.

### CAREER & TECHNICAL TRAINING

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



Following completion of one of the above trades, graduates from Burdick may also be eligible for one of Job Corps' advanced training program in locations such as Minneapolis, Minnesota; Kansas City, Missouri, or San Francisco, California. Advanced training opportunities are available for almost every trade.

After graduation from the Quentin N. Burdick Job Corps Center, Career Transitions Services (job placement assistance) is available for students for up to a year.

In addition to high school and career technical training, Burdick Job Corps provides the following:

- Career Success Standards (employability) Training
- A living allowance with free room and board
- Basic medical and dental care
- Drivers Education
- Work Experience (known as work-based learning)

Job Corps is a structured job training program that just might be the best option for YOU; and Job Corps is **FREE** to those who qualify! Contact your local Admissions Counselor by calling **1-701-857-9600**.

To learn more about Job Corps, check out our website at <https://quentinnburdick.jobcorps.gov> or find us on Facebook.



## 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](http://www.americorpsnd.com)**





## FAFSA is the first step to getting money for college

To get money for college your first step is to apply for the FAFSA (Free Application for Federal Student Aid), and the application can be completed as early as October 1 of your senior year.

You can list up to 10 schools on your FAFSA and will receive an offer detailing a financial aid package from each college that you've applied to and been accepted. Grants are often on a first-come, first-served basis and may require the FAFSA to be completed, so applying early is helpful.



Ask Staci and Amanda  
200 views



Bank of North Dakota  
Published on June 6, 2019

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## Cut college costs!

- Take dual credit and advanced placement classes in high school.
- Start applying for scholarships in the fall of your senior year. North Dakota Dollars for Scholars has many scholarships for undergraduate and graduate students in college. Visit **[northdakota.dollarsforscholars.org](http://northdakota.dollarsforscholars.org)** and create your online profile today. If your profile is in the system, you will be notified when the application period opens.
- In addition to comparing college tuition rates, consider where the college is located and look at all your living, meal and transportation options. Be mindful of your expenses to make the best choice for yourself financially.
- 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 federal loans, compare BND's student loan interest rates with other options. BND offers fixed or variable interest rate options that do not vary based on your credit rating or income.

# Student loans are not free money

Some 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 | Percentage 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%                                  |
| <b>Total expenses</b>   | <b>\$2,666</b> | <b>100%</b>                          |

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



ACHIEVE MORE.

 VISIT [BND.ND.GOV](https://www.bnd.nd.gov)

**BND**   
Bank of North Dakota



**LOYALTY****DUTY****RESPECT****SELFLESS SERVICE**

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



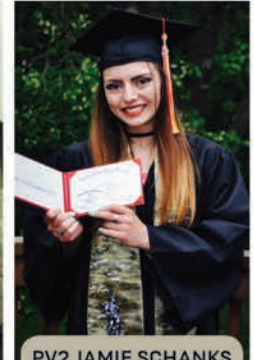
L TO R: PV2 DANE HAUGEN, PV2 ERIK ODEGAARD, PV2 GRACIN CLEM, PV2 AUSTIN WOLLSCHLAGER, [PVT GARRETT BROWN - DICKINSON HS]



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.

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JAMESTOWN • 701-320-0649  
MINOT • 701-857-7650  
VALLEY CITY • 701-845-6762  
WAHPETON • 701-899-2264  
WILLISTON • 701-770-3072

NORTH DAKOTA  
**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



Transition is the term for the “bridge” between school and adult life for students. Transition planning is the process of preparing for life after high school. The Division of Vocational Rehabilitation (VR) can help you make informed choices during your transition and assist you with future career plans.

If you are eligible, VR will help you to determine an appropriate employment goal. You and your counselor will work together to develop an Individualized Plan for Employment (IPE), which identifies what you need to achieve your goal. VR may be able to help you transition from high school to work or from high school to college in preparation for work by providing:



**Professional Vocational Rehabilitation Counseling & Guidance** – evaluations of strengths and how your disability may affect your ability to work, a comprehensive assessment of 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 assisting you 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.

## Make the Transition

For more information about Vocational Rehabilitation,  
please visit: [www.nd.gov/dhs/dvr](http://www.nd.gov/dhs/dvr)

### VOCATIONAL REHABILITATION/ HUMAN SERVICES REGIONAL OFFICES

**Region 1 - Williston**  
**Vocational Rehabilitation**  
**Northwest Human Service Center**  
316 Second Avenue W  
Williston, ND 58802  
701-774-4662 • 1-800-231-7724

**Region 2 - Minot**  
**Vocational Rehabilitation**  
1015 S Broadway, Suite 21A  
Minot ND 58701  
701-857-8642 • 1-888-470-6968

**Region 3 - Devils Lake**  
**Vocational Rehabilitation**  
301 S College Dr  
Devils Lake ND 58301  
701-665-2235 • 1-888-607-8610

**Region 4 - Grand Forks**  
**Vocational Rehabilitation**  
1501 28th Ave S  
Grand Forks ND 58201  
701-795-3100 • 1-888-256-6742

**Region 5 - Fargo**  
**Vocational Rehabilitation**  
1655 43rd St S, Suite 208  
Fargo ND 58103  
701-298-4459 • 1-888-342-4900

**Region 6 - Jamestown**  
**Vocational Rehabilitation**  
**South Central Human Service Center**  
520 Third St NW  
Jamestown ND 58402-2055  
701-253-6388 • 1-800-639-6292

**Region 7 - Bismarck**  
**Vocational Rehabilitation**  
1237 W Divide Ave, Suite 2  
Bismarck ND 58501  
701-328-8800 • 1-888-862-7342

**Region 8 - Dickinson**  
**Vocational Rehabilitation**  
1674 15 St W, Unit E  
Dickinson ND 58601  
701-227-7600 • 1-888-227-7525

Relay ND TTY 1-800-366-6888

# ND DEPARTMENT OF PUBLIC INSTRUCTION



## Adult Education

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.

Please visit <https://ged.com> for more information on the GED.

Visit [www.nd.gov/dpi/SchoolStaff/AdultEd](http://www.nd.gov/dpi/SchoolStaff/AdultEd)  
for more information on Adult Education in ND.

### ADULT LEARNING CENTERS

#### 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

#### MINOT

Minot Public Schools  
701-857-4488

#### VALLEY CITY

Sheyenne Valley Area CTC  
701-845-0256

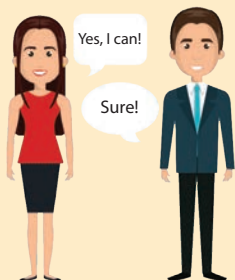
#### WILLISTON

Williston State College  
701-572-5886

# Finding Your First Job as a Teen...

## Early Experiences:

Babysitting, mowing lawns, shoveling snow, and taking care of pets can be part of your work experience and history.



## Flexible Scheduling:

Look for a job that will allow flexible scheduling. You will need to balance school with working.



**Volunteer:** Even if you don't get a paycheck, volunteering will add to your experiences and potential references for future paid positions.



**Keep Trying:** Job Searching isn't easy. Keep trying and you will find a job.

## Helpful Sources of Information:

**RURReady.ND.gov** • [www.ruready.nd.gov](http://www.ruready.nd.gov)  
**Job Service ND** • [www.jobsnd.com](http://www.jobsnd.com)  
**Career Builder** • [www.careerbuilder.com](http://www.careerbuilder.com)  
**Career OneStop** • [www.careeronestop.org](http://www.careeronestop.org)  
**Indeed** • [www.indeed.com](http://www.indeed.com)  
**Monster** • [www.monster.com](http://www.monster.com)

## Budgeting for Beginners

Creating a budget means knowing how much income you have and spending your money in a way that ensures you meet your basic needs each month for food, shelter, electricity, insurance, etc. After the essential spending, you hopefully have enough to fulfill your wants: cable TV, Internet, fees, whatever.

Creating a budget helps you spend responsibly and achieve your financial goals, not to mention eliminating stress.

### To create a budget:

1.

**List your expenses.** First consider fixed expenses (payments that are the same each month) like rent, car insurance, student loan, etc. Next, look at your flexible expenses that vary each month (spending money, food, clothing, phone bill).

2.

**Do the math.** After you have set up income and expenses, figure out where your money is going.

3.

**Stick with your budget.** Monitor your budget and make necessary adjustments as needed to achieve your goals. If you're saving for a new car, for example, try to put money every month towards your new ride.

### A general breakdown of budget costs looks like this:

- 25-30 percent to housing
- 15-18 percent to transportation costs
- 16 percent to food

The rest of the money will go to discretionary spending and saving. If your spending is out of sync with this breakdown, you should work hard to make adjustments.

Find a budgeting tool that works for you – from online banking tools, phone apps, or software. Give yourself a month or two to get started and get in the habit of budgeting.

Source: [www.quicken.com/budgeting-beginners](http://www.quicken.com/budgeting-beginners)



# North Dakota Postsecondary Programs and 2019-20 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            | 701-224-5400 | \$4,990   | \$1,000          | \$6,284      | \$12,274 |
|                    | Dakota College at Bottineau                      | Bottineau   | dakotacollege.edu            | 701-228-5469 | \$4,883   | \$1,100          | \$6,885      | \$12,868 |
|                    | Lake Region State College                        | Devils Lake | lrsc.edu                     | 701-662-1600 | \$4,655   | \$1,000          | \$6,500      | \$12,155 |
|                    | North Dakota State College of Science            | Wahpeton    | ndscs.edu                    | 701-671-2207 | \$5,317   | \$1,000          | \$6,358      | \$12,675 |
|                    | Williston State College                          | Williston   | willistonstate.edu           | 701-774-4248 | \$7,028   | \$1,100          | \$7,670      | \$15,798 |
| NDUS 4-Yr.         | Dickinson State University                       | Dickinson   | dickinsonstate.edu           | 701-483-2565 | \$7,888   | \$1,200          | \$7,268      | \$16,356 |
|                    | Mayville State University                        | Mayville    | mayvillestate.edu            | 800-437-4104 | \$7,049   | \$1,000          | \$8,015      | \$16,064 |
|                    | Minot State University                           | Minot       | minotstateu.edu              | 701-858-3000 | \$7,592   | \$1,100          | \$7,144      | \$15,836 |
|                    | North Dakota State University                    | Fargo       | ndsu.edu                     | 701-231-6200 | \$9,620   | \$800            | \$9,078      | \$19,498 |
|                    | University of North Dakota                       | Grand Forks | und.edu                      | 701-777-1234 | \$9,736   | \$1,000          | \$9,544      | \$20,280 |
|                    | Valley City State University**                   | Valley City | vcsu.edu                     | 701-845-7541 | \$7,707   | \$1,100          | \$6,560      | \$15,367 |
| 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              | 701-751-4256 | \$13,040  | \$1,035          | \$3,693*     | \$17,768 |
|                    | Lynnes Welding Training, Inc.                    | Bismarck    | learntoweld.com              | 701-373-0658 | \$15,940  | \$1,035          | \$4,612*     | \$21,587 |
|                    | Rasmussen College                                | Fargo       | rasmussen.edu                | 800-817-0009 | Contact Rasmussen College for more information.                   |                  |              |          |
|                    | Trinity Bible College & Graduate School          | Ellendale   | trinitybiblecollege.edu      | 800-523-1603 | \$17,006  | \$500            | \$6,198      | \$23,704 |
|                    | University of Jamestown                          | Jamestown   | uj.edu                       | 701-252-3467 | \$22,428  | \$1,300          | \$7,886      | \$31,614 |
|                    | University of Mary                               | Bismarck    | umary.edu                    | 701-355-8030 | \$17,350  | \$1,286          | \$7,540      | \$26,176 |
| Tribal             | Cankdeska Cikana Community College               | Fort Totten | littlehoop.edu               | 701-766-4415 | \$3,300   | \$1,400          | \$5,650*     | \$10,350 |
|                    | Nueta Hidatsa Sahnish College                    | New Town    | nhsc.edu                     | 701-627-4738 | \$3,870   | \$1,200          | \$5,400*     | \$10,470 |
|                    | 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*     | \$6,114  |
|                    | United Tribes Technical College                  | Bismarck    | uttc.edu                     | 701-255-3285 | \$4,482   | \$1,400          | \$5,100      | \$10,982 |
| Cosmetology/Barber | Josef's School of Hair, Skin & Body              | Fargo       | jsold.com                    | 701-235-9910 | \$17,000  | \$1,800          | \$10,800*    | \$29,600 |
|                    | JZ Trend Academy<br>Paul Mitchell Partner School | Bismarck    | paulmitchell.edu/bismarck    | 701-223-8804 | \$14,395  | \$2,000          | \$9,480*     | \$25,875 |
|                    | Moler Barber College                             | Fargo       | molerbarberfargo.com         | 701-232-6773 | \$8,145   | \$855            | \$5,335*     | \$14,335 |
|                    | The Hair Academy                                 | Bismarck    | thehairacademynd.com         | 701-255-3547 | \$10,920  | \$1,499          | \$12,837*    | \$25,256 |
|                    | The Salon Professional Academy                   | Fargo       | tspafargo.com                | 701-478-1772 | \$17,490  | \$2,735          | \$10,517*    | \$30,742 |
| 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 |   |                  |              |          |
|                    | Minot Aero Center/Pietsch Aircraft               | Minot       | minotaerocenter.com          | 701-852-4092 |   |                  |              |          |

**Note:** Totals do not include personal, recreational, or miscellaneous costs which average approximately \$3,500. Costs may be different for specialized programs. Contact the college/program for more information about all costs and what is included.

\*Estimate for off-campus housing. School does not have dorm facilities.

\*\*Online edition updated 8/29/2019, correction to VCSU costs.





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



**FBPA** brings business and education together in a positive working relationship through innovative leadership and career development programs.



**FCCLA** promotes personal growth and leadership development through Family and Consumer Sciences education.

## NORTH DAKOTA CTSO LEADERS



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



**SkillsUSA's** mission is to empower its members to become world-class workers, leaders and responsible American citizens.



**TSA** fosters personal growth, leadership, and opportunities in Science, Technology, Engineering, and Mathematics (STEM).

## Career and Technical Student Organizations (CTSOs)

CTSOs put your skills to the test and help you learn, grow, and compete.

### JOIN A STUDENT ORGANIZATION TO:

**DEVELOP**  
leadership skills  
that will prepare  
you for college  
and career

**TEST**  
your skills  
at state and  
national  
competitions

**PARTICIPATE**  
in community  
service  
opportunities

**LEARN**  
more  
about  
careers



**North Dakota Department of  
Career and Technical Education**  
State Capitol – 15th Floor  
600 E Boulevard Ave  
Bismarck ND 58505  
[cte@nd.gov](mailto:cte@nd.gov) • [www.cte.nd.gov](http://www.cte.nd.gov)