

NORTH DAKOTA CAREER RESOURCE NETWORK

Career Outlook

31ST EDITION • 2013-2014

**NORTH DAKOTA
SCHOLARSHIPS**
Qualify! Apply!

ENERGY
High-Paying,
Life-Long Careers

RUReadyND.com
Explore! Plan! Achieve!



Exclusive Interview with North Dakota's

DAVE ST. PETER

President of the Minnesota Twins

ACKNOWLEDGEMENTS

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Reference to the North Dakota
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and the Career Outlook is requested.

Distribution

North Dakota Army National Guard

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

Dear Students:

You are ready for the next step in a future filled with opportunities and possibilities! Whether you are in the beginning stages of career planning or ready to enter the working world, you should always be asking yourself, "What do I want to do next?" If you haven't already, now is the time to begin thinking about your future career - a journey that will last a lifetime with many exciting and varied experiences along the way. This is an important time in your life and in order to be prepared to meet tomorrow, your planning should begin today.

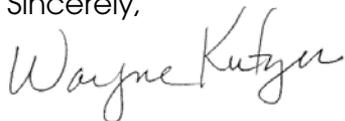
The goal of Career and Technical Education (CTE) is to prepare students for success in life. CTE courses offer students the opportunity to explore a wide range of careers through hands-on classroom activities and related work experiences. By enrolling in these and other courses in school, not only are you gaining knowledge, you are building on the workplace readiness skills necessary to be successful in your chosen career field.

There are so many career options to choose from that the decisions that need to be made may seem, at times, to be overwhelming. This magazine contains valuable and important information about the resources available to you in our fine state of North Dakota. These resources will help guide you in the process of setting goals, as well as planning and preparing for a lifetime of successful learning and earning.

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

Good luck!

Sincerely,



Wayne Kutzer, Director
ND Department of Career
and Technical Education



What's this?



It's a QR Code. You'll find these codes in several places throughout the Career Outlook. When you scan a QR Code using a mobile phone camera or webcam, the QR Code reader application takes you to a website or other web content.

Your phone or computer needs to have QR Code reader software. There are many websites where you can download free QR code reader applications. Do a web search using the keywords "QR reader" to find such applications.

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

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North Dakota native and Minnesota Twins President shares his story.



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Career and Technical Student Organizations



Dave St. Peter's

Field of Dreams



Photo by Nancy Kuehn

Here is what he had to say...

ON WHAT HE DOES:

Dave St. Peter oversees the Minnesota Twins' day-to-day operations, strategic planning and interactions with Major League Baseball. In addition to his role with the baseball team, he oversees the franchise's sister company – Northern Lights Broadcasting – which includes 96.3 KTWN-FM, the Twins flagship radio affiliate. As president, he played a central role in the approval, design, construction and opening of Target Field, named 2011 Sports Facility of the Year by the Sports Business Journal/Sports Business Daily. He also supervised the team's effort to secure the Major League Baseball All-Star Game which will be played at Target Field in July of 2014.

ON HOW HE CHOSE THIS CAREER PATH:

While St. Peter knew from a very young age that he had a passion for sports, he didn't formalize his career plan until his freshman year in college. At that time, there were no college majors in marketing or sports marketing, so he chose to study communications and journalism, focusing his studies on the world of sports.

St. Peter emphasized that no matter when you begin your career journey, there are two things you must do: find your passion and prepare yourself in a way that distinguishes you from the pack.

ON THE IMPACT OF OTHERS ON HIS CAREER:

During St. Peter's college and post-college years, he had the good fortune to receive excellent guidance from teachers, coaches and administrators. While at the University of North Dakota, the Sports Information Director gave him an opportunity to work in that department. The head of Public Relations at the college preached to him the importance of balance, academics and a strong portfolio that included work experience

North Dakota native Dave St. Peter grew up knowing he wanted a future in professional sports. A baseball fan, St. Peter also knew that in all likelihood, he wasn't going to be drafted as a player. So, what else was out there for him? Could his dream of a sports career still come true? And, exactly what did he do that eventually landed him his current job, President of the Minnesota Twins? The Career Outlook Editorial Staff recently sat down with St. Peter to learn more about the remarkable journey that took him from the plains to the front office of the Twins.

in the industry. St. Peter also spent time working for the school newspaper and the *Grand Forks Herald*. St. Peter remembers being told that he needed to differentiate himself from the competition. Looking back, he mused: "Them talking to me about it was one thing but doing it was another."

ON HOW HE MADE IT HAPPEN:

With the strong communication skills he developed through school and work, St. Peter was determined to figure out what he needed to do that would set him apart from the competition and launch his career in sports. He knew that whether he ended up in a college athletic program or a pro sports franchise, the ultimate key to success hinged upon the value he could offer as a job candidate. Ultimately, he credited the jobs he worked in college with providing him the business experience needed to round out his resume.

His first break was an internship with the Minnesota North Stars Hockey Team. This position led to an opportunity with the Minnesota Twins and started his run in professional sports in earnest. At the time, he didn't know anyone in major league baseball, debunking the old adage: "It's who you know (that counts)."

St. Peter's internship with the Twins lasted for several months, followed by an offer to manage a Minnesota Twins Pro Shop retail store. Although working in retail was not his ultimate goal, accepting the position kept his foot in the door with the franchise. He would bide his time, working hard until the right opportunity arose. St. Peter knew that to get to where he wanted to be, he needed to put in his time, refusing to take any opportunity to expand his skills for granted. In the process, he built strong customer service skills and gathered a list of great contacts. From there, he was named the Director of Corporate Communications, moving up to Vice-President of Corporate Communications and then Sr. Vice-President of Business Affairs before becoming the Minnesota Twins President in 2002.

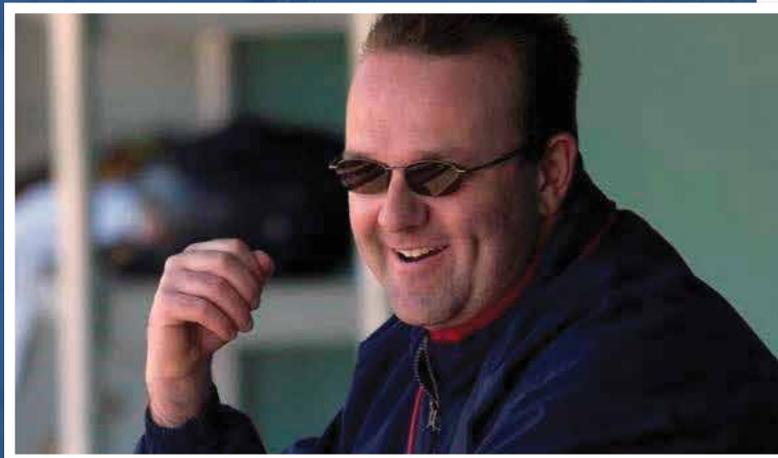
ON THE KEYS TO SUCCESS AND GROWING UP IN NORTH DAKOTA:

St. Peter is a huge believer in North Dakota values. He stated that he is the beneficiary of parents that supported him and made him accountable and responsible. He said, "There was a work ethic instilled in me at a young age by my parents and the

culture I grew up in as to what goes into doing the job right. That helped me and aided me in my career and I have always subscribed to the theory that no one will outwork me. That can be a challenge in terms of balance but no long-term success will happen without a tremendous amount of hard work and that really has been my focus."

ON HIS ADVICE TO YOU:

Create a vision and go for it with eyes wide open. Differentiate yourself from the competition. Academics are important but not the only thing. Look for part-time work, volunteer opportunities, and internships – and be persistent. Don't feel entitled. Wait your turn, keep your head down and work hard. Don't wait to get started. Find ways – sooner rather than later – to build and strengthen your resume. Employers are looking for someone who has enhanced their experience outside the classroom, too.



ON HIS THOUGHTS ABOUT HIS PAST AND HIS FUTURE:

According to St. Peter, being the president of the Minnesota Twins is a privilege and not a right. Every day he works hard, earning the opportunity to spend another day at the top of his game, grateful for the opportunities he has had along the way. "I am thankful for the education I received and the North Dakota culture that helped shape me as the person I am today. I wouldn't have had near this level of success without the upbringing I had in North Dakota." – Dave St. Peter, President, The Minnesota Twins

VOCATIONAL REHABILITATION

• Make the Transition •

Don't let a permanent injury, illness or impairment stop you from pursuing your goals. You should, however, consider certain issues when selecting and planning for your future goals after high school:

- Know when and how to discuss your disability with an instructor or employer.
- Determine what questions are appropriate on an application or during an interview.
- Know what your rights are under the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act.
- Determine whether modifications or accommodations are needed at school or work, and who is responsible for the cost of these items.

The Division of Vocational Rehabilitation (VR) can help you make an informed choice about your future career plans. To be eligible for VR services, you must:

- Have a permanent injury, illness or impairment that affects your ability to find or maintain employment.
- Be able to benefit from services that lead to employment.

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

- Advocating for the services you will need to succeed in college.
- Assisting with services you need that are not provided by the institution (i.e., personal aids and assistive technology devices).
- Assisting you with school costs if there is a financial need.

If you are transitioning from high school to work, VR may provide:

- Job search assistance
- Job coaching and placement
- On-the-job training
- Tools or clothing associated with your employment goal

For more information about Vocational Rehabilitation and the services they offer please visit their website at

www.nd.gov/dhs/dvr

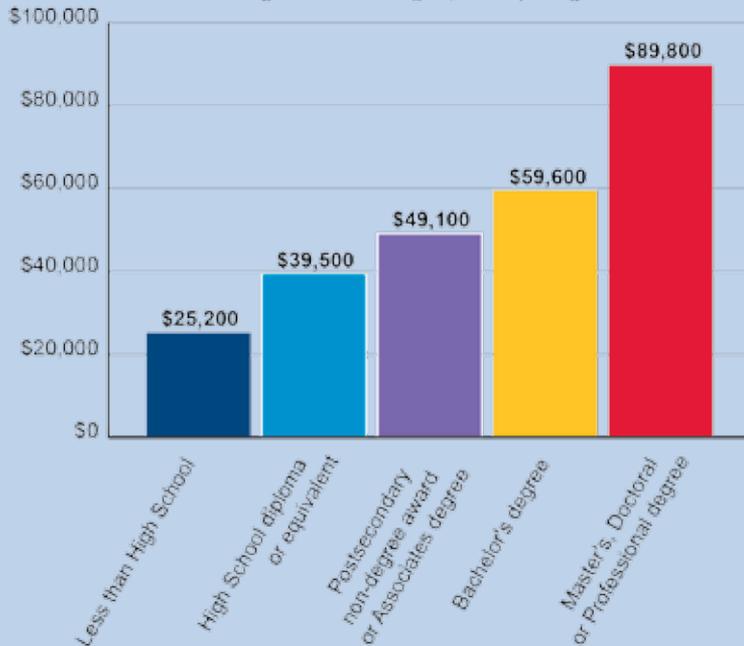


Refer to page 63 (resources page) for contact information and locations of the eight Vocational Rehabilitation regional offices.



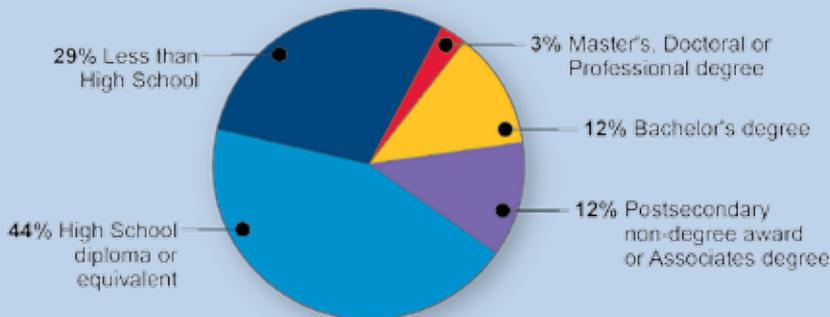
AVERAGE ANNUAL NORTH DAKOTA WAGES BY TYPICAL EDUCATION LEVEL

including 2012 average (mean) wages



PERCENTAGE OF NORTH DAKOTA JOBS BY TYPICAL EDUCATION LEVEL

including 2012 data



Careers in North Dakota is an online publication that covers nearly everything you ever wanted to know about career opportunities in North Dakota including employment projections, wages, core tasks, work activities, skills, knowledge, and typical education/training requirements. Use this publication as a general career exploration guide, not as the sole determinant of a career direction or choice.

This publication can be found online at jobsnd.com.

CAREER
exploration

everything you ever wanted to know about North Dakota career opportunities

(well - nearly everything)

jobsnd.com

(type)



(click)

Products

(click)

(scroll)



(click)

Job Service North Dakota is an equal opportunity employer/program provider. Auxiliary aids and services are available upon request to individuals with disabilities.

DISCOVER YOUR MOMENT

Discover the Education Benefits of Part-Time Service

With an education, you build a better future. You become a more productive citizen. You are a more effective Soldier. That's why the Guard emphasizes the education benefits of service – money for college, developing leadership skills, and career experience. We want you to achieve your potential as a Citizen-Soldier.



moment of strength



moment of achievement

NORTH DAKOTA

NATIONAL GUARD



1-888-ND-GUARD NDGUARD.com



moment of courage



moment of honor

The North Dakota Army National Guard can help you gain valuable job skills in a number of career fields, all while attending college!

- Engineer
- Environmental Planner
- Human Resources
- Plumber
- Electrician
- Construction
- Surveyor
- Paralegal / Legal Specialist
- Health Care Specialists
 - Patient Administration
 - Dental Specialist
 - Doctor
 - Nurse
- Mechanic
- Heavy Equipment Operator
- Information Technology
- Public Information
- Water Treatment Specialist
- Supply Chain Management
- Logistics Specialist
- Chaplain / Pastor
- Police Officer / Security
- Accountant
- Safety Officer
- Firefighter
- Truck Driver
- Food Service Specialist
- Small Arms Repairer
- Heavy Equipment Mechanic
- Light-Wheel Vehicle Mechanic
- Counselor / Social Worker
- Videographer / Photographer
- Machinist / Metal Worker
- Air Traffic Control Operator
- **Many More Career Options and Training Available!**

*Hands-on
Technical
Training
in Real-life
Careers!*



Attention current and former military personnel (active duty, National Guard and Reserves)... the Troops to Teachers (TTT) program offers advising, financial aid, and assistance in identifying teaching vacancies for persons preparing to teach, are currently teaching, or need to add endorsements in critical teaching fields. For further information, please consult the Lewis & Clark Region TTT website at www.montana.edu/ttt or call 1-866-478-3224.

See below for branch information

AIR FORCE

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

AIR NATIONAL GUARD

www.goang.com
 1-800-972-8825

ARMY NATIONAL GUARD

NDGUARD.com
 1-888-ND-GUARD
 (1-888-634-8273)
 Bismarck • 701-328-9630
 Bottineau/Rugby • 701-228-3716
 Devils Lake • 701-662-4648
 Dickinson • 701-227-7442
 Fargo • 701-451-6030
 Grand Forks • 701-795-3848
 Jamestown • 701-253-3977
 Mandan • 701-667-3208
 Minot • 701-857-7650
 Valley City • 701-845-6762
 Wahpeton • 701-671-1507
 Williston • 701-774-4327

ARMY & ARMY RESERVE

www.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

COAST GUARD

www.gocoastguard.com

MARINES

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

NAVY

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

UNITED STATES MILITARY ACADEMY

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

UNITED STATES NAVAL ACADEMY

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

UNITED STATES COAST GUARD ACADEMY

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



UNITED STATES AIR FORCE ACADEMY

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

UNITED STATES MERCHANT MARINE ACADEMY

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

Job Training and Career Placement **-FREE!**



Job Corps is the nation's oldest and most successful job training program for young adults ages 16 through 24. Job Corps has over 50 years of success. Students can enroll in Job Corps year-round. It is **FREE** to those who qualify.

With career and technical education, high school GED programs, Career Success Standards training and special arrangements for single parents, the Quentin Burdick Job Corps Center serves an average of 200 student employees on an ongoing basis.

At Quentin Burdick Job Corps Center, student employees join other young adults from North Dakota to learn marketable job skills. During training, student employees receive a modest living allowance, room and board and basic medical and dental care. After graduation, Job Corps staff will help student employees find a job in their chosen field. So start on the path to your career today. Check out our technical training options below, or find us on the web at quentinnburdick.jobcorps.gov.

Career and Technical Training

- Office Administration
- Carpentry (UBCJA)
- Culinary Arts/Food Service
- Facilities Maintenance
- Health Occupations Training (CNA, LPN and now RN)
- General Service Technician
- Welding
- Advanced Career Training at Minot State University

Academic Training

Students who attend Job Corps can obtain their GED and/or High School Diploma. In addition, courses in preparing resumes and sharpening interviewing skills are offered as well as Career Success Standards training and independent living skills. All of the training is aimed at making students employable and promotable.

Single Parent Program

Burdick Job Corps is one of only a handful of Centers nationwide to offer a single parent program. A dorm designed specifically for single parents and their children is right on campus. It allows parents to receive their education while their children are cared for in the Center's Child Development Center, also located right on campus.

For More Information

For more information, including eligibility requirements, contact the Outreach and Admissions Office at Burdick Job Corps Center in Minot, ND at 701-857-9671 or 701-857-9611.



ADULT EDUCATION... *gives you a second chance!*

Adult Education provides free classes and programs that help adults over the age of 16 obtain basic academic and educational skills needed to be productive workers, family members, and citizens. Adult education provides a second opportunity to improve academic and life skills.



Each Adult Learning Center provides instruction for...

- reading, language/writing, math, computer literacy, keyboarding, science, and social studies;
- English as a Second Language (ESL) for New Americans and citizenship preparation;
- the GED exam; and,
- workplace and career readiness skills.

GED...get it now!

The US Census data estimates more than 75,000 individuals in North Dakota are without a high school diploma. Individuals who receive a GED will earn approximately \$10,000 more annually than those who do not. This in turn, improves an individual's economic status, spending patterns and tax contributions. North Dakota needs every able body in the workforce – a GED can provide you the skills to make a difference and launch a new career. Earn your GED now and reap the rewards.

Students can now take the GED by computer and receive instant results. A new GED® test series will begin January 2014. If a student has not taken and passed all five exams by mid-December 2013, he/she will have to retake all exams only available by computer. Visit www.dpi.state.nd.us/adulted/index.shtm for more information. See page 62 for Adult Learning Centers in your area.



WANT A SUCCESSFUL CAREER? WANT TO FURTHER YOUR EDUCATION WITHOUT RACKING UP DEBT?

Get started on your path to a successful career and enroll* in a Registered Apprenticeship program.

76 active programs, over 1,100 apprentices registered, and more than 50 different occupations in North Dakota including:

- carpenters
- HVAC workers
- sheet metal workers
- lineworkers-line maintainers
- power plant operators
- telecommunication workers
- painters, and
- construction laborers

Call your state apprenticeship office at 701-250-4700 or visit www.ndapprenticeship.com to learn more about apprenticeship.

Apprentices complete a combination of industry-specific classroom education and hands-on career training leading to nationally recognized certifications. Most programs are mainly in the fields of construction-based occupations such as utility workers, lineworkers with power generation and transmission, and power plant operators. All are equal opportunity employers.

**Must be 16 or older to apply.*

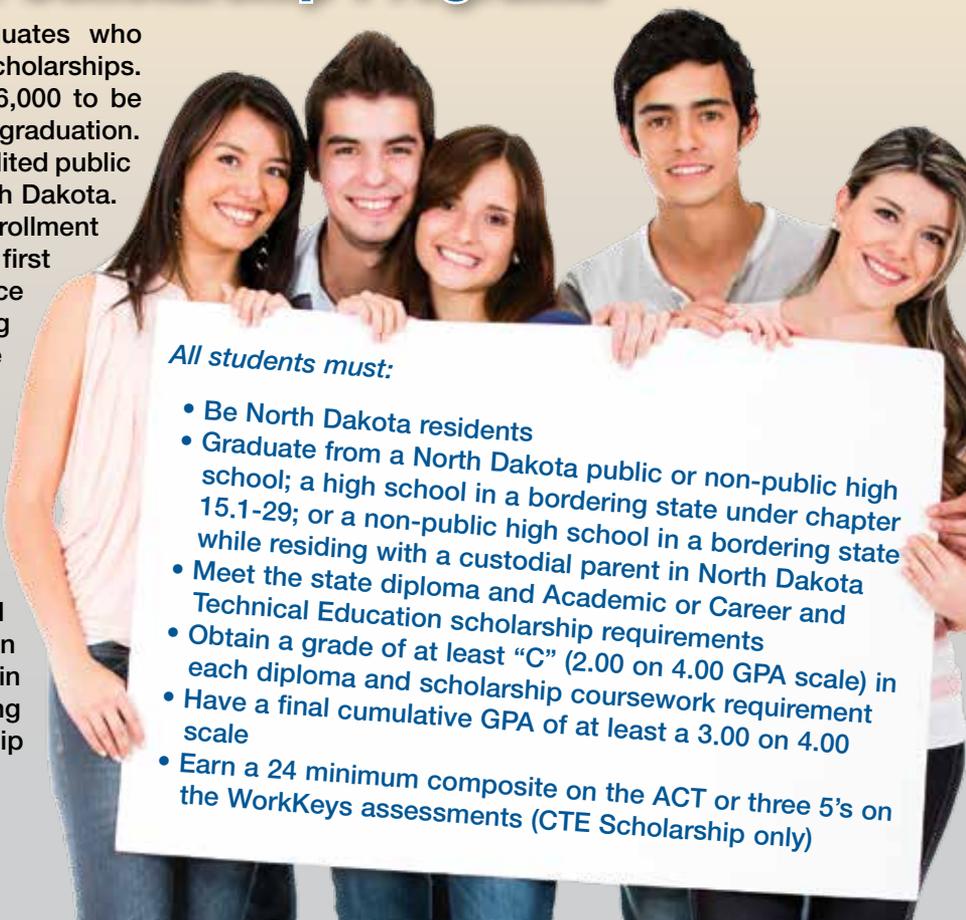
1,000 career opportunities with more than **250,000** employers nationwide.

North Dakota Academic and Career and Technical Education Scholarship Programs

This program rewards high school graduates who satisfy the criteria for one of these scholarships. Qualified students may be eligible for up to \$6,000 to be used for undergraduate study after high school graduation.

These scholarships are to be used at an accredited public or private institution of higher education in North Dakota. For purposes of eligibility, "full-time" means enrollment in at least 12 credits during the student's first two semesters of college/university attendance and enrollment in at least 15 credits during each semester thereafter. The scholarships are renewable provided the student maintains a 2.75 GPA while attending college.

To establish eligibility, North Dakota seniors must apply by **June 6**. Students who are awarded a scholarship may defer acceptance of the scholarship. However, recipients have up to six years following high school graduation to utilize the scholarship award. Students will need to select their high school coursework carefully in order to meet all the 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.dpi.state.nd.us/resource/act/act.shtm or call 701-328-2755 or 701-328-2244.



All students must:

- Be North Dakota residents
- Graduate from a North Dakota public or non-public high school; a high school in a bordering state under chapter 15.1-29; or a non-public high school in a bordering state while residing with a custodial parent in North Dakota
- Meet the state diploma and Academic or Career and Technical Education scholarship requirements
- Obtain a grade of at least "C" (2.00 on 4.00 GPA scale) in each diploma and scholarship coursework requirement
- Have a final cumulative GPA of at least a 3.00 on 4.00 scale
- Earn a 24 minimum composite on the ACT or three 5's on the WorkKeys assessments (CTE Scholarship only)



Explore opportunities Plan your strategy and Achieve your goals!

Discover the possibilities at

RUReadyND.com!



RUReadyND.com includes many useful features that help you:

- Discover your strengths and interests
- Create learning plans that match your strengths and interests to career choices
- Match interests, values and skills with education and employment opportunities
- Prepare for the ACT college entrance tests through free test preparation
- Explore programs and majors at North Dakota's colleges and universities
- Research financial aid and scholarship options
- Build resumes and practice for job interviews
- Track activities from middle school, high school, college and beyond

Not sure where to start?
Check us out at
RUReadyND.com!



Like us on **Facebook**, join the conversation on **twitter** and learn new ways to prepare for your future on **Pinterest!**



For more information see your school counselor or visit www.nd.gov/cte/crn.



Reality Check

As you start dreaming about your future life and career, you'll need to consider what it will cost to live on your own. Use these figures (or adjust them to better fit your lifestyle and expenses) to estimate how much money you will need to earn each month. Then, look through the Occupational Section (pages 19-52) to find careers that pay enough to meet your basic living expenses and the amount needed for taxes, retirement and insurance.*

Source: 2008 Expenditure Survey, United States Department of Labor/Bureau of Labor Statistics adjusted for 2010 based on the Consumer Price Index Inflation Calculator (www.bls.gov/bls/inflation.htm)



*Subtract 30 percent from the wages shown for each occupation to get an idea of the amount that will be on your paycheck, commonly referred to as "take home pay." This amount is an estimate of what is taken out to cover taxes, retirement, and insurance.

For more information on financial literacy, visit:

Jump\$tart Coalition for Personal Financial Literacy® • www.jumpstart.org/reality-check.html



PROMOTING NORTH DAKOTA'S OPPORTUNITIES

Youth Forward connects you to a future in North Dakota with information on jobs, education, entertainment and more opportunities for youth.

Visit **NDYouthForward.com** or connect with us on Facebook or Twitter and get access to:

- Job, internship and scholarship opportunities
- Podcast interviews with real people talking about working in their occupation
- News and events affecting North Dakota youth

 /ND Youth Forward
  @ND Youth Forward

Career Clusters Interest Survey

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

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

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

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

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

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

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

1	Agriculture, Food & Natural Resources	P.19		9	Hospitality & Tourism	P. 38	
2	Architecture & Construction	P. 22		10	Human Services	P. 39	
3	Arts, A/V Technology & Communications	P. 24		11	Information Technology	P. 41	
4	Business Management & Administration	P. 26		12	Law, Public Safety, Corrections & Security	P. 43	
5	Education & Training	P. 29		13	Manufacturing	P. 44	
6	Finance	P. 32		14	Marketing	P. 46	
7	Government & Public Administration	P. 33		15	Science, Technology, Engineering & Mathematics	P. 48	
8	Health Science	P. 34		16	Transportation, Distribution & Logistics	P. 51	

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

RUReadyND.com

How To Use THE OCCUPATIONAL SECTION

1 Occupational Title/Description

2 Related Occupations

3 Nat'l Employment
ND Employment/
Proj. Openings
ND Earnings

4 Holland Type

5 Rating

6 Hiring Practices

Agriculture

Postsecondary Programs – Associate Degree Or Less

<p>Farmers and Ranchers Plan and direct livestock production and/or crop rotation practices to maximize production. Plant, cultivate, and market crops. Care for and market livestock, supervise farm workers. Own or rent land for farming operation.</p>	<p>Park Rangers, Wildlife Biologists, Foresters, Farm Managers</p>	<p>1,202,500 ↘ 26,735/521 ↘ \$68,730-84,560</p>	<p>Realistic HS HW</p>	<p>Past experience and growing up on a farm enhance success in the occupation. Some larger farms hire farm managers to oversee farm operations. Many farms and ranches are managed by several family members.</p>
<p>Farmworkers Plant, cultivate, spray, irrigate, and harvest crops. Care for animals and poultry. Operate farm machinery. Prepare crops for marketing. Repair farm buildings and fences.</p>	<p>Groundskeepers, Park Rangers, Wildlife Technicians, Farmers</p>	<p>285,750 ↘ 4,197/133 → \$19,970-27,360</p>	<p>Realistic</p>	<p>Many are trained on the job. Can be seasonal work in North Dakota. Must be able to do work that requires lifting, climbing, and bending.</p>

1 Occupational Title - the most commonly used title for the occupation and a description that provides a general idea of the tasks associated with this occupation. The (M), just after the title, indicates this occupation exists in the military.

E : Energy Occupations in North Dakota

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

3 Nat'l Employment, ND Employment, Projected Openings, ND Earnings - National Employment indicates the number of persons employed in this occupation in the United States. ND Employment indicates the number of persons employed in this occupation in North Dakota with the projected number of job openings each year shown after the slash. The arrows indicate the projected growth of this occupation for the nation and for North Dakota:

Much faster than average ↑ (Over 3.6% per year);
Faster than average ↗ (2-3.5% per year);
Stable → (0-1.9% per year); and
Declining in employment ↘ (Less than 0% per year).

ND Earnings is a range of salaries for those employed in the occupation in the State. Some salaries will have a "US" at the end, which indicates North Dakota salaries were not available, so a national average was used. **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.**

4 Holland Type

Artistic: 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: 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: Enterprising occupations frequently involve starting and carrying out projects. These occupations can involve leading people and making decisions. Sometime they require risk taking and often deal with business.

Investigative: 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: 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: Social occupations frequently involve working with, communicating with, and teaching people. These occupations often involve helping or providing service to others.

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

5 Rating

HW: High Wage - North Dakota average annual salary of at least \$45,000.

HS: 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.

6 Hiring Practices - Information or hints to enhance opportunities for entering this occupation. Preferred specific training, minimum requirements, preferred experiences, required licensing, and types of businesses employing the occupation are given.

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 14 and 15 or in RURReadyND.com to help identify the cluster or clusters most closely related to your personal preferences and interests.

Career Cluster	PG	Career Cluster	PG	Career Cluster	PG
1. Agriculture, Food & Natural Resources	P. 19	7. Government & Public Administration	P. 33	13. Manufacturing	P. 44
2. Architecture & Construction	P. 22	8. Health Science	P. 34	14. Marketing	P. 46
3. Arts, A/V Technology & Comm.	P. 24	9. Hospitality & Tourism	P. 38	15. Science, Technology, Engineering & Mathematics	P. 48
4. Business Management & Administration	P. 26	10. Human Services	P. 39	16. Transportation, Distribution & Logistics	P. 51
5. Education & Training	P. 29	11. Information Technology	P. 41		
6. Finance	P. 32	12. Law, Public Safety, Corrections & Security	P. 43		

The occupation information in this section is taken from the 2010-2020 North Dakota Employment Projections, 2012 Edition. 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 and Statistics. Wages were updated using the 2012 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 reach out to professionals in the field to obtain current and relevant data.

NORTH DAKOTA

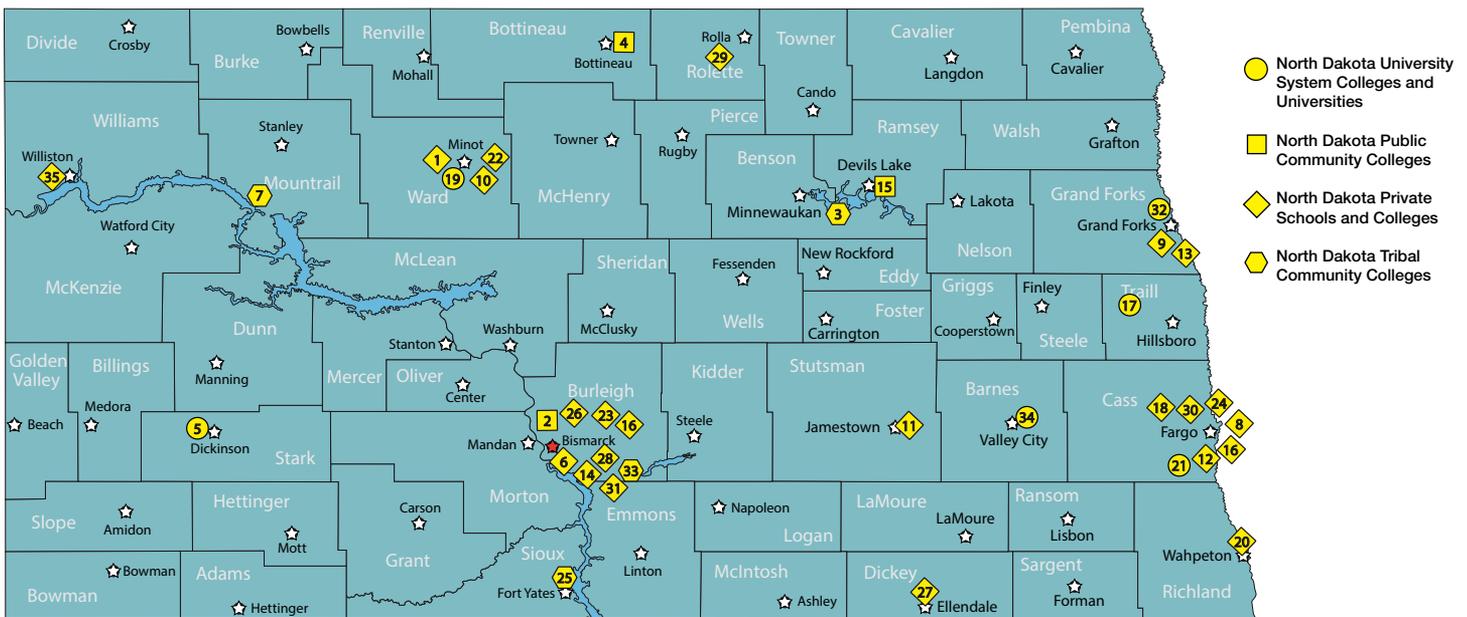
Postsecondary Education/Training Programs

The postsecondary education/training program tables are designed to help match a program with your career goal. You can then identify the campus(es) offering those programs. These tables follow the occupational tables for the various clusters (on pages 19-52).

AA and AS programs are general transfer programs to BS and BA programs. An "A" in the program tables (on pages 19-52) indicates that the institution has a recommended AA or AS course of study for students planning on transferring to a bachelors degree program in this specific field. A student who plans to transfer to another college or university should verify that the institutions have transfer agreements in place and have outlined a recommended course of study in the college course catalog.

PROGRAM LENGTH IS INDICATED BY:

- 1 less than one year
- 1-2 one to two years
- 2 two years
- 4 four years
- 4+ more than 4 years
- G graduate school
- 4G four years or a graduate program
- C upper-level certificate program
- A AA/AS programs are general transfer programs
- M Military
- * may be offered through distance education



1	BJCC	Burdick Job Corps Center
2	BSC	Bismarck State College
3	CCCC	Cankdeska Cikana Community College
4	DCB	Dakota College at Bottineau
5	DSU	Dickinson State University
6	EATC	Executive Air Taxi Corporation
7	FBCC	Fort Berthold Community College
8	FFS	Fargo Flight School
9	GFKFS	GFK Flight Support
10	HAHD	Headquarters Academy of Hair Design
11	JC	Jamestown College
12	JSHDF	Josef's School of Hair Design Fargo
13	JSHDGF	Josef's School of Hair Design Grand Forks
14	JZT	JZ Trend Academy
15	LRSC	Lake Region State College
16	LWT	Lynnes Welding Training
	MIL	Military
17	MaSU	Mayville State University

18	MBC	Moler Barber College
19	MISU	Minot State University
20	NDSCS	North Dakota State College of Science
21	NDSU	North Dakota State University
22	PAR	Pietsch Aircraft and Restoration
23	RCB	Rasmussen College Bismarck
24	RCF	Rasmussen College Fargo
25	SBC	Sitting Bull College
26	SCN	Sanford College of Nursing
27	TBC	Trinity Bible College
28	THA	The Hair Academy
29	TMCC	Turtle Mountain Community College
30	TSPA	The Salon Professional Academy
31	UM	University of Mary
32	UND	University of North Dakota
33	UTTC	United Tribes Technical College
34	VCSU	Valley City State University
35	WSC	Williston State College

Occupational Section Index

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Detectives and Criminal Investigators (M)..... 43			

*M-stands for Military

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.

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Farmers and Ranchers Plan and direct livestock production and/or crop rotation practices to maximize production. Plant, cultivate, and market crops. Care for and market livestock, supervise farm workers. Own or rent land for farming operation.	Park Rangers, Wildlife Biologists, Foresters, Farm Manager	1,202,500 ↘ 26,735/521 ↘ \$65,030-\$89,180	Realistic HS HW	Past experience and growing up on a farm enhance success in the occupation. Some larger farms hire farm managers to oversee farm operations. Many farms and ranches are managed by several family members.
Farmworkers Plant, cultivate, spray, irrigate, and harvest crops. Care for animals and poultry. Operate farm machinery. Prepare crops for marketing. Repair farm buildings and fences.	Groundskeepers, Park Rangers, Wildlife Technicians, Farmers	746,000 ↘ 4,197/133 → \$20,340-\$28,920	Realistic	Many are trained on the job. Can be seasonal work in North Dakota. Must be able to do work that requires lifting, climbing, and bending.
Forest and Conservation Technicians Compile data on characteristics of forest tracts, under direction of forester; train and lead forest workers in tree propagation, fire prevention and suppression. May assist conservation scientists in managing rangelands and wildlife habitats.	Park Rangers, Foresters, Farmers, Ranchers, Fish and Wildlife Technicians	36,500 ↘ 209/9 → \$28,500-\$44,650	Realistic HS	Most employers require career and technical education training. Must like working outdoors. Hired by the federal, state, or local government.
Grain Elevator Superintendents Coordinate and supervise workers in loading, storing, unloading, cleaning, and blending grains for milling and shipment. Inspect grain.	Purchasing Agents, Grain Buyers	13,000 → 363/11 → \$44,480-\$74,640	Enterprising HS HW	Most superintendents have fifteen or more years of experience in elevator work as assistants or laborers before becoming superintendents. Wages vary depending upon size and location of elevator and whether it is privately owned or a cooperative.
Landscaping and Groundskeeping Workers Landscape property using hand or power tools or equipment. Work may include: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, sprinkler installation, and installation of mortarless segmental concrete masonry wall units.	Farm Workers, Farmers, Forestry Technicians	1,151,500 ↗ 2,615/93 → \$17,520-\$28,340	Realistic ☀️	Training is available on the job or through a career and technical education program. Knowledge of horticulture is helpful. Must like working outdoors and be able to do physical labor.
Livestock Sales Representatives Sell cattle, horses, hogs, and other livestock to packing houses, farmers, or other purchasers. Review current market, and inspect livestock to determine value.	Grain Buyers, Real Estate Agents, Insurance Agents	13,000 → 363/11 → \$44,480-\$74,640	Enterprising HS HW	Training ranges from a high school diploma to a bachelor's degree. Experience working with cattle and knowledge of various breeds necessary. Good communication skills essential.
E Nuclear Power Operator (M) Service and calibrate radiation protection instruments and equipment, monitor plant performance, measures and records plant chemistry and radioactivity levels, and operates chemical and radiochemical instrumentation and equipment.	Maintenance Technician, Chemistry Technician and Health Physics Technician	5,200 → NA/NA \$55,980-\$101,730 US	Realistic HS HW	Preference is given to those who have completed formal apprenticeship or career and technical education training. Good problem solving, mathematical and science skills are necessary. Must be able to lift 50+ lbs, be in confined spaces, heights, climb stairs and ladders. Ability to visualize color is required at some facilities. Hired by nuclear power generation facilities.
Nursery and Greenhouse Managers Plan, organize, direct, control, and coordinate activities of workers engaged in propagating, cultivating, and harvesting horticultural specialties, such as trees, shrubs, flowers, mushrooms, and other plants.	Forestry Technicians, Lawn Service Workers, Groundskeepers	202,900 → 391/10 → \$29,680-\$49,850	Enterprising HS HW	Training is available on the job or through a career and technical education program. Knowledge of horticulture important. Must like working outdoors.
E Power Plant Operators Control, operate or maintain machinery to generate electrical power.	Boiler Operators, Stationary Engineers, Water Treatment Plant Operators	40,500 ↘ 380/17 → \$63,360-\$75,530	Realistic HS HW	Preference is given to those who have completed formal apprenticeship or career and technical education training. Good mechanical aptitude and mathematics skills are necessary. Hired by generating plants.
E Roustabouts Assemble and repair oilfield machinery and equipment. Dig holes, set forms, pour cement to make derrick foundations. Dismantle and assemble boilers. Use hand tools and power tools.	Derrick Operators, Rotary Drillers	52,700 → 1,227/188 ↑ \$33,790-\$52,320	Realistic HW ☀️	Trained on the job. Working in heights in excess of 15 feet may be necessary. Shift work common. Must be able to lift heavy objects and work outdoors. Hired by oil drilling companies.
E System Operator (Power Distributors and Dispatchers) Control the flow of power on the grid, ensure safe and reliable power is delivered to customers.	Transmission Operator, Transmission System Operator, Generation Coordinator	10,300 ↘ NA/NA \$48,210-\$96,840 US	Realistic HS HW	Preference is given to those who have completed formal apprenticeship or career and technical education training. Good mechanical aptitude and mathematics skills are necessary. Must be able to lift 50+ lbs, be in confined spaces, heights, climb stairs and ladders. Ability to visualize color is required at some facilities. Hired by control centers.

AGRICULTURE, FOOD & NATURAL RESOURCES

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
E Water Treatment Plant Operators (M) Operate or control an entire process or system of machines, often through control boards, to transfer or treat water or liquid waste.	Boiler Operators, Powerplant Operators, Stationary Engineers	110,700 → 462/19 → \$21,410-\$44,410	Realistic HS ☀️	Need mechanical aptitude and basic math skills. Many are trained on the job; however, formal training may increase job opportunities. Hired by local government or chemical manufacturing companies.
Postsecondary Programs – Bachelors Degree or More				
Agricultural Inspectors (M) Inspect agricultural commodities, processing equipment, and facilities, and fish and logging operations, to ensure compliance with regulations and laws governing health, quality, and safety.	Consumer Safety Inspectors, Food and Drug Inspectors	19,300 → 97/5 → \$26,260-\$39,210	Realistic HS	Many require a college degree in addition to experience and successful scores on an examination. Knowledge of horticulture, livestock, and commodities helpful. Hired by federal, state and local governments. Not an entry level position.
Biologists and Zoologists Conduct research to gain information about the origin, development, anatomy, and other basic principles of plant and animal life. May specialize in one aspect of biology, such as embryology, botany, microbiology, wildlife, etc.	Environmental Scientist, Foresters, Range Managers, Soil Scientists	19,800 → 95/2 ↘ \$47,020-\$66,700	Investigative HS HW	A bachelor's degree or a graduate degree is required. May sell, inspect, conduct research, or teach. Nationally over one-half are hired by the government. A doctorate is generally required for college teaching and independent research.
Conservation Scientists Manage, improve and protect natural resources to maximize their use without damaging the environment. May conduct soil surveys and develop plans to reduce soil erosion.	Agricultural Scientists, Agronomists, Horticulturists, Soil Scientists, Farmers	23,400 → 223/3 ↘ \$41,680-\$74,120	Investigative HS HW	Minimum requirement is a bachelor's degree. Some are hired by extension services or local and state government. Others may teach at universities or work in private industry.
Scientists, Animal Conduct research in selection, breeding, feeding, management and marketing of beef, horses, and other animals. Develop improved practices in feeding, housing, sanitation, and disease control. Control breeding practices to improve strains of animals.	Soil Scientists, Biochemists, Environmental Scientist, Animal Health Technologist	3,300 → NA/NA \$34,990-\$127,600 US	Investigative HS HW	A bachelor's degree is required; a master's or doctorate for advancement and administrative positions. Ability to work independently and communicate effectively essential. May be hired by private or government sector.
Soil and Plant Scientists Conduct research in breeding, physiology, production, yield, and management of crops and agricultural plants, their growth and control of pests or study the chemical, physical, biological, and mineralogical composition of soils.	Biochemists, Life Scientists, Foresters, Plant Physiologist, Environmental Scientist	16,300 → 117/8 ↗ \$33,300-\$58,750	Investigative HS HW ☀️	Education requirements range from a bachelor's degree to a doctoral, depending on the employment needs and industry. Nationally over one-half are hired by the government. Must be able to work independently or as part of a team. Written and oral communications essential. Hired by extension service.

	B/CC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MSU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC
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AGRICULTURE, FOOD & NATURAL RESOURCES	B/CC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MSU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC	
Agribusiness & Applied Economics																						4G															
Agricultural Business & Management		2A					2A								1-2							4															
Agricultural Production/Farm & Ranch Management		2			1-2		1								1-2						2				1												
Agricultural Science, General				A	4										A							4															2A
Agricultural Systems Management																					A																A
Agriculture Sales & Service/Ag Industry & Technology		2			2		1-2																														
Animal & Range Sciences																						4G															A
Animal Health Management																						C															
Bioinformatics and Computational Biology																				4																	
Biology, Fisheries and Wildlife																					A	4												4			A
Cereal Science																						G															
Communications, Health/Agriculture/Management																						4															
Crop & Weed Sciences																					A	4															A
Culinary Arts		1																				1-2															
Earth System & Policy																																			4,G		
Energy Management			4*																																		
Engineering, Environmental																			M			G													G*		
Entomology																						G															
Environmental & Conservation Science							2,4															G															A
Environmental Geoscience																			M														4				

AGRICULTURE, FOOD & NATURAL RESOURCES

	BJCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MISU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC	
AGRICULTURE, FOOD & NATURAL RESOURCES																																					
Environmental Technology/Lab & Field Tech				2																																	
Environmental Technology/Science				2	4																																
Environmental Technology/Water Management				2																																	
Equine Science																						C,4															
Flowershop Technology				1																																	
Food and Nutrition/Community Nutrition																						G											4			A	
Food Safety																						4G,C															
Food Science																						4															A
Geographic Information System			1-2																																		
Geology																				4		4											4G				
Golf Course Grounds Technology				1																																	
Horticulture																			M			4G															
Floral Design & Greenhouse Technology				1-2*																																	
Landscape Design/Technology				1-2*															M																		
Turf Management																							4														
International Agribusiness																						G															
Natural Resources Management			2	2															M			4G			2												A
Plant Pathology																						4G															
Plant Science/Plant Protection																						G															A
Power Plant Technology			1-2																																		
Process Plant Technology			1-2																																		
Range Science																						4G															
Soil Science																						4G															
Studies in Community & Environment																				4													4				
Sustainable Vegetable Production				1-2*																																	
Therapeutic Riding																							C														
Urban Forestry Technology				1-2*																																	
Veterinary Technology																							4														A
Water and Wastewater Technology			1-2																																		
Water Quality Technology				1															M																		
Wildlife & Fisheries Technology/Science				2															M																	4	
Zoology																						4G															

NOTES

Fast Fact:

From 2010-20 in North Dakota, the Agriculture, Food, and Natural Resources cluster is projected to grow by 25%, compared to 18.2% statewide.

PROGRAM LENGTH IS INDICATED BY:

- 1 less than one year
- 1-2 one to two years
- 2 two years
- 4 four years
- 4+ more than 4 years
- G graduate school
- 4G four years or a graduate program
- C upper-level certificate program
- A AA/AS programs are general transfer programs
- M Military
- * May be offered through distance education

SYMBOLS:

-  : Energy Occupations in North Dakota
-  : Bright Outlook

See pages 16-17 for more information on the contents of these charts.

ARCHITECTURE & CONSTRUCTION



Careers in designing, planning, managing, building and maintaining the built environment.

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Bricklayers and Stonemasons (M) Lay bricks, stone, concrete and set cinder blocks to build and repair walls, boilers, furnaces, and other structures. Use chisels, hammers, trowels, levels, and other tools.	Cement Masons, Plasterers, Tilesetters	89,200 ↑ 234/14 ↗ \$42,060-\$59,160	Realistic HS HW ☀️	Employers prefer applicants with formal, apprenticeship training, or experience. Ability to visualize objects in 2 or 3 dimensions is necessary. Seasonal work. Hired by contractors. May be self-employed.
Carpenters (M) Build and install structures and frameworks made mainly of wood. May build houses, barns, and other buildings. May do the finish work or may do the rough carpentry work. Use a variety of power and hand tools. May do repair work.	Cabinet Makers, Electricians, Plasterers, Plumbers	1,001,700 ↗ 3,603/154 ↗ \$27,080-\$40,710	Realistic HS ☀️	Preference may be given to applicants who have completed career and technical education or apprenticeship training program. The demand for carpenters is dependent on the construction activity. In North Dakota, carpentry work can be seasonal. May be self-employed.
Construction Laborers Perform tasks involving physical labor at building, highway, and heavy construction projects, tunnel and shaft excavations, and demolition sites. May operate hand and power tools. May clean and prepare sites.	Carpenter, Brick Mason	998,800 ↗ 2,956/97 ↗ \$24,620-\$35,520	Realistic ☀️	For some construction laborer jobs, employers hire people without experience or specific training. However, the work requires more strength and stamina than most occupations.
Construction Managers (M) Plan, organize, direct, and coordinate through subordinate personnel activities concerned with erection, alteration, maintenance, and repair of structures, facilities, and systems such as houses, office buildings, bridges, roads, and similar structures.	Construction and Building Inspectors, Civil Engineers, Architects	523,100 → 951/24 → \$53,070-\$87,300	Enterprising HS HW ☀️	A bachelor's degree in construction management can greatly enhance one's opportunities in this occupation. Certification, though not required, is increasingly important. Experience in construction trades is also important.
Drafters (M) Prepare drawings from designers' sketches and specifications for purposes such as manufacture and installation of machinery and equipment or for construction of buildings, dams, bridges, roads, and other projects. Prepare maps and charts.	Architects, Engineering Technicians, Landscape Architects	189,300 → 521/20 → \$31,887-\$51,870	Realistic HS HW ☀️	Employers prefer formal drafting training. Good finger dexterity and visual perception are important. Must be able to communicate with others and follow verbal and written instructions. Computer skills essential.
Drywall Installers Apply plasterboard or other wallboard sheets to ceiling and interior walls. Fill the joints between drywall sheets with plaster and prepare the walls for painting. Work from ladders, scaffolds, or stilts.	Carpenters, Insulation Workers, Floor Covering Installers	106,700 ↗ 252/12 ↗ \$27,530-\$39,720	Realistic ☀️	Employers seek applicants who have completed apprenticeship training or have experience. Some may train on the job. This occupation is dependent on the construction industry and may be seasonal. Employers look for experienced workers. May be self-employed.
E Electric Utility Worker (Electrical Power-Line Installers and Repairers) (M) Inspect, operate and repair electrical equipment in substations, in-service relays, and with distribution systems.	Transmission Designer, Lineworker, System Protection Technician, Substation Operator, Metering Technician	108,400 → 747/39 → \$38,460-\$69,420	Realistic HS HW ☀️	Preference is given to those who have completed formal apprenticeship or career and technical education training. Good mechanical aptitude, mathematical and communication skills are necessary. Must be able to lift 50+ lbs, be in confined spaces, heights, climb stairs and ladders. Ability to visualize color is required at some facilities. Hired by public utilities and power distribution facilities.
E Electricians (M) Install, maintain and repair electrical wiring, equipment and fixtures. Ensure that work is in accordance with relevant codes.	Air Conditioning Mechanics, Telephone/Cable TV Installers/Repairers	577,000 ↗ 2,103/97 → \$35,810-\$57,260	Realistic HS HW ☀️	Many employers prefer a graduate of a career and technical education or apprenticeship program. Must be able to read blueprints and use tools required in electrical circuit installation and repair. Hired by contractors, utility companies, and government. May be self-employed.
E Excavating and Loading Machine Operators Operate or tend machinery equipped with scoops, shovels or buckets to excavate and load loose materials.	Maintenance Mechanics, Truck Drivers, Operating Engineers	61,500 → 492/27 ↗ \$34,430-\$54,870	Realistic HW ☀️	Trained on the job or through career and technical education or apprenticeship programs. Should have average mechanical ability. Must be willing to work outdoors and work irregular hours.
Heating and Air Conditioning Mechanics (M) Install or repair heating, central air conditioning or refrigeration systems, including oil burners, hot-air furnace and heating stoves.	Boilermakers, Electrical Appliance Servicers, Plumbers, Sheet Metal Workers	267,800 ↗ 491/23 ↗ \$33,770-\$51,310	Realistic HS HW ☀️	Employers prefer applicants with career and technical education training or apprenticeship program completion. Mechanical ability and the ability to make decisions accurately are important. Hired by contractors. May be self-employed.
E Operating Engineers/Construction Equipment Operators (M) Operate construction equipment, such as graders, bulldozers, scrapers, pumps, derricks and front-end loaders.	Mining Machine Operators, Truck Drivers	349,100 ↗ 2,241/115 ↗ \$37,520-\$53,020	Realistic HW ☀️	Trained on the job or through career and technical education programs. Should have average mechanical ability. Must be willing to work outdoors and work irregular hours.
Plumbers and Pipefitters (M) Build and repair water, waste disposal, and gas systems in homes and other buildings. Install plumbing fixtures, appliances, and heating and cooling systems. Use hand and power tools.	Heating and Air Conditioning Mechanics, Carpenters	419,900 ↗ 1,166/61 ↗ \$33,920-\$53,370	Realistic HS HW ☀️	Many employers require either past experience or formal apprenticeship training. Hired by construction companies. May be self-employed. License required.

ARCHITECTURE & CONSTRUCTION

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Sheet Metal Workers (M) Fabricate, assemble, install and repair sheet metal products and equipment, such as ducts, drainpipes and furnace casings.	Heating and Air Conditioning Mechanics, Iron Workers	136,100 → 698/25 → \$26,960-\$43,600	Realistic HS ☀️	Employers prefer applicants who have completed an apprenticeship or career and technical education training. Should have above average ability to visualize objects of 2 or 3 dimensions and mechanical ability. Hired by air conditioning and heating contractors.
Stationary Engineers (M) Operate and maintain stationary engines and mechanical equipment such as steam engines, air compressors, generator turbines, and steam boilers that provide power for heating, cooling, and ventilation in factories and buildings.	Power Station Operators, Refinery Operators, Water Treatment Plant Operators	37,600 → 107/3 → \$36,560-\$50,690	Realistic HS HW	Employers prefer applicants from formal career and technical education or apprenticeship programs. May receive training on the job and move up to stationary engineers from boiler operating position. Hired by factories, hospitals, schools, and power stations.
Structural Metal Workers (M) Raise, place and unite iron or steel girders, columns and other structural members to form structures or structural frameworks.	Form Builders, Carpenters, Welders	59,800 ↗ 268/10 → \$27,270-\$43,640	Realistic HS	Employers prefer applicants with formal apprenticeship training. Some may train on the job. Most work outside in all kinds of weather. Hired by general contractors, steel erection contractors, and ornamental iron contractors.
Postsecondary Programs – Bachelors Degree or More				
Architects (M) Design buildings, develop plans, specifications and detailed drawings. Prepare scale and full size drawings. Arrange contracts and exercise supervision over construction. Consult with engineers and other specialists.	Mechanical Engineer, Architectural Drafter, Landscape Architect	113,700 ↗ 155/8 ↗ \$39,860-\$76,430	Artistic HS HW ☀️	Graduation from a five-year program in architecture is the minimum requirement for employment. Job availability depends on the construction industry. Must be creative, artistic, perceptive, and be able to work independently. Must be licensed.
Architects, Landscape Design housing areas, public parks, shopping centers, etc., so that areas are useful and beautiful. Plan location of buildings, roads, walks, and arrangement of vegetation and open space. Prepare site plans, specifications and cost estimates.	Landscape Drafter, Architect, Golf Course Designer	21,600 → NA/NA \$41,330-\$47,420	Artistic HS HW	Graduation from five-year program is the minimum requirement. Must be creative and have artistic talent. This occupation is dependent upon the construction industry. Must be able to work independently.
Cost Estimators (M) Prepare cost estimates for product manufacturing, construction projects or services to aid management in bidding or determining price of product or service.	Construction Managers; Architectural Drafters	185,400 ↗ 548/32 ↗ \$38,720-\$61,580	Conventional HS HW ☀️	Over half work in the construction industry. Job prospects should be best for those with industry work experience and a bachelor's degree in a related field.
E Land Surveyors (M) Make exact measurements and determine property boundaries. Provide data relevant to shape, contour, gravitation, location, elevation, or dimension of land or land features.	GIS Specialist, Geologists, Civil Engineer, Engineering Technician	51,200 ↗ 274/17 ↗ \$34,050-\$56,370	Investigative HS HW ☀️	Training may range from an associate's to bachelor's degree. Must be able to visualize and understand objects, distances, sizes and other abstract forms. Must be accurate and quick with mathematical calculations.

	B/JCC	BSC	COCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MSU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC
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ARCHITECTURE & CONSTRUCTION

ARCHITECTURE

Architecture																						6																
Construction Engineering																						4																
Construction Management																			M			4																
Construction Management Technology																			M			2																
Environmental Design																			M			4																
Landscape Architecture																			M			4																
Sustainable Construction Technology			1-2*																			0																

CONSTRUCTION

Architectural Drafting & Estimating Technology																			M			2																	
Building Construction Technology		1-2																				2			1-2			2						2					
Building Maintenance																																							
Carpentry, Residential		1	1-2	1																																			
Heating, Ventilation and Air Conditioning			1-2																				1-2																
Lineworker, Electrical			1-2																																				
Mechanical Systems																							2																
Plumbing		1-2																					1																

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.

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Broadcast Technicians (M) Operates and maintains radio transmitter to broadcast radio and television programs. Monitors signal transmission. Test, repair, and maintain broadcast equipment.	Engineering Technicians, Electronic Technologist	36,700 → 173/5 ↓ \$21,430-\$46,860	Realistic HS HW	Most employers prefer formal training in communications. A wide knowledge of electronic principles and the ability to use test equipment is necessary. Must pass a written examination.
Library Technicians Compiles records, and sorts and shelves books. Issues and receives library material such as books, films, periodicals and records, assists patrons in finding selections.	Title Searchers, Reservation Clerks, Secretaries	115,400 → NA/NA \$17,610-\$29,270	Conventional HS	Increasingly more libraries are hiring assistants with some college training due to the need to hire technically trained individuals. Some require an associate's degree in library science.
Photographers (M) Use artistic and special effects. Arrange and prepare subject matter. Set-up photographic equipment. Photograph subject using still camera and a variety of photographic accessories.	Floral Designers, Graphic Designers	139,500 → 201/3 → \$18,690-\$31,140	Artistic HS	Training ranges from a high school diploma to a bachelor's degree. Technical understanding of photography necessary. Hired by commercial art studios, newspapers, magazines, or may be self-employed.
Prepress Occupations (M) Skills include paste-up, electronic page layout, camera operation, typesetting, and platemaking. Workers may specialize in one skill, but most employers require skills in all areas.	Graphic Designer, Computer Operators, Printing Press Operators	50,800 ↓ 146/3 ↓ \$20,450-\$33,650	Realistic HS	Employers prefer postsecondary career and technical education training. Must be in good physical condition. Manual dexterity and ability to pay attention to detail are important qualities.
Printing Press Operators (M) Set up or operate various types of printing machines, such as offset, letterset, or screen printers to print on paper or other materials.	Photoengravers, Electrotypers, Pre-Press Occupations	200,100 ↓ 383/8 ↓ \$22,380-\$35,480	Realistic	Mechanical aptitude is important in making machine adjustments. Ability to visualize color is essential for work on color presses.
Radio and Television Announcers (M) Introduce various types of programs. Interview guests. Read news bulletins and make other announcements. Broadcast weather, traffic conditions, and other information.	Sportscasters, Narrators, Disc Jockey	50,200 → 325/9 ↓ \$17,700-\$36,950	Artistic HS	Particular attention is given to taped auditions, appearance, style on television, and voice quality. Correct English usage is essential and knowledge of current events is important.
Telecommunications Line Installers and Repairers (M) String and repair telephone and cable television cable, including fiber optics and other equipment for transmitting messages or television programming.	LAN Technicians, Electricians, Sound Technicians, Electronics Technicians	160,600 → 325/9 → \$39,250-\$68,490	Realistic HS HW	Good eyesight and color discrimination necessary. Mechanical, electronic, and computer background essential. Most are hired by telephone and cable TV companies.
Postsecondary Programs – Bachelors Degree or More				
Graphic Designers (M) Design or create graphics to meet a client's specific commercial or promotional needs, such as packaging, displays or logos.	Webpage Designers, Photographers, Medical Illustrator	279,200 → 559/24 → \$24,360-\$38,470	Artistic HS ☀️	Most employers prefer training in art illustration and design. Further education may increase your advancement options in this field. Hired by advertising agencies and graphic art studios. May be self-employed. Computer graphics training essential.
Librarians Maintain library collections of books, publications, documents, audio visual and other materials. Assist groups and individuals in locating and obtaining materials.	Internet Researchers, Archivists, Museum Curators	156,100 → 444/15 → \$32,170-\$53,770	Artistic HS HW	Increasing numbers of employers require a master's degree for entry into this occupation. Must be able to present ideas and information clearly and communicate with people. Computer literacy important.
News Analysts, Reporters and Correspondents (M) Collect and analyze facts about newsworthy events. Conduct interviews and investigations. Write newspaper, magazine, and television stories. Refer stories to the publication or broadcasting editor for approval.	Technical Writers, Public Relations Workers	51,900 ↓ 176/6 ↓ \$23,150-\$36,170	Artistic HS	Foreign language proficiency a plus. Verbal and written skills essential. Degree in journalism may be required by some employers. Must be curious, persistent, and remember facts accurately. Hired by newspapers, magazines radio and television.
Public Relations Specialists (M) Promote ideas, services, or products. Build a good public image. Plan, organize, and carry out a program to influence and inform the public. May work with press or consumer relations.	Account Executives, Promotion Managers, Advertising Managers	258,100 ↗ 439/19 → \$31,570-\$55,760	Enterprising HS HW ☀️	A bachelor's degree in public relations, journalism, marketing or communications is necessary for most entry level positions. Some employers prefer a graduate degree. Creativity and past success in extracurricular activities preferred. Must have above average communication skills.
Writers and Editors (M) Write or edit technical manuals, such as equipment manuals or operating and maintenance instructions or stories, advertisements or scripts.	Internet Researcher, Reporters, Public Relations Workers	322,600 → 542/17 → \$27,047-\$56,583	Artistic HS HW	A college degree generally is required for a position as a writer or editor. Although some employers look for a broad liberal arts background, most prefer to hire people with degrees in communications, journalism, or English.

ARTS, A/V TECHNOLOGY & COMMUNICATIONS

	BICC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MSU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC		
ARTS, A/V TECHNOLOGY & COMMUNICATIONS																																						
ART																																						
Art			2	A	4						4						A			4	4													2	4			
Art Entrepreneurship					4						4																											
Art, Commercial		1-2																																				
Arts, Visual											4																											
Interior Design																						4																
Music					4						4									4	A	4G					4					4	4G		4	A		
Music Management																																				4		
Musical Theatre																																		4				
Photography					AC																																	
Professional Sewing																						C																
Theater Arts					4						4									4		4G												G				
COMMUNICATION																																						
Broadcasting																					4	4																
Communications, Cross-Cultural											4																											
Communications, General/Mass		2			4						4						4			4		6										4	4G		4	A		
Communications, Health/Agriculture/Management																						4																
Communications, Media											4																											
Communications, Organizational											4																						4					
Journalism											4																											
Public History																						4																
Public Relations and Advertising																						4																
Web Development																					C																	
Writing & Editing																																			C			
AUDIO/VIDEO TECHNOLOGY																																						
Desktop & Web Publishing																					C																	
Digital Audio Production		2,A,C																																				
Graphic Design Technology/New Art Media			2		1-2																4	4		2,4*	2,4*								4					
Information Processing			1-2											1-2							2															1-2		
Library and Information Technologies																																						
Public Relations and Advertising																						4																
Webmaster/Web Designer		1-2		1-2																	4	1-2	4		1-2,2*	1-2,2*										1-2		

NOTES

Fast Fact:
 In North Dakota, the Arts, Audio/Video Technology and Communications career cluster is projected to have 128 annual openings.

PROGRAM LENGTH IS INDICATED BY:

- 1** less than one year
- 1-2** one to two years
- 2** two years
- 4** four years
- 4+** more than 4 years
- G** graduate school
- 4G** four years or a graduate program
- C** upper-level certificate program
- A** AA/AS programs are general transfer programs
- M** Military
- *** May be offered through distance education

SYMBOLS:

-  : Energy Occupations in North Dakota
-  : Bright Outlook

See pages 16-17 for more information on the contents of these charts.

BUSINESS MANAGEMENT & ADMINISTRATION



Business Management and Administration careers encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy.

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Administrative Service Managers (M) Aid executives by coordinating services such as personnel, budget, housekeeping, records control, and special management studies. Make recommendations for solution of administrative problems.	Executive Secretaries, Business Managers, Medical Assistants, Facility Managers	254,300 → 468/19 → \$49,000-\$95,630	Enterprising HS HW ☀️	Technical training and experience required. Management, supervisory, and planning ability essential. Knowledge of spelling, grammar and punctuation, and good written and verbal communication skills necessary.
Clerks, General Office (M) Perform many different tasks in support of general office, business, or administrative procedures. May file, maintain financial records, operate word processing software, or other office equipment.	File Clerks, Real Estate Clerks	2,950,700 → 10,834/408 → \$17,490-\$27,950	Conventional ☀️	A high school diploma is usually required. Employers require typing, word processing, and other general office skills.
Clerks, Shipping and Receiving (M) Verify and keep records on incoming and outgoing shipments. Prepare items for shipping and determine the best methods of shipping. Route incoming shipments to proper departments.	Stock Clerks, Routing Clerks, Order Fillers	687,600 → 1,110/33 → \$20,510-\$34,240	Conventional ☀️	High school graduate and some experience is often required. Must be able to write legibly and keep orderly records. Willingness to work at repetitive tasks and dependability are qualities employers look for.
Customer Service Representatives Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints.	Retail Salespersons; Wholesale Sales Representative	2,187,300 → 5,099/252 → \$22,910-\$34,980	Conventional ☀️	Hiring requirements for customer service representatives vary from business to business, however a high school diploma is the most common educational requirement. Good interpersonal skills are important to employers.
Executive Secretaries and Administrative Assistants (M) Provide administrative support by performing clerical and administrative tasks. Higher-level assistants may also conduct independent projects and assume some training responsibilities.	Office Managers, Legal or Medical Secretaries	1,236,100 → 3,320/90 → \$30,050-\$48,170	Conventional HW ☀️	Employers may require career and technical education training. Must be able to meet the public, and have accuracy in word processing. Employers are seeking applicants with good knowledge of spelling, punctuation, and English.
Janitors and Cleaners Keep buildings in clean and orderly condition. Clean floors, shampoo rugs, washing windows.	Window Cleaners, Hotel Maids, Gardeners	2,310,400 → 7,258/215 → \$18,030-\$28,570	Realistic ☀️	Employers may prefer applicants with past experience, but most are willing to hire inexperienced people with a steady work record and a neat appearance. Most skills are learned on the job.
Legal Secretaries Perform secretarial duties, utilizing legal terminology and procedures. Prepares legal papers and correspondence of legal nature, such as summonses, complaints, motions, and subpoenas.	Administrative Assistants, Legal Assistants, Medical Secretaries	233,200 → 605/11 → \$27,040-\$38,610	Conventional HS	Most employers require 60-70 words per minute typing and accuracy in transcription. Knowledge of legal terminology necessary. Experience in word processing necessary.
Medical Secretaries Perform secretarial duties utilizing knowledge of medical terminology and hospital, clinic, or laboratory procedures. Schedule appointments, bill patients and compile medical charts.	Legal Secretaries, Administrative Assistants	508,700 ↗ 669/28 ↗ \$22,270-\$30,460	Conventional HS ☀️	Employers require career and technical education training. Employers require an accurate typing speed of 50-80 words per minute and familiarity with medical terminology. Good spelling, punctuation, grammar, and vocabulary usage necessary.
Office Managers (M) Supervise and coordinate the activities of clerical and administrative support workers.	Department Store Managers, Sales Managers, Food Service Managers	1,424,400 → 2,720/109 → \$30,630-\$53,660	Enterprising HS HW ☀️	A bachelor's degree is preferred by some employers and others require some career and technical education training. Experience and familiarity with the organization activities are necessary.
Receptionists Receive clients, customers, and others in offices and establishments. Make appointments. Provide information and answer inquiries by telephone or in person. May perform a variety of clerical duties such as typing, filing, and distributing mail.	Information Clerks, General Office Clerk	1,048,500 ↗ 2,807/132 → \$20,120-\$29,170	Conventional ☀️	Employers may prefer career and technical education training. Applicants must have knowledge of general office procedures. Must enjoy working with people and have a desire to be helpful. Neat appearance essential.
Secretaries, Except Legal, Medical and Executive Perform routine clerical and administrative functions such as drafting correspondence, scheduling appointments, organizing and maintaining paper and electronic files, or providing information to callers.	General Office Clerks, Legal or Medical Secretaries	2,032,200 → 3,394/59 → \$25,340-\$36,410	Conventional ☀️	Training ranges from high school career and technical education that teaches office skills, to one to two year postsecondary training. Many temporary placement agencies provide training in computer and office skills.
Postsecondary Programs – Bachelors Degree or More				
Accountants and Auditors (M) Prepare and analyze individual, division, or consolidated balance sheets to reflect company's assets, liabilities and capital. Plan and administer accounting services. Advise on accounting problems, plan and conduct audits of accounts.	Tax Accountants, Property Accountants, County/City Auditors	1,216,900 → 2,903/126 ↗ \$36,530-\$63,670	Conventional HS HW ☀️	A bachelor's degree is required and a higher degree and/or experience is often preferred. Good communication skills are essential as well as computer skills. Many accountants pass an exam to become certified public accountants (CPA'S).

BUSINESS MANAGEMENT & ADMINISTRATION

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Human Resources Managers (M) Manage programs, set company policy on the employment, pay, and training of workers. May direct employee relations, benefits, and staff development.	Compensation Director, Labor Relations Director, Personnel Manager, Industrial Psychologists	133,400 → 242/9 → \$58,200-\$97,080	Enterprising HS HW	College graduate in business or public administration usually required. Some prefer a master's degree. Good communication skills, ability to analyze information and work independently necessary. Ability to function under pressure important.
Management Analysts (M) Conduct organizational studies and evaluations, design systems and procedures, conduct work simplifications and measurement studies and prepare operations/procedures manuals.	Human Resource Manager; Accountants	718,800 ↗ 496/18 → \$42,430-\$78,800	Conventional HS HW ☀️	Nationally, employment among management analysts is expected to grow faster than the average for all occupations. Demand for the services of these workers will grow as organizations continue to seek ways to improve efficiency and control costs.
Public Relations and Fundraising Managers (M) Plan and direct public relations programs to create and maintain favorable public image or solicit and maintain funds for client, employer or organization.	Marketing Managers; Sales Managers	61,900 → NA/NA \$46,280-\$91,090	Enterprising HS HW	College graduates with related experience, high level of creativity and strong communication skills needed. Keen competition for jobs expected.
Training and Development Specialists Develop and conduct training and development for employees.	Human Resource Manager; Teacher	217,700 ↗ 439/19 ↗ \$31,910-\$58,520	Social HS HW ☀️	Candidates need a combination of education and related work experience to become a training and development manager. Although managers need a bachelor's degree for most positions, some jobs require a master's degree.

	BICC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MISU	NDSUS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTC	VCSU	WSC	
BUSINESS MANAGEMENT AND ADMINISTRATION																																					
MANAGEMENT AND BUSINESS ADMINISTRATION																																					
Administrative Assistant	1	1-2	2	2*	2		1								1-2			M			1-2*									2				2		1-2*	
Legal		1-2													1-2			M			A																
Medical	1	1-2		2*														M		2*	A																
Accountancy				2																		4+										G	4G				
Accounting				A	4						4			2		A			4		4		1-2,1,2,4*	1-2,1,2,4*							4	4G				2,A	
Accounting & Computing		4*,A		2*										2																							
Administrative Assistant/ Health Information Management				2																	2,A							2								1-2*	
Advertising and Marketing				1-2							4																									A	
Application Software Specialists																				C																	
Applied Management																																				4	
Art Entrepreneurship					4																																
Bookkeeping	1			1*																																	
Business & Management, General/Applied		2	2	1			2				4					2		M	4G	1-2			4*	4*						2-4	4					A,1-2	
Business & Management, Tribal Management							2																											2			
Business Administration & Management		4*,A		2,A	4						4			2,A		4		M	G	2,A	4G		1,1-2,2*	1,1-2,2*	2-4		2				4G	G	2,4	4			
Business Administration/Biblical Studies																											2,4										
Business Integration Management																																				4	
Computerized Office Management				2																																	
Construction Management																						4															
Customer Relationship Management																																				C	
Digital Enterprise																						C															
Energy Management/Economics & Finance		4*																		4																	
Entrepreneurship		C*		C																	A		1-2,2*	1-2,2*	1			1			4	C,4					
Hotel/Restaurant/Hospitality/Tourism Management		1-2									4										2	4															
Human Resources					4						4												1-2,2,4*	1-2,2,4*													
Human Resources Development/ Management					C						4								M												G	4			4		

BUSINESS MANAGEMENT & ADMINISTRATION

	BJCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MSU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC
BUSINESS MANAGEMENT AND ADMINISTRATION																																				
Information Processing	1-2*														1-2					2*										1-2			2		1-2*	
International Business				4*						4										4																
Internet Marketing																								1-2, 2,4*	1-2, 2,4*											
Investments																						4														
Knowledge Management																				C																
Leadership Studies																						1-2														
Management										4												4										4				
Management Information Systems/ Information Tech						1-2				4			1-2							4	A	4		4*	4*						4	4			1-2	
Managerial Finance & Accounting										4												4											4			
Marketing										4																						4G			2	
Marketing & Sales																							1-2, 2*	1-2, 2*												
Marketing Management			2A											A						4	2	C											4			
Medical Secretary	1		2*		1-2														M	2*	2															
Merchandising																						C,G														
Nonprofit Leadership																																	C			
Office Supervision & Management				2											2	4																4			4	
Policy Analysis																																	C			
Reception Services	1		1*																																	
Small Business Management			2*																															2		
Sports Management										4						4													2		4					
Statistics																						C,4G														
Virtual Business																				4																
GOVERNMENT AND PUBLIC																																				
Caregiver Services			1-2*																																	
Community Management/Development																						G														
Eligibility Worker	C																																			
Human Services	2																							1,1-2,2*	1,1-2,2*											
Nonprofit Leadership																																	C			
Public Administration						2									A			M														C,4G			A	
Public Health																						G,C														
Social Entrepreneurship																																	C			

NOTES

Fast Fact:

The average wage for the Business Management and Administration career cluster is \$50,060, compared to \$41,778 statewide.

PROGRAM LENGTH IS INDICATED BY:

- 1 less than one year
- 1-2 one to two years
- 2 two years
- 4 four years
- 4+ more than 4 years
- G graduate school
- 4G four years or a graduate program
- C upper-level certificate program
- A AA/AS programs are general transfer programs
- M Military
- * May be offered through distance education

SYMBOLS:

- : Energy Occupations in North Dakota
- : Bright Outlook

See pages 16-17 for more information on the contents of these charts.

EDUCATION & TRAINING



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

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Preschool Teachers: Except Special Ed Instruct children (normally up to 5 years of age) in activities designed to promote social, physical and intellectual growth.	Elementary School Teachers; Day Care Center Workers	456,800 ↗ 339/12 → \$17,330-\$26,270	Social HS	Job opportunities for teachers will vary from good to excellent. Most job openings will be attributable to the expected retirement of a large number of teachers.
Self-Enrichment Education Teachers Teach courses other than those that normally lead to an occupational objective or degree. Includes self-improvement, nonvocational, non-academic subjects.	Secondary School Teachers; Elementary School Teachers	252,800 ↗ 197/6 → \$17,960-\$39,300	Social HS	Job opportunities for teachers will vary from good to excellent. Most job openings will be attributable to the expected retirement of a large number of teachers.
Teacher Assistants Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher or professional has ultimate responsibility for the design and implementation of educational programs and services.	Child Care Attendants, Home Health Aides, Librarian Attendants	1,288,300 → 4,370/144 → \$21,090-\$31,730	Social ☀️	Some employers prefer applicants with formal training; however, others train their workers on the job. Emphasis is placed on experience in working with young people. May be part-time workers.
Postsecondary Programs – Bachelors Degree or More				
Counselors, Education and Vocational Counsel individuals and provide group educational and career guidance services.	Clinical Psychologists, School Social Workers, Employment Counselors	281,400 → 648/23 → \$36,190-\$57,990	Social HS HW ☀️	Must have a master's degree in counseling and guidance and be certified by the state of North Dakota to work in secondary schools in North Dakota. May work in employment agencies or private practice.
Education Administrators Plan, direct, and coordinate the educational activities of colleges, universities, preschool, elementary and secondary schools. Work with financial budgets. Review programs to insure conformance to standards.	Vocational Educ. Director, Corrections Education Supervisor, Dean of Students	445,900 → 583/22 → \$45,367-\$83,910	Social HS HW	Master's or doctoral degree required for many positions, especially at the college level. Teaching experience, leadership, organizational and communication skills important. Not an entry level position.
Faculty Members, Colleges and Universities (M) Teach subjects within a prescribed curriculum. Prepare and deliver lectures. Conduct seminars or lab sessions. Stimulate and guide class discussions. Prepare, administer, and grade exams. Assign and mark essays. Publish research findings.	Writers, Consultants, Social Scientists, Mathematicians	1,461,760 → 3,161/87 → \$40,392-\$70,937	Investigative HS HW	Must have at least a master's degree. Some universities require a doctoral degree. Must have good communication skills and need inquiring, analytical mind, good written and oral communication skills essential. Hired by college and universities.
Farm and Home Management Advisors Advise, instruct, and assist individuals and families engaged in agriculture, agricultural-related processes, or family and consumer sciences activities. Includes county agricultural agents, home economists, and extension service advisors.	Adult and Career and Technical Education Teachers, Plant Physiologists	13,000 → NA/NA \$31,960-\$59,160	Social HS HW	Minimum requirement is a bachelor's degree in agriculture or family and consumer sciences. Must be able to work with people. Hired by federal or state government and extension service.
Teachers, Career and Technical Education Secondary School Teach or instruct technical subjects at the secondary school level.	Secondary Teachers, Vocational Counselors, Software Trainer	88,600 → 465/13 ↘ \$36,290-\$52,100	Social HS HW	Educational requirements may vary from apprenticeship to college training depending upon the level of instruction. Work experience may be required as well as knowledge and skills needed to teach at a postsecondary, technical, or career and technical education institution.
Teachers, Elementary Teach pupils in public or private schools at the elementary level - basic academic, social and other formative skills.	High School Teachers, Counselors, Personnel Managers	1,476,500 → 5,432/201 → \$33,800-\$52,110	Social HS HW ☀️	A degree in elementary education is required. Must be certified by the state. Positions may be part-time in rural North Dakota. For kindergarten teaching, a minor in early childhood education is required.
Teachers, Secondary Instruct students in secondary schools in one or more subject areas, such as English, math or social studies. May be designated according to subject matter specialty.	Vocational Counselors, School Administrators, Sales Representatives	1,037,600 → 2,666/87 → \$33,610-\$50,360	Social HS HW ☀️	Minimum of a bachelor's degree required. Employers prefer teachers certified in multiple subject areas. Ability to communicate with youth. Hired by public and private schools. Must be certified by the state.
Teachers, Special Education Teach school subjects and social skills to children and adults with special needs. Adapt teaching methods and materials for individual use with blind, hearing impaired, mentally or physically handicapped, and learning disabled students.	Elementary Teachers, Counselors, Social Workers	222,800 ↗ 718/34 → \$36,200-\$58,140 US	Social HS HW ☀️	Must hold a special education credential in a chosen field such as learning disabilities, mental retardation, visually impaired, etc., as well as teacher's certificate. Rural positions may require traveling to several schools.

EDUCATION & TRAINING

	BICC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LVT	M&SU	MBC	MIL	MSU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC		
EDUCATION & TRAINING																																						
EDUCATION																																						
American Sign Language & Interpretive Certification Training Program															1-2																							
Biology for Teachers											4																									C		
Chemistry for Teachers											4																									C		
Child Development & Family Science																							4G															
College Teaching																							C											G				
Communication Sciences & Disorders																																			4G		A	
Community-Based Literacy as Applied Linguistics																																			C			
Corp Training and Performance ITD																																			G,C			
Counseling and Guidance																							G											G	G			
Counselor Education and Supervision																							G															
Digital Enterprise																							C															
Education											4,G				A						G	A	4G												4G	4	A	
Education Foundation & Research																																			G			
Education, Ag																							4G															
Education, Art																							4														4	
Education, Biological Sciences											4												4											4				
Education, Business																A						4	A											4		4	A	
Education, Career & Technical																																				4		
Education, Chemistry											4												4															
Education, Communication											4																											
Education, Composite Chemistry											4						4																					
Education, Composite Science																							4				4											
Education, Early Childhood																						4			1*	2-4			2			4		2				
Education, Earth Sciences											4												4															
Education, Elementary			4*,A		A	4		2,4			4						4					4	A	4*		4		4				4	4G	4	4,G*	A		
Education, English											4						4					4G		4									4		4,G*			
Education, Family & Consumer Sciences																							4G															
Education, Foreign Language											4											4	4													4		
Education, General Studies																	4					4G	A	G					2				G					
Education, Geography																	4																					
Education, Health																	4						4													4	A	
Education, History											4					A	4					4	4										4		4*			
Education, Industrial Arts/Technology																																			4	4		
Education, Life & Physical Sciences											4						4					4G	4											4	4	4		
Education, Mathematics																							4G											4	4	4		
Education, Middle/High Level																																		4	4	A		
Education, Music											4											4G	4										4	G	4	4		
Education, Nursing																																			C			
Education, Physical											4					A	4					4	4						4				4		4	A		
Education, Public Health																																			4			
Education, Reading																																		G	G			
Education, Science											4																											
Education, Social Science/Social Studies																		4				4	4										4	4	4	4		
Education, Speech and Theater																																			4			
Education, Technology																																				4		
Education, Vocational-Technical																																				4		
eLearning																																				C*		
English											4																							4				
English Language Learners																																			G*	G*		
English/Practical Writing/Rhetoric, Writing, Culture												4				A	4					4	4G											4G	4	A		
Food and Nutrition/Community Nutrition																							G												4			
General Studies																		4				4	A	4										2,4*	4	4	A	
Health Ed/Community; School																							4												4	4	A	
Humanities																							4G															
K-12 Technology Integration ITD																																			G,C			
Language, Foreign & Classical											4											4	4											4	4	4		

EDUCATION & TRAINING

	B/CC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MSU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC	
EDUCATION & TRAINING																																					
Library and Information Technologies																																					6
Linguistics																																				6	
Mathematics for Middle School Teachers											4																										
Middle School Science & Engineering for Teachers																																				C*	
Paraeducation					1-2*																																
Physical Education, Exercise Science and Wellness				A						4					A						A											4	4				
Physics for Teachers																																			C		
School Psychology																					6																
Science, Technology, Engineering, Mathematics (STEM)																							G														
Social Science				A	4										A	4					4	4G										4	4		4		
Speech, Debate & Forensics					4																	4G															
Speech-Language Pathology																					4G																
Speech-Language Pathology Assistant														2																						2*	
STEM Education																																				C	
Studies, Gender/Women's																					4	4															
Studies, Indian			2																															4			
Studies, International																							4											4			
Teacher Education										4																2											
Teaching & Learning																																			6		
Teaching English Language Learners																																	6		4G		
Transfer/Pre-Professional/University Parallel	2A			2	2										2							2														2	
SPECIAL EDUCATION																																					
Autistic Spectrum Disorder																																			C		
Communication Disorders/Sciences and Disorders																					4G													4		A	
Early Childhood/Special Education			2	A						4				1-2	2,4						4C	A									4	4G	2		A		
Education, Deaf																					4C																
Education, Mental Retardation																										4											
Human Services: Intellectual and Developmental Disabilities																					2,4																
Intellectual and Developmental Disabilities and Autism																						4															
Special Education																																					
Special Education/Early Childhood										4												G												4			
Special Education/Emotional																						G												4			
Special Education/Learning Disabilities																						G												4			
Special Education/Strategist																						C															
Special Education/Visual																						G															
Specific Learning Disabilities																						C															
EDUCATION ADMINISTRATION																																					
Administration/Leadership, Educational																							G										4G	G			

NOTES

Fast Fact:

It is projected that North Dakota will have 8,382 openings in the Education and Training career cluster from 2010-2020.

PROGRAM LENGTH IS INDICATED BY:

- 1 less than one year
- 1-2 one to two years
- 2 two years
- 4 four years
- 4+ more than 4 years
- G graduate school
- 4G four years or a graduate program
- C upper-level certificate program
- A AA/AS programs are general transfer programs
- M Military
- * May be offered through distance education

SYMBOLS:

- : Energy Occupations in North Dakota
- : Bright Outlook

See pages 16-17 for more information on the contents of these charts.

FINANCE



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

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Bill and Account Collectors Locate and contact people to collect payments on accounts and bills. Visits or telephones customer and attempts to persuade customer to pay amount due. Maintain records and perform general clerical duties.	Credit Analysts, Credit Reporters, Loan Counselors	401,700 → 1,425/46 → \$21,510-\$32,670	Conventional ☀️	A career and technical education degree in financial management may be preferred by some employers, others train on the job. Above average telephone communication essential. This job demands persistence and aggressiveness.
Bookkeeping and Accounting Clerks (M) Compute, classify and record numerical data to keep financial records complete. Calculating, posting and verifying duties may be included.	Bank Tellers, Statistical Clerks, Accounting Technician	1,898,300 → 7,419/245 ↗ \$24,220-\$38,570	Conventional ☀️	Some employers require formal career and technical education training. Knowledge of business arithmetic and bookkeeping are necessary. Employers may train their personnel on the job.
Claims Adjusters, Examiners, Investigators Review settled claims to determine that payments and settlements have been made in accordance with company procedures. Report over or under payments and other irregularities.	Loan Officers, Real Estate Appraisers	280,100 → 901/31 → \$30,500-\$56,400	Conventional HS HW ☀️	A bachelor's degree is preferred and further training provided on the job by the company that hires them. A background in business and knowledge of law may be helpful. Ability to work with people essential.
Insurance Sales Agents Sell life, casualty, health, automotive or other types of insurance.	Real Estate Agents, Securities Sales Workers, Financial Advisors	411,500 ↗ 1,572/72 ↗ \$28,420-\$69,990	Enterprising HS HW ☀️	Some employers prefer applicants with formal training and experience; however, others will train on the job. Must display sales and leadership. License required.
Tellers (M) Receive and pay out money for financial institutions. Keep records of money and negotiable instruments involved in various transactions.	Cashiers, Post Office Clerks, Travel Agents	560,000 → 2,391/131 → \$20,600-\$26,400	Conventional ☀️	Chances of employment may be enhanced through career and technical education training and on-the-job training.
Postsecondary Programs – Bachelors Degree or More				
Financial Managers (M) Determines budgets, what programs to offer, and make sure programs are carried out effectively. Prepare financial reports required by firm to conduct its operations and satisfy tax and regulatory requirements.	Loan Officers, Accountants and Auditors	527,100 → 1,158/37 → \$60,450- \$118,430	Enterprising HS HW ☀️	College graduate in business or economics usually required. Some prefer a master's degree. Good communications skills, ability to analyze information, and work independently is necessary. Not an entry level position.
Loan Officers Examines, evaluates, authorizes or recommends approval of customer application for real estate, commercial loans or credit card accounts. May supervise loan personnel.	Accountants and Auditors, Financial Managers	289,400 → 1,179/59 ↗ \$36,720-\$70,060	Enterprising HS HW ☀️	College degree in business, finance or accounting and economics background preferred. Must have good judgment and communications skills, and be able to analyze detailed information.
Sales Agents, Securities Buy and sell stocks and bonds based on customers' orders. Give advice and furnish client with information regarding possible purchases, market conditions, and prospects.	Commodities Brokers, Insurance Agents, Real Estate Agents	312,200 → 295/13 → \$29,740-\$87,570	Enterprising HS HW	A college degree is increasing in importance. The ability to motivate people and work independently is essential. Must pass an examination for state license.

	BJCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MISU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC	
FINANCE																																					
Accountancy				2																																4	
Accounting			2	A	4						4				2		A			4		4		4*	4*								4	4G		2A	
Accounting & Computing		4*,A		2*			1-2								2				M																		
Banking & Finance											4										4		C										4	4		A	
Bookkeeping	1			1*																																	
Business Economics/Economics/Applied Economics				A																															4-G		A
Economics/Applied Economic															A								4											4G		A	
Family Financial Planning											4												C														
Finance					4										A							A	C										4				
Investments																							4														
Managerial Finance and Accounting											4												4											4			

GOVERNMENT & PUBLIC ADMINISTRATION



Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration at the local, state, and federal levels.

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Bachelors Degree or More				
Inspectors and Compliance Officers except Construction and Agriculture (M) Enforce adherence to laws and regulations and standards of production, safety, and service, assure observance of policies and procedures in organizations such as customs offices, chain stores, and transportation companies.	Agric. Commodities Inspectors, Occupational Health and Safety Inspector, Transportation Inspector	216,600 → 842/19 → \$37,000-\$64,840	Conventional HS HW ☀️	Many require a college degree in addition to experience and successful scores on an examination. Master's degree is becoming necessary to compete for jobs. Hired by federal, state and local government. Not an entry level position.
Social and Community Service Managers (M) Plan, organize or coordinate the activities of a social service program or community outreach organization. Oversee program, budget and policies.	Social Worker; Marketing Manager; Public Relations Manager	134,100 ↗ 559/18 → \$41,170-\$64,100	Social HS HW ☀️	Bachelor's degree generally required. Work may involve directing social workers, counselors or probation officers.

Note: Postsecondary programs in the Government and Public Administration cluster can be found in the clusters that share the same or similar occupations in the private sector.

NOTES

Fast Fact:

The average wage for the Government and Public Administration career cluster is \$44,760, compared to \$41,778 statewide.

PROGRAM LENGTH IS INDICATED BY:

- 1 less than one year
- 1-2 one to two years
- 2 two years
- 4 four years
- 4+ more than 4 years
- G graduate school
- 4G four years or a graduate program
- C upper-level certificate program
- A AA/AS programs are general transfer programs
- M Military
- * May be offered through distance education

SYMBOLS:

- ⚡ : Energy Occupations in North Dakota
- ☀️ : Bright Outlook

See pages 16-17 for more information on the contents of these charts.

HEALTH SCIENCE



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

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Cardiovascular Technologists (M) Conducts tests on pulmonary and/or cardiovascular systems of patients for diagnostic purposes. May conduct or assist in electrocardiograms and cardiac catheterizations.	Electrocardiogram Technicians, Radiological Technologists	49,400 ↗ 69/3 ↗ \$36,890-\$60,850	Investigative HS HW	Employers favor those who have had formal training. Most work in hospital cardiology departments, while some worked in cardiologists' offices, cardiac rehabilitation centers, or health maintenance organizations. Must like to work with people.
Dental Assistants (M) Assist dentist, set up patient and equipment and keep records.	Medical Assistants, Optometric Assistants, Chiropractor Assistants	297,200 ↗ 576/19 → \$29,150-\$38,110	Social ☀️	Preference is given to graduates of career and technical education and associate programs. Some assistants are trained on the job. Hired by dentist offices, hospitals and government.
Dental Hygienists (M) Clean teeth and examine oral areas, head and neck for signs of oral disease.	Dental Assistants, Nurses, Radiological Technologists	181,800 ↗ 598/23 → \$40,650-\$63,350	Social HS HW ☀️	Must be a graduate of an approved training program. License required. Hired by dental offices, public health offices, hospitals or clinics.
Dietetic Technicians Assist dieticians in the providing of food service and nutritional programs.	Dieticians, Family & Consumer Sciences Specialist, Food Service Managers	24,200 → 67/2 → \$19,890-\$30,100	Social	Most employers seek applicants who have completed career and technical education training. Candidate should have supervisory potential and ability to work with people. Hired by hospitals, nursing homes, colleges, public health services, and clinics.
Dispensing Opticians (M) Design, measure, fit and adapt frames according to written optical prescription or specification. Prepare work order of optical lab for grinding lens and mounting in frames.	Dental Laboratory Technicians, Instrument Repairers	62,600 ↗ 357/11 → \$20,800-\$29,860	Enterprising HS	Employers look for high school graduates who have had courses in the science and experience dealing with marketing. Good communication skills essential. Hired by optometrists and ophthalmologists.
Emergency Medical Technicians (M) Administer first-aid treatment and transport sick or injured persons to a medical facility. May administer drugs and intravenous therapy. Many are volunteer workers, especially in rural areas.	Certified Nurse Aides, Surgical Technicians, Licensed Practical Nurses	226,500 ↗ 634/29 ↗ \$17,100-\$32,030	Social HS ☀️	There are three levels of trained EMTs ranging in responsibility from administering immediate first aid to more sophisticated care techniques, such as intravenous therapy. Hired by hospitals, private firms, police and fire departments.
Health Unit Coordinators (M) Keep track of the activities that converge at nursing stations in hospitals and clinics. They must understand medical terminology, have familiarity with many drugs that are given, and medical procedures that are to be scheduled.	Ward Clerk, Medical Assistant	527,600 ↗ 370/12 → \$24,530-\$32,610	Conventional ☀️	Employers prefer applicants with a one-year diploma from a technical college Health Unit Coordinator program or National HUC certification. They must have good communication skills, accuracy, dependability, and enjoy working with others and be able to work under stress.
Home Health Aides Care for patient's needs in the patient's home by changing linens and doing laundry. Purchase, prepare, and serve meals. Assist patient with bathing, dressing, and other personal needs after major surgery or illness.	Nurse Aides, Physical Therapy Aides, Occupational Therapy Aides	1,017,700 ↗ 2,041/106 ↗ \$23,030-\$33,050	Social ☀️	Employers may prefer a high school graduate. Employers seek individuals who exhibit warmth, dependability, and level headedness. May be part-time work. Some agencies require certified nurses aide training.
Massage Therapists Manipulation of soft tissue for therapeutic purposes by hand or with mechanical or electrical apparatus for the purpose of body massage. May include the use of oil, hot and cold packs, and other recognized forms of massage therapy.	Licensed Practical Nurses, Chiropractors, Physical Therapy Assistant	153,700 ↗ 266/6 → \$24,950-\$58,420	Social HS HW	750 hours of instruction from an accredited massage therapy school. License required.
Medical and Clinical Laboratory Technicians (M) Perform routine tests in medical laboratory. Prepare tissues, draw blood samples, do urinalysis and blood counts. Work under the direction of a medical technologist.	Chemical Laboratory Technicians, Criminalists	161,200 → 516/14 → \$31,500-\$41,830	Investigative HS	Most have an associate's degree since preference is given to those who have formal training. Most are employed by hospitals. Work under the supervision of a medical technologist. Certification required.
Medical Assistants (M) Perform administrative and certain clinical duties under the direction of physician. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood.	Dental Assistants, Certified Nurses Aides, Licensed Practical Nurse	527,600 ↗ 370/12 → \$24,530-\$32,610	Social ☀️	Employers prefer career and technical education training. Graduates may become certified. Hired by large and small clinics, various medical offices, and various departments within hospitals. Internship necessary.
Medical Records and Health Information Technicians (M) Maintain medical records of patients in a hospital, clinic, or doctor's office. Process, maintain, compile and report patient information for health requirements and standards.	Insurance Clerks, Medical Secretaries	179,500 ↗ 587/20 → \$25,130-\$36,510	Conventional HS ☀️	Work in hospitals, clinics, nursing homes, or other related institutions. Employers prefer graduates of a two-year associate's degree or vocational program.
Medical Transcriptionists Use transcribing machines to listen to recordings by physicians and other healthcare professionals dictating medical reports. Translate medical jargon and abbreviations into expanded forms.	Medical Secretaries, Court Reporters	95,100 → 651/10 ↘ \$24,900-\$36,890	Conventional HS	Employers require career and technical education training. Must have accurate typing speed of 60 to 80 words per minute. Must have knowledge of medical terminology, anatomy, and physiology; correct grammar; accurate spelling; and good general office practices.

HEALTH SCIENCE

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Nurses Aides, Orderlies, including Cert. Nurse Aide Provide basic patient care under direction of nursing staff. Perform duties as feeding, bathe, dress, group or move patients or change linens.	Home Health Aides, Nurses Aides, Psychiatric Aides	1,505,300 ↗ 6,736/163 → \$23,010-\$29,790	Social HS ☀️	Must complete an approved program and pass a written and manual skills competency examination to be placed on the State Registry and be employed in long-term care facilities or home health agencies.
Nurses, Licensed Practical (M) Care of ill, injured, convalescent or disabled persons in hospitals, nursing homes, clinics, private homes, group homes and other similar settings.	Emergency Medical Technicians, Certified Nurses Aides	752,300 ↗ 3,368/133 → \$31,790-\$40,960	Social HS ☀️	Must graduate from an approved educational program and pass an examination given by the state board of nursing. Employed by nursing homes, hospitals, clinics, and other related institutions.
Nurses, Registered (M) Assess patient health problems and needs, develop and implement nursing care plans and maintain medical records. Administer nursing care to ill, injured, or disabled patients. May specialize in areas as profusionist, nurse anesthetist and other areas.	Occupational Therapists, Physical Therapists, Physician Assistants	2,737,400 ↗ 7,137/285 ↗ \$42,370-\$59,090	Social HS HW ☀️	Nursing degree can be obtained in two years or four years of college. Must pass examination given by State Board of Nursing in order to be licensed.
Occupational Therapy Assistants (M) Assist occupational therapists in providing occupational therapy treatments and procedures.	Physical Therapist Assistants, Occupational Therapists	28,500 ↗ 90/3 ↗ \$33,350-\$47,870	Social HS HW	An associate's degree is required. Must write a proficiency exam. Must be able to work with people. Hired by hospitals, schools, private agencies.
Pharmacy Technicians (M) Prepare medications under the direction of a pharmacist.	Dental Assistant, Certified Nurse Aide, Surgical Technician	334,400 ↗ 675/27 ↗ \$55,980-\$36,210	Conventional HS ☀️	Two-year degree in pharmacy technology.
Physical Therapy Aides and Assistants (M) Assist physical therapists in providing physical therapy treatments and procedures.	Occupational Therapy assistants, Physical Therapists	114,400 → 251/8 → \$25,945-\$44,090	Social HS ☀️	An associate's degree is required. Satisfactory score on a written licensure exam is also required. Must be able to work with people. Hired by hospitals, clinics, and other health care facilities.
Radiologic Technologists (M) Take X-Rays and CAT scans or administer nonradioactive materials into patient's blood stream for diagnostic purposes. Also may operate computed topography or magnetic resonance.	Dental Hygienists, Cardiovascular Technologists	220,000 ↗ 598/24 ↗ \$37,720-\$51,140	Realistic HS HW	Successful completion of two to four years of formal training is necessary. Ability to deal with people essential. Hired by hospitals, clinics, and dental offices. Certification required.
Respiratory Therapists Following a doctor's order, administers treatment to patients suffering from asthma, emphysema, stroke, etc. Use special equipment such as ventilators and breathing machines to restore and aid in breathing. Help patients in performing breathing exercises.	Dialysis Technicians, Licensed Practical Nurses	112,700 ↗ 211/11 ↗ \$41,740-\$50,710	Investigative HS HW ☀️	Training ranges from an associate's to a master's degree. Shift work is common. Must be able to deal with people while under stress. Must be licensed in North Dakota.
Surgical Technologists (M) Assist in operations, under supervision of surgeons, registered nurses or other surgical personnel.	Licensed Practical Nurses, Medical Assistants, Certified Nurses Aides	93,600 → 249/8 → \$32,380-\$42,590	Realistic HS	Most are trained at technical schools or colleges. Must be conscientious, orderly, emotionally stable, and have good manual dexterity. Hired by hospitals or directly by surgeons.
Veterinary Technicians and Technologists Perform medical tests in a laboratory environment for use in the treatment and diagnosis of diseases in animals. Prepare vaccines and serums for prevention of diseases. Prepare tissue samples, take blood and execute laboratory tests.	Registered Nurses, Surgical Technicians, Medical Technologists, Medical Assistants	80,200 ↗ 190/12 ↑ \$23,020-\$32,130	Realistic HS ☀️	Certified veterinary technicians must graduate from a two or four-year veterinary technology program. Veterinary technicians work in veterinary clinics, zoos, research clinics, colleges, and private businesses such as pet stores, boarding and grooming facilities.
Postsecondary Programs – Bachelors Degree or More				
Chiropractors Adjust spinal column and other articulations of the body to correct abnormalities of the human body believed to be caused by interference with the nervous system. Examine patient to determine nature and extent of disorder.	Osteopaths, Physical Therapists and Assistants	52,600 ↗ 157/5 → \$49,040-\$109,240	Investigative HS HW	Most students enroll in two to four year pre-med curriculum then transfer to a chiropractic school. Most are engaged in independent practice. License required.
Dentists (M) Diagnose and treat diseases, injuries and malformations of teeth, gums and related oral structures.	Psychologist, Optometrists, Physicians, Veterinarians, Podiatrists	130,700 ↗ 237/9 → \$111,900-\$244,810	Investigative HS	A four-year program after completion of a bachelor's degree is common. More opportunities in the rural communities in North Dakota. Most are self-employed. License required.
Dietitians and Nutritionists (M) Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease.	Food Technologists, Family & Consumer Sciences Specialist, Food Service Managers, Dietetics Assistant	64,400 ↗ 234/11 → \$37,320-\$55,190	Investigative HS HW	A bachelor's degree with a major in food and nutrition is required plus an internship. Master's degree requirements are becoming more common. May work early morning or late night hours. Work at medical facilities, schools.
Health Services Managers (M) Manages medical and health services in hospitals, businesses or schools. May run health care facility. Prepares budgets, hires staff, plans and directs health care services.	Community Health Nursing Director, Emergency Medical Services Coordinator	303,000 ↗ 685/27 → \$51,880-\$87,200	Enterprising HS HW ☀️	Employers seek applicants who have had clinical experience (as nurses or therapists, for example) as well as academic preparation in business or health services administration.

HEALTH SCIENCE

	BUC	BSC	CCCC	DCB	DSU	EATC	FBC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MISU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC	
HEALTH SCIENCE																																					
Community Health																																				2	
Conflict Transformation																																				C	
Couple and Family Therapy																						4G															
Cytotechnology																			M																4		
Dental Assisting																						1,2															
Dental Hygiene																						2															
Developmental Sciences																							G														
Dietetics																							4G												4		A
EMT – Paramedic Technology	1	1-2*																																			
Exercise Science/Leisure Studies/Sports Management					4						4						4																4			4	
Fitness & Wellness											4							4*																			
Fitness Trainer and Technician															1-2																						
Food and Nutrition/Community Nutrition																							G											4		A	
Gerontology				A	4										A					4	4CG	4CG												4G	4	A	
Health Administration											4									4				1-2,2*									G	C			
Health Information Technology																																			2		
Health Information/Technician/Management	1-2																		M		2*			1,1-2,2,4*	1,1-2,2,4*											1-2	
Health Science				A											A																					4	
Histotechnician																																			C		
Managerial Psychology																																			G		
Massage Therapy													1																				1				1-2*
Medical Assistant			2*	1-2	2*															M																	
Medical Coding	1				1*																	1*															1*
Medical Lab Science																					4	4												4G	4		
Medical Laboratory Technician			2A																																		
Medical Secretary	1																			2*	2															1-2*	
Medical Transcription					1*																	1*														2	
Medicine (Physicians)											4				A																			G		1-2*	
Mental Health Care Associate																						2														1-2*	
Nurse Assistant	1	1	2				1									1																					
Nurse Practitioner/Specialist																																		G	C,G		
Nursing Administration																																			G		1*
Nursing, Practical	1			1	2		1-2									2						2*				2								G	2	2*	
Nursing, Registered	2	2A		2	4		2			4					A					4	2	4G					4					4G	4G				
Nutrition																																			G		
Nutrition & Foodservice																																				2	
Occupational Safety and Environmental Health																				M															4		A
Occupational Therapy											4									M														G	G		
Occupational Therapy Assistant																				M		2															
Paramedic (EMT) Technology					1-2*																		1-2*														A
Pharmaceutical Sciences											4				A								4G														A
Pharmacy Doctorate																							G														
Pharmacy Technician																				M		1-2															
Phlebotomy Technician		1																		M															1		A
Physical Therapy											4G										M													G	4G		2
Physician Assistant Studies																																					A
Psychology, Clinical											4																								G		A
Psychology, Counseling											4											G													G		
Psychology/Applied Psychology/Experimental						4				4					A		4				4	A	4G										4	4G		4	
Public Health																							C,G												4G		
Radiologic Technology/Sciences											4									M	4													4		A	
Recreation Management, Sports and Recreational Studies					1-2*						4													4												4	
Respiratory Care																																			4G		
School Psychology																						G															
Speech-Language Hearing Sciences																								1-2													
Speech-Language Pathology																						4G													G		2*
Speech-Language Pathology Assistant																2																					
Surgical Technology		2																																			A
Veterinary Technology																								4													

HUMAN SERVICES



Preparing individuals for employment in career pathways that relate to families and human needs.

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Barbers (M) Shampoo, color, cut, perm, and style hair using clippers, comb, curling iron, blow dryers, and scissors. May offer scalp treatments, facial, face massages, and shaves. License required.	Estheticians, Cosmetologists, Makeup Artists, Manicurists	62,200 → 127/2 → \$16,960-\$45,410	Realistic HS HW	Must complete a designated training program. Those who are versatile and able to work with many different styles and cuts have the best opportunities for employment. License required.
Child Care Workers Attend to children at schools, businesses, private households and child care institutions.	Teachers Aides, Home Care Aides	1,282,300 ↗ 4,222/166 → \$16,770-\$19,070	Social ☀️	Employers may prefer career and technical education training. Must have the desire and ability to work with small children.
Cosmetologists and Hairstylists Cut, style, color and perm hair. Advise patrons on how to care for their hair. May suggest cosmetics for skin conditions. Give manicures, facials, and scalp treatments.	Estheticians, Barbers, Manicurists	627,700 → 1,743/56 → \$17,040-\$34,190	Enterprising HS ☀️	Must complete a state approved training program. Must be willing to work weekends and evenings and stand for long periods of time. It may take some time to build up a clientele. License required.
Personal and Home Care Aides Assist professionals from a variety of fields, such as psychology, rehabilitation, or social work, to provide client services, as well as support for families. May assist clients in identifying available benefits and services and help clients obtain them.	Occupational therapist assistants; Physical therapist assistants; Nurse Assistant	861,000 ↗ NA/NA \$21,890-\$29,210	Social	Postsecondary training is very helpful, however on-the-job training is usually provided. The National Association for Home Care offers national certification for personal and home care aides.
Social and Human Service Assistants Assist professionals from a variety of fields, such as psychology, rehabilitation, or social work, to provide client services, as well as support for families. May assist clients in identifying available benefits and help clients obtain them.	Child, Family, and School Social Workers; Personal and Home Care Aides	384,200 ↗ 1,554/54 → \$22,140-\$32,930	Social ☀️	While a bachelor's degree usually is not required for this occupation, employers increasingly seek individuals with relevant work experience or education beyond high school.
Postsecondary Programs – Bachelors Degree or More				
Clergy (M) Conduct religious worship and perform other spiritual functions associated with beliefs and practices of religious faith or denomination. Provide spiritual and moral guidance and assistance to members.	Social Workers, Clinical Psychologists, Teachers, Counselors	230,800 → 1,211/29 → \$26,130-\$52,120	Social HS HW ☀️	Clergy work in religious, educational, medical, and social agencies. In addition to salary, a residence or housing allowance may be provided. Shortage in rural areas.
Counselors, Rehabilitation Assist people in overcoming mental, physical, or emotional handicaps. Help clients to adjust to the disability, social and work environment. Determine suitable occupations, based on interests and aptitudes. Assist with training and job placement.	Placement Counselors, Social Workers, Music Therapists	129,800 ↗ 219/7 → \$34,770-\$49,520	Social HS HW	Generally a master's degree in rehabilitation counseling, counseling and guidance, or counseling psychology is required. Experience in employment counseling or job development helpful. Hired by government agencies, hospitals, and private business.
Medical and Public Health Social Workers Provide persons, families or vulnerable populations with psychosocial support needed to cope with chronic, acute or terminal illnesses.	Social Workers; Clergy	152,700 ↗ 439/20 ↗ \$34,290-\$46,710	Social HS ☀️	A bachelor's degree in social work degree is the most common minimum requirement to qualify for a job as a social worker; however, majors in psychology, sociology, and related fields may be adequate to qualify for some entry-level jobs.
Psychologists (M) Plan and carry out experiments. Observe human beings and animals. Give psychological tests and provide group and individual counseling. May specialize in educational, developmental, or social psychology.	Social Workers, Counselors, Clergy, Industrial Psychologist	156,500 → NA/NA \$47,730-\$79,660	Investigative HS HW	Doctoral degree is required for private practice, college positions, and administrative type work. License required for private practice. Hired by schools, hospitals, and private industry. Competition is keen.
Social Workers (M) Help individuals and families cope with such problems as inadequate housing, unemployment, lack of job skills, financial management, serious illness, or substance abuse. Also work with family conflicts.	Clergy, Counselors, Industrial Psychologists	295,700 ↗ 474/17 → \$33,130-\$50,810	Social HS HW ☀️	Employers require a bachelor's degree and an increasing number are requiring a graduate degree with a specialization in criminal justice, psychology, geriatrics, pediatrics, etc. Work in government, schools, private agencies.

NOTES

HUMAN SERVICES

	BJCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MISU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC		
HUMAN SERVICES																																						
Addiction Studies							2												M	4*												4				A		
Anthropology																						G																
Barbering																	1																					
Behavioral Statistics																						4																
Community Management/Development																						G																
Conflict Transformation																																		C				
Cosmetology									1-2		1	1	2															1		1-2								
Couple and Family Therapy																						4G																
Eligibility Worker		C																																				
Esthetician/Skin Care											1	1																			1							
Forensic Psychology																																			G			
Gerontology																						C																
Human Services		2					2																	1,1-2,2*	1,1-2,2*													
Human Services Technician																										2												
Intercultural Studies																												4										
Mental Health Care Associate																			M		2																1-2*	
Nail Technology/Manicurist												1	1																	1								
Philosophy and Religion										4												4						2-4*			4	4					A	
Policy Analysis																																		C				
Psychology, Clinical										4																								G			A	
Psychology, Counseling										4											G							4					G			A		
Psychology/Applied Psych/Experimental					4				4						A		4				4	A	4G								4	4G		4				
Rehabilitation & Human Services																																		4				
School Psychology																					G																	
Social Welfare																							1-2															
Social Work		4*,A														A					4	A									4	4G				A		
Sociology				A												A					4		0										4G			A		

NOTES

Fast Fact:

In North Dakota, the Human Service cluster is projected to have 688 annual openings.

PROGRAM LENGTH IS INDICATED BY:

- 1 less than one year
- 1-2 one to two years
- 2 two years
- 4 four years
- 4+ more than 4 years
- G graduate school
- 4G four years or a graduate program
- C upper-level certificate program
- A AA/AS programs are general transfer programs
- M Military
- * May be offered through distance education

SYMBOLS:

-  : Energy Occupations in North Dakota
-  : Bright Outlook

See pages 16-17 for more information on the contents of these charts.

INFORMATION TECHNOLOGY



Building Linkages in IT Occupations Framework: For Entry Level, Technical, and Professional Careers Related to the Design, Development, Support and Management of Hardware, Software, Multimedia, and Systems Integration Services.

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Computer and Office Machine Repairers (M) Repair, maintain, or install computers, word processing systems, automated teller machines, and electronic office machines, such as duplicating and fax machines.	Electronic Repairers, LAN Technicians, Data Recovery Specialists	146,200 → 440/12 → \$25,950-\$45,520	Realistic HS	Requires career and technical education training in electronics. Must have good vision, normal hearing, and color perception. Hired by computer manufacturers and retail stores.
Computer Operators (M) Monitor and control computer and peripheral equipment to process business, scientific, engineering and other data according to instructions.	Systems Analysts, Computer Service Tech, Webmasters	86,400 ↘ 294/3 ↘ \$23,930-\$43,150	Conventional	High school diploma required. Employers prefer applicants with experience in computer operation or those formally trained. Must be adaptable and willing to learn.
Computer Support Specialist (M) Provide technical assistance and training to computer system users. Investigate and resolve computer software and hardware problems of users. Answer client's questions concerning the use of computer hardware and software.	Computer and Network Support Specialists, LAN Technicians, Data Recovery Specialists, Computer Repairers	607,100 → 2,182/109 ↗ \$25,826-\$41,962	Investigative HS HW ☀️	Preference is given to persons who have career and technical education training or have a bachelor's degree in computer related science. Must be capable of exacting analytical work.
Postsecondary Programs – Bachelors Degree or More				
Computer and Information Systems Managers (M) Plan, direct or coordinate activities in electronic data processing, information systems, systems analysis and computer programming.	Computer Systems Analysts; Computer Programmers	307,900 → 545/19 → \$65,220-\$100,540	Enterprising HS HW ☀️	Strong technical knowledge is essential. Must understand and guide the work of their subordinates, yet also explain the work in nontechnical terms to senior management and potential customers.
Computer Programmers (M) Develops and writes computer programs to store, locate, and retrieve specific data, information and documents. Writes programs for classifying, indexing, input storage and retrieval of data.	Data Recovery Specialists, Systems Analysts, Webmaster	363,100 → 576/19 → \$38,240-\$59,300	Investigative HS HW ☀️	Many employers require applicants to have a bachelor's or higher degree and relevant experience; however, certain entry level jobs may require a career and technical education associate's degree/certification in computer science. Must be capable of exacting analytical work.
Computer Systems Analysts (M) Plan ways to use computers to solve scientific, engineering, and technical problems. Determine data to collect, equipment needed, and steps to follow in processing information.	Computer Hardware Designer, Webmaster, Engineers	544,400 ↗ 958/39 ↗ \$38,550-\$74,030	Investigative HS HW ☀️	Preference is given to individuals with a bachelor's degree. Some employers require a master's degree. Depending on the specific job, employers seek backgrounds in accounting, business management, physical sciences, computer science, engineering, etc.
Data Base Administrators (M) Coordinate changes to computer databases, test and implement the database, applying knowledge of database management systems.	Computer Programmers, Data Recovery Specialists	110,800 ↗ 157/9 ↗ \$41,800-\$75,610	Investigative HS HW ☀️	Many employers seek applicants who have a bachelor's degree in computer science or computer information systems. Certain entry level jobs may require an associate's or career and technical education degree in computer science. Must be capable of exacting analytical work.
Information Security Analysts (M) Plan, implement, upgrade, or monitor security measures for the protection of computer networks. May ensure appropriate security controls are in place that will safeguard vital electronic infrastructure. May respond to computer security breaches.	Computer Security Specialist, Network Security Analyst, Internet Security Specialist	302,300 → 563/25 ↗ \$45,430-\$66,950	Investigative HS HW ☀️	Rapidly changing technology requires an increasing level of skill and education on the part of employees. Professionals with an ever-broader background and range of skills, including technical knowledge, communication and other interpersonal skills are needed.
Network and Computer Systems Administrators Install, configure and support local area networks (LAN), wide area networks (WAN) and Internet system. Maintain and monitor network software and hardware and websites. May administer network security measures.	Computer Systems Analysts; Computer Network Support Specialists, Network Coordinator	347,200 ↗ 563/25 ↗ \$44,880-\$68,130	Conventional HS HW ☀️	Strong technical knowledge is essential for computer and information systems managers who must understand and guide the work of their subordinates yet also explain the work in non-technical terms to senior management and potential customers.
Software Developers, Applications (M) Develop, create and modify computer applications software. Analyze user needs and develop software solutions. Design software for client use and may analyze and design databases within an application area.	Engineers (Industrial, Agricultural, Mechanical), Computer Engineering Tech, Computer Hardware Designer	520,800 ↗ 771/26 ↗ \$49,170-\$74,850	Investigative HS HW ☀️	Employers may prefer applicants with a graduate degree. Must have creative, analytical minds and capacity for detail. Communication essential. Must be licensed. Hired by research laboratories, industrial plants, and government.

INFORMATION TECHNOLOGY

	BICC	BSC	COCOC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MSU	NDSCS	NDSU	PAR	ROB	ROF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC
INFORMATION TECHNOLOGY																																				
Application Software Specialists																				C																
Computer Information Systems				2A			2				4				2		4				1-2										4			4		
Computer Information Technology			2								4													1,1-2,2*	1,1-2,2*									2		
Computer Science Specialist																																			A,C	
Computer Science/Programming		4*A			4						4				A					C,4	2A	4G		4*	4*							4G		1-2,A		
Computer Support Specialist		2*																			2							1-2						2		
Computer Systems Tech																					1													2		
Computer Technology Management					4																															
Computerized Office Management				2																																
Customer Relationship Management																																			C	
Database Administration																								1-2,2*	1-2,2*											
Database Technology				2																																
Engineering, Computer																						4G														
Enterprise Applications																																			C*	
Graphic Design Technology/New Art Media																				4	4		1-2,2,4*	1-2,2,4*							4					
Information Assurance/Network Security				2																	1		1-2,2*	1-2,2*												
Information Processing Technician				2		2																														
Information Systems										4											G															
Information Technology				2						4							C									1-2					4				1-2	
Knowledge Management																					C															
Management Information Systems/Information Tech										4				1-2						4	A	4		2*	2*						4	4			1-2	
Multimedia Technologies/Web Design																							1-2,2*	1-2,2*												
Network Engineering				2																			1-2,2*	1-2,2*												
New Media and Web Design																						4														
Office Technology																										1-2										
Operating System Tech				1-2																						1-2										
Petroleum Engineering Technology		1-2*																																		
Petroleum Production Technology		1-2*																																		C
Software Engineering																						C,6	1,2,4*	1,2,4*										4		
Virtual Business																				4																
Web Development																					C															
Webmaster/Web Designer/Development & Design		1-2*		1-2																4	1-2	4		1-2,2*	1-2,2*										1-2	

NOTES

Fast Fact:

The average wage for the IT cluster is \$57,270, compared to \$41,778 statewide.

PROGRAM LENGTH IS INDICATED BY:

- 1 less than one year
- 1-2 one to two years
- 2 two years
- 4 four years
- 4+ more than 4 years
- G graduate school
- 4G four years or a graduate program
- C upper-level certificate program
- A AA/AS programs are general transfer programs
- M Military
- * May be offered through distance education

SYMBOLS:

-  : Energy Occupations in North Dakota
-  : Bright Outlook

See pages 16-17 for more information on the contents of these charts.

LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY



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

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Correctional Officers (M) Guard inmates in penal or rehabilitative institutions.	Bailiffs, Store Detectives, Security Guards, Probation Officers	475,300 → 681/15 → \$26,420-\$38,580	Realistic	Employers may prefer persons with one or two years of postsecondary school in law enforcement.
Detectives and Criminal Investigators (M) Conduct investigations related to suspected violations of federal, state or local laws to prevent or solve crimes.	Police Officers; Correctional Officers	119,400 → 353/9 → \$37,210-\$88,400	Enterprising HS HW	Civil service regulations govern the appointment of police and detectives in most instances. Candidates must be U.S. citizens, usually at least 20 years of age, and must meet rigorous physical and personal qualifications.
Dispatchers (M) Send out workers, materials, and equipment as required by work settings and jobs. Dispatch buses and taxicabs in response to requests for service. Maintain a log of scheduled runs.	General Clerk	285,300 → 1,024/67 → \$27,465-\$45,125	Conventional	Must have good record keeping skills and good verbal skills. Some employers prefer high school graduates. Course work in communications and transportation may increase job opportunities.
Fire Chiefs (M) Supervise and coordinate activities of workers engaged in fire fighting and fire prevention and control.	Fire fighters, Police officers, EMT	60,100 → 58/4 → \$41,860-\$63,080	Realistic HS HW	Extensive knowledge and experience in fire fighting and investigation. Good oral and written communication skills. Must have good management skills. Not an entry level position.
Fire Fighters (M) Fight fires, protect lives, and property. Inspect fire-fighting equipment for serviceability. Detect fire hazards. Recommend appropriate fire prevention measures. May administer emergency first aid.	Police Officers, Emergency Medical Technicians, Fire Rangers	310,400 → 592/21 → \$29,690-\$44,040	Realistic HS HW ☀️	A competency exam is required and hiring is done as a result of scores received on the exam. On-the-job training consists of 600-700 hours. Continual training is given. Hired by state and local government.
Legal Assistants (paralegal) (M) Assist lawyers by researching legal precedent, investigating facts or preparing legal documents. Conduct research to support a legal proceeding to formulate a defense or initiate legal action.	Abstractors, Claims Examiners, Legal Secretaries	256,000 → 308/9 → \$30,030-\$50,050	Enterprising HS HW ☀️	Some lawyers hire legal secretaries and train them on the job, whereas others prefer an associate's or bachelor's degree. Must understand legal terminology. Use of word processing programs essential.
Police and Sheriff's Patrol Officers (M) Maintain order, enforce laws and ordinances and protect life and property. May direct traffic, serve as an escort, appear in court as a witness, and render first aid.	FBI Agents, Secret Service Agents, Fish and Game Warden, Correctional Officers	663,900 → 1,080/42 → \$37,810-\$53,700	Social HS HW ☀️	May require two to four-year degree with emphasis on criminal justice or law enforcement. Must meet rigorous physical and personal qualifications. Must pass competitive exams which test aptitudes, strengths and attitudes. Ability to exercise good judgment essential.
Police Chiefs (M) Supervise and coordinate activities of members of police force.	Correctional Officers, Fish and Game Wardens, Police Officers	106,100 → 213/7 → \$48,770-\$85,510	Enterprising HS HW	Extensive knowledge and experience in criminal justice. Good oral and written communication skills. Larger cities prefer a graduate degree. Must have good management skills. Not an entry level position.
Security Guards (M) Guard, patrol or monitor premises to prevent theft, violence or infractions of rules.	Border Guards, Correctional Officers, Fish and Game Wardens	1,035,700 → 1,584/44 → \$20,260-\$31,400	Social ☀️	High school diploma preferred. Applicants must have good vision and hearing and the ability to work with and relate to others. Often applicants must go through a background investigation.
Postsecondary Programs – Bachelors Degree or More				
Lawyers (M) Represent clients in criminal and civil litigation and other legal proceedings, draw up legal documents and manage or advise clients on legal transactions.	FBI Special Agents, Tax Attorney, Judges	728,200 → 1,316/38 → \$50,470-\$106,060	Enterprising HS HW ☀️	Three years of graduate study after completion of bachelor's degree is required. Must pass a written exam to be admitted to the bar. Communication skills are essential.

	BICC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MSU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC	
LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY																																					
Criminal Justice/Studies		2-4* A									4				A						4G	A	4G		2,4*	2,4*	2					4	4G	2		A	
Emergency Management																						A	4G														
Fire Technology		1-2*																																			
Forensic Psychology																																					G
Forensic Science																				M																4	
Indian Law																																					C
International Infectious Disease Management & Biosecurity																							GC														
Law (J.D.)															A							A														G	
Law Enforcement															2							A															
Paralegal/Legal Assistant															2							A				2				1-2							
Peace Officer															1																						
Police Management & Investigation																					C																
Private Security Officer																																					
Public Health																							G/C													G/C	

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.

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Bakers (M) Mix and bake ingredients according to recipes to produce breads, rolls, cookies, cakes, pies, pastries and other baked goods.	Caterers, Cooks or Chefs, Food Service Directors	149,800 → 420/12 → \$17,940-\$28,550	Realistic HS	Training ranges from on-the-job to career and technical education program completion. Hired by wholesale and retail bakers, grocery stores, government, and other institutions.
Cabinetmakers Fabricate, assemble and repair wooden articles such as cabinets and furniture. Assemble, fit, fasten, and glue materials. Operate, manipulate and tend woodworking machines. Use hand and power tools.	Carpenters, Furniture Refinishers	97,000 → 381/16 → \$27,260-\$40,510	Realistic HS ☀️	Most employers prefer applicants who have completed career and technical education training or apprenticeship training or have experience. Hired by construction companies and cabinet makers. May be self-employed.
Civil Engineering Technicians Apply theory and principles of civil engineering in planning, designing and overseeing construction and maintenance of structures and facilities under the direction of a civil engineer.	Civil Engineers; Drafters; Construction Managers	79,000 → 449/20 ↗ \$32,340-\$48,850	Realistic HS HW ☀️	Although it may be possible to qualify for certain engineering technician jobs without formal training, most employers prefer to hire someone with at least an associate's degree in engineering technology.
Dental Laboratory Technicians (M) Construct and repair full or partial dentures or dental appliances.	Orthotics and Prosthetics Technicians, Opticians	40,900 → 177/9 → \$23,370-\$42,190	Realistic HS	Employers may prefer an employee with career and technical education or apprenticeship training. Must have artistic ability and be able to work with minute detail and work under stress. Hired by dental laboratories and dentists.
E Electrical and Electronic Engineering Technicians (M) Apply electrical and electronic theory and related knowledge to design, build, test, and modify electrical or electronic equipment. Work under direction of electrical or electronic engineer.	Broadcast Technicians, Bio-Medical Equipment Technicians	151,100 → 304/12 → \$42,070-\$64,570	Realistic HS HW ☀️	Employers prefer applicants with technical training. Must have ability to do detail work with high degree of accuracy. Hired by manufacturers and public utilities.
E Electro-Mechanical Technicians (M) Operate, test and maintain unmanned, automated, servo-mechanical or electro-mechanical equipment. May assist engineers with robotics equipment.	Electronics Technicians; Mechanical Engineering Technicians	16,400 → NA/NA \$33,090-\$75,390 US	Realistic HS HW	Although it may be possible to qualify for certain engineering technician jobs without formal training, most employers prefer to hire someone with at least an associate's degree in engineering technology.
E Energy Industry Manager (Managers of Production and Operating Workers) (M) Plan, direct or coordinate operations of energy facilities. Duties and responsibilities include formulating policies, managing daily operations and planning the use of materials and human resources.	Plant Manager, Production Supervisor	588,500 → 1,384/50 ↗ \$35,630-\$65,250	Enterprising HS HW ☀️	Preference is given to those with several years of previous energy industry experience. Good communication, leadership and organizational skills are necessary. Hired by various energy facilities.
E Industrial Machinery Mechanics and Maintenance Workers Repair, install, adjust, lubricate or maintain industrial production machinery and processing machinery or refinery and pipeline distribution systems.	Heavy Equipment Mechanics, Diesel Mechanics, Machinist	393,500 → 1,208/79 ↗ \$37,120-\$42,763	Realistic HS ☀️	Completion of a formal apprenticeship program often required. Openings filled by employees within an industry based on seniority and past experience. Not an entry level position.
E Machinists (M) Set up and operate a variety of machine tools to produce precision parts and instruments.	Blacksmiths, Gunsmiths, Locksmiths, Welders	370,400 → 647/28 ↗ \$29,560-\$44,350	Realistic HS HW ☀️	Completion of apprenticeship, career and technical education or on-the-job training necessary. Mechanical ability essential. Hired by manufacturers and federal government.
E Mechanical Engineering Technicians (M) Develop and test machinery and equipment. Review blueprints. Draft detail drawings. Assemble modified mechanical components. Work directly under a mechanical engineer.	Drafters, Mechanical Engineers	44,900 → 95/4 ↗ \$34,360-\$53,050	Realistic HS HW	Employers seek applicants with technical degrees and some require experience. Must have the ability to do detail work with a high degree of accuracy. Creative talent is desirable for design work. Hired by manufacturing companies.
E Process Plant Operator (Chemical Plant and System Operators) (M) Operate, control or maintain process facility to create various types of fuel, food products, or any other product requiring processing.	Process Technician, Process Operator, Plant Operator, Operations Technician	43,300 ↘ NA/NA \$32,190-\$65,020	Realistic HS HW	Preference is given to those who have completed formal apprenticeship or career and technical education training. Good mechanical aptitude and mathematics skills are necessary. Must be able to lift 50+ lbs, be in confined spaces, heights, climb stairs and ladders. Ability to visualize color is required at some facilities. Hired by refineries, gasification plants, ethanol and biodiesel plants or power generation facilities.
E Tool and Die Makers Make and repair custom-made tools, dies, jigs, fixtures, or gauges. Study blueprints, compute dimensions, and plan layout when fitting and assembling work pieces. Set up and operate tools to machine parts to specifications.	Machinists, Instrument Makers, Millwright, Gunsmith	67,700 ↘ 82/1 → \$37,050-\$56,950	Realistic HS HW	Those hired are apprenticed or are trained on the job. Persons must follow strict safety requirements because of potential danger of machines.
E Welders and Cutters (M) Join, cut, and prepare surface metal parts or structures. Use welding, brazing, soldering, lead-burning or flame-cutting techniques.	Maintenance Mechanics, Machinists, Machine Tool Operators, Iron Workers	337,300 → 2,123/113 ↗ \$31,950-\$52,270	Realistic HS HW ☀️	Training can be done informally on the job, through apprenticeships or formal training at secondary and postsecondary career and technical education schools. May become certified.

MANUFACTURING

	BICC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MISU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC		
MANUFACTURING																																						
Auto Body Repair		1-2																			2																	
Automotive Technology	1-2	1-2	2												1-2						1-2													2		2		
Building Construction Technology	1-2																				2													2				
Building Maintenance							1,1-2 1-2, 2																															
Building Trades																										1-2												
Carpentry, Residential	1	1-2*																																		1-2*		
Caterpillar Dealer Service																					2																	
Construction Management																						4																
Diesel Technology															1-2						2															2		
Electrical Technology		1-2*																	M		2								1-2									
Electronics/Telecommunications Technology		1-2																																				
Emergency Management																					A	4G																
Engineering & Surveying Technology, Civil																			M		2*																	
Engineering Technician		2																																				
Fire Technology		1-2																																				
Forensic Science																																		4				
Heating, Ventilation, Air Conditioning and Refrigeration Technology		1-2																			1-2																	
Industrial Technology/Mechanical Maintenance Technology		1-2																															4G					
John Deere Ag Technology																					2																	
Lineworker, Electrical		1-2																																				
Materials and Nanotechnology																						G																
Mechanical Systems																					2																	
Mechanics, Automotive		1-2													1-2						1-2															2		
Micromanufacturing Technology																					1-2*																	
Nanoscience Technology																					2																	
Nuclear Power Technology		1-2*																																				
Occupational Safety & Environmental Health																																		4				
Petroleum Automation and Control																																				A		
Petroleum Production Technology		1-2*																																		2*		
Plumbing																					1																	
Power Plant Technology		1-2*																											1-2									
Precision Machining Technology																					1-2																	
Process Plant Technology		1-2*																																				
Recreational Engines Technology																					2																	
Sustainable Construction Technology		1-2																																				
Technical Studies		1-2																																				
Welding		1-2*					1								1	1					1-2*												1			1-2*		
Wind Energy Technician															1-2																							

NOTES

Fast Fact:

It is projected that North Dakota will have 10,144 openings in the Manufacturing career cluster from 2010-2020.

PROGRAM LENGTH IS INDICATED BY:

- 1 less than one year
- 1-2 one to two years
- 2 two years
- 4 four years
- 4+ more than 4 years
- G graduate school
- 4G four years or a graduate program
- C upper-level certificate program
- A AA/AS programs are general transfer programs
- M Military
- * May be offered through distance education

SYMBOLS:

- : Energy Occupations in North Dakota
- : Bright Outlook

See pages 16-17 for more information on the contents of these charts.

MARKETING



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

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Auctioneers Sell articles at auction to the highest bidder, decide value of items, describe merchandise, and select the order of the items to be sold. Closes sale to the highest bidder. May write advertising copy.	Real Estate Agents, Appraisers	561,300 → NA/NA \$27,650-\$77,370	Enterprising HW	Must have a diploma from an accredited school and be licensed and bonded. Training for this occupation is a two-week program of coursework and practicum. Many are self-employed or employed part-time as auctioneers.
Butchers and Meat Cutters Cut, trim or prepare consumer-sized portions of meat for use or sale in retail establishments.	Bakers, Cooks, Kitchen Supervisors	126,800 → 591/20 → \$20,510-\$29,180	Realistic HS	Preference is given to high school graduates. Ability to communicate with the public and strength is required to move and lift heavy pieces of meat. Hired by grocery and meat markets.
Buyers and Purchasing Agents Purchase merchandise or commodities for resale or processing. Inspects and grades or appraises agricultural commodities, durable goods, apparel, furniture, livestock, or other merchandise offered for sale to determine value and yield.	Sales Representatives, Retail Sales Workers, Sales Managers	406,200 → 795/31 → \$33,795-\$62,960	Enterprising HS HW ☀️	Businesses prefer to hire applicants who are familiar with the merchandise they sell as well as with wholesaling and retailing practices.
Cashiers and Checkers Receive and disburse money in establishments other than financial institutions. Use electronic scanners, cash registers or related equipment.	Bank Tellers, Post Office Clerks, Sales Clerks	3,362,600 → 11,562/619 → \$17,040-\$20,280	Conventional ☀️	Employers prefer high school graduates. Many are part-time high school and college students. Must be able to do repetitive work accurately.
Clerks, Counter and Rental Handle transactions of renting such items as videos, cars, or equipment. Must be knowledgeable of products to assist customers in making selection.	Real Estate Agents, Cashiers, Sales Workers	419,500 → 1,549/71 ↗️ \$17,150-\$32,180	Conventional ☀️	Employers prefer applicants with a pleasant personality and a neat appearance. Some sales clerks are commissioned, others are salaried. Many are part-time workers.
Clerks, Stock (M) Receive, store and distribute supplies, material, and equipment and other items from stockroom to shelves or to customers.	Shipping and Receiving Clerks, Routing Clerks	1,787,400 → 4,220/105 ↘️ \$17,030-\$29,370	Conventional	Many employers prefer high school graduates. Must be able to read and write legibly and perform simple arithmetic. Additional skills acquired through on-the-job training.
Funeral Service Directors, Morticians and Undertakers Arrange and direct funerals and burials. Embalm bodies. Help families select urn or casket, make arrangements for burial plot, and place obituary notices in newspapers. Direct pallbearers in placement and removal of casket from hearse.	Embalmer, Funeral Attendant, Counselors	29,300 → 138/6 → \$26,580-\$52,690 US	Enterprising HS HW	An associate's degree is required prior to one year's training at a school of mortuary science, a 12-month apprenticeship is required before taking national and state board examinations. Some have a bachelor's degree prior to mortuary science school.
Property and Real Estate Managers Manages apartments and office complexes, buys and sells real estate. Shows property to clients, arranges loans, and signs lease payments and sales contracts.	Restaurant Managers, Education Administrators, Real Estate Appraisers	303,900 → 411/12 → \$30,720-\$73,390	Enterprising HS HW	Employers prefer college graduates in business administration, finance, real estate or public administration. Good speaking and writing skills and ability to deal tactfully with people are essential. Experience in real estate sales helpful.
Real Estate Agents Buy, sell, and rent property for clients. Review trade journals, interview prospective clients. Show property. Draw up real estate contracts. Negotiate contracts with sellers and buyers.	Security Sales People, Insurance Agents, Real Estate Appraisers	367,500 → 831/27 → \$18,970-\$48,400	Enterprising HS ☀️	Must pass a written exam to become a sales agent. Works under the direction of a licensed broker. Broker must be licensed and must have completed 90 hours of real estate coursework and have two years real estate sales experience. May be self-employed.
Retail Florist (Floral Designer) Design, cut and arrange live, dried or artificial flowers or foliage.	Retail Salesperson, Store Manager, Horticulturist	66,500 ↘️ 258/8 ↘️ \$16,770-\$23,270	Artistic	Some employers prefer or require technical training. Must like working with flowers and plants. Long hours at holidays.
Retail Store Managers (M) Manage retail store engaged in selling various merchandise. Plan and prepare work schedules, formulas, and pricing policies. Coordinate sales activities and supervise employees in a retail store.	Restaurant Managers, Personnel Directors	1,619,500 → 3,875/128 → \$24,790-\$44,330	Enterprising HS ☀️	Some employers prefer a four-year degree, others require career and technical education training. Experience may increase job opportunities. Some managers are hired through internal promotion.
Sales Agent, Advertising Sell or solicit advertising, including graphic art, advertising space in publications, custom made signs or TV/radio advertising time.	Insurance Agents, Real Estate Agents, Public Relations Workers	160,400 → 566/17 ↘️ \$25,700-\$56,620	Enterprising HW	Training ranges from a high school diploma to a bachelor's degree depending on the product complexity and company policies. Must be outgoing, enthusiastic, and persuasive. Good communication skills essential.
Sales Representatives Sell goods on a wholesale basis to wholesale, retail, industrial, professional, or other businesses. Show samples, explain their value and take orders. Develop new customers.	Sales-Service Promoters, Manufacturing Sales Workers	1,830,000 → 4,138/185 ↗️ \$31,530-\$78,970	Enterprising HW ☀️	Employers prefer formal training in marketing, sales, or business, others may hire high school graduates and train them over a two-year period. Hired by manufacturers.
Sales Route Drivers Drive trucks or other vehicles on a specified route. Deliver and sell goods such as dairy and bakery products. Collect and deliver items such as laundry and dry-cleaned garments.	Truck Drivers, Sales Representative	406,600 → 1,615/73 ↗️ \$18,170-\$38,120	Enterprising ☀️	Driver's license required. Preference is given to persons who have a good driving record, are good sale persons, and display a neat appearance.

MARKETING

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Salespersons, Parts Sell spare and replacement parts and equipment in repair shop of parts store.	Auto Mechanic, Sales Representatives	203,900 → 1,278/76 ↗ \$23,780-\$40,810	Enterprising ☀️	Many parts salespeople are trained on the job. They first may work as stock clerks before moving up to parts sales. Knowledge of automotive mechanics or electricity may increase job possibilities.
Salespersons, Retail Trade (M) Sell merchandise, such as furniture, cars, appliances and apparel in a retail store.	Sales Route Drivers, Real Estate Agents, Insurance Agents	4,261,600 → 11,924/546 → \$17,010-\$33,340	Enterprising ☀️	Postsecondary training may improve chances for advancement into managerial positions. Must have an interest in people, and enjoy sales work. Many sales people are working part-time. Hired by retail stores.
Postsecondary Programs – Bachelors Degree or More				
Interior Designers Plan, design and furnish interiors of residential, commercial or industrial buildings. Formulate design which is practical, aesthetic and conducive to intended purposes.	Floral Designers, Fashion Designers	56,500 → 58/3 ↗ \$19,120-\$37,760	Artistic HS	Many employers prefer a bachelor's degree plus experience. Must be able to work with clients, and sell merchandise. Artistic talent is crucial. Work for rental firms or may be self-employed.
Marketing Managers Determine demand for products and services offered by a business and its competitors and identify potential customers. Develop pricing strategies to maximize profits or share of market.	Advertising Managers; Sales Managers; Public Relations Managers	178,200 → 253/12 → \$58,460-\$109,440	Enterprising HS HW ☀️	College graduates with related experience, high level of creativity and strong communication skills needed. Keen competition for jobs expected.
Sales Managers Direct distribution of product or service to the customer, establishing sales territories, quotas and goals. Analyze sales statistics.	Public Relations Managers; Marketing Managers	342,100 → 751/34 → \$52,930-\$111,440	Enterprising HS HW ☀️	College graduates with related experience, high level of creativity and strong communication skills needed. Keen competition for jobs expected.

	BJCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MISU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTC	VCSU	WSC	
MARKETING																																					
Advertising & Marketing				1-2							4																										
Apparel, Merchandising & Design																							4,C														
Interior Design																							4														
Marketing & Sales											4													1-2, 2*	1-2, 2*												
Marketing/Marketing Management											4				1-2				M	4	2	C											4	4		1-2A	
Merchandising																							C,G														
Professional Selling																							C														
Social Entrepreneurship																																			C		

NOTES

Fast Fact:

In North Dakota, the Marketing cluster is projected to have 2,640 annual openings.

PROGRAM LENGTH IS INDICATED BY:

- 1** less than one year
- 1-2** one to two years
- 2** two years
- 4** four years
- 4+** more than 4 years
- G** graduate school
- 4G** four years or a graduate program
- C** upper-level certificate program
- A** AA/AS programs are general transfer programs
- M** Military
- *** May be offered through distance education

SYMBOLS:

- 🇺🇸 : Energy Occupations in North Dakota
- ☀️ : Bright Outlook

See pages 16-17 for more information on the contents of these charts.

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.

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
E Biological Technicians and Technologists (M) Assist biological and medical scientists in laboratories. Set up, operate, and maintain laboratory instruments and equipment, monitor experiments, make observations, and calculate and record results.	Fish and Wildlife Tech., Forestry Tech., Environmental Science Tech.	80,200 → NA/NA \$25,280-\$42,600 US	Realistic HS	Most employers prefer applicants with at least two years of specialized training. Must have aptitude for math and science and enjoy technical work. Ability to work with detail necessary. Work under the direction of experienced scientists. Hired by laboratories.
E Chemical Technicians (M) Conduct chemical tests making qualitative and quantitative analysis. May work in the area of criminology, environment, or health. May analyze foods, drugs, dyes, paints, detergents, petroleum, and other products.	Medical Laboratory Technicians, Medical Laboratory Technologists	61,000 → 276/10 ↗ \$31,470-\$46,650	Realistic HS HW ☀️	Many employers prefer formal training in chemical technology, others hire high school graduates and train them on the job. A good background in the sciences is essential. May work for state labs, hospitals, private industry, that test liquid, solid, or gaseous materials.
Simulator Maintenance Technician (M) Troubleshoot, repair, and maintain the electronic, visual, and mechanical components of simulator trainers used in pilot training. They analyze simulator malfunctions, using appropriate tools and technical data, to determine and correct system failures.	Electronic Repair Technicians, Computer Repairers, Bio-Medical Equipment Technicians	151,100 → 304/12 → \$33,090-\$64,570	Realistic HS HW ☀️	Employers require two years of career and technical education training. Must have ability to do detail work with a high degree of accuracy. Verbal and written communication skills are very important. Good eyesight and color discrimination necessary. Work for airlines and aerospace manufacturers.
Surveying and Mapping Technicians (M) Help surveyors determine the locations and boundaries of land areas for construction, mining, and other purposes. Study field notes and photographs. Prepare information for mapmaking.	Cartographers, Geotechnician, Map Editors, GIS Technician	56,900 → 221/9 ↗ \$28,280-\$48,140	Realistic ☀️	Most employers prefer applicants with career and technical education training; however, some are trained on the job. Must be able to visualize and understand objects, distance, sizes, and other abstract forms. Mathematical ability essential. Hired by government construction firms, engineering companies.
Postsecondary Programs – Bachelors Degree or More				
E Chemists (M) Conduct qualitative and quantitative analyses or chemical experiments in laboratories for quality or process control or to develop new product knowledge.	Chemical Engineers, Food Technologists, Chemical Technologists	82,200 → 73/3 → \$45,660-\$80,170	Investigative HS HW	Bachelor's degree is adequate preparation for some entry level jobs; however, a higher degree is required for college teaching and independent research. Must have the knowledge and ability to apply scientific theories.
Engineers, Agricultural Solve farming problems and find ways to make farms run more efficiently. Design farm machines and equipment. Work to improve conservation of energy, soil, and water resources.	GIS Technician, Land Surveyor, Animal Scientist, Mechanical Engineer	2,700 → 53/2 → \$49,670-\$76,220	Investigative HS HW	Work for manufacturers of farm equipment, electric utility companies, federal and state soil and water management agencies. Must be able to work as part of a team and be creative and have an analytical mind and capacity for detail.
E Engineers, Chemical (M) Develop processes for manufacturing chemicals. Design equipment and test methods of manufacturing the products. May specialize in preventing pollution, or refining oil and metal.	Chemist, Engineers (Aeronautical, Civil, Mechanical), Chemical Engineering Tech, Biochemist	30,200 → NA/NA \$58,830-\$102,270 US	Investigative HS HW	A bachelor's degree is required; however, some employers require a master's degree. Many are hired by manufacturing industries, primarily in chemical and petroleum refining. Also employed by consulting firms. Must be licensed.
E Engineers, Civil (M) Plan, design and supervise the construction, maintenance and repair of buildings, bridges, dams, tunnels, ports, water supply systems, and transportation facilities.	Architects, Engineers (Mining, Petroleum, Agricultural), Civil Engineering Technician	262,800 → 900/46 ↗ \$48,160-\$79,910	Realistic HS HW ☀️	An increasing number of employers are requiring a master's degree or above. Employed by federal, state and local governments and in construction industries. Generally in or near industrial and commercial centers. Must be licensed.
E Engineers, Electrical (M) Design, develop, and test electrical components, equipment, and systems in the generation of power used by electric utilities, electric motors, radar computers, and communication equipment.	Computer Applications Engineer, Electrical Engineering Tech	154,000 → 265/11 → \$59,580-\$88,420	Investigative HS HW	Employed by manufacturers of electrical and electronic equipment, aircraft, and business machines. Some work for public utilities, government agencies, and universities. Must be licensed.
E Engineers, Energy (M) Design, develop, and evaluate energy-related projects and programs to reduce energy costs or improve energy efficiency during the designing, building, or remodeling stages of construction.	Architects, Engineers (Chemical, Civil, Electrical, Mechanical)	156,500 → NA/NA \$48,720-\$91,850	Investigative HS HW	Employers generally prefer applicants with a graduate degree. Employed by federal and private research laboratories, universities, and power companies.
E Engineers, Industrial (M) Design and develop ways for an organization to use people, machines, and materials, consider product quality, production costs, and worker safety. May specialize in processing systems design, cost control, or safety.	Safety Engineer, Mechanical Engineer, Industrial Engineering Technician	203,900 → 506/25 ↗ \$51,310-\$83,500	Enterprising HS HW ☀️	Some employers prefer applicants with a graduate degree. Over two-thirds of the industrial engineers work in the manufacturing industries. Industrial engineers are more widely distributed among industries than other engineers. Must be licensed.
E Engineers, Mechanical (M) Supervise the operation and maintenance of machines that produce, transmit, or consume energy. Supervise the repair of tools with which these machines are made. Evaluate plant operations related to these machines.	Engineers (Agricultural, Electrical, Industrial), Drafter, Mechanical Engineering Tech	243,200 → 365/21 ↗ \$53,260-\$83,480	Realistic HS HW ☀️	Most mechanical engineers are employed in manufacturing; therefore, opportunities may be better outside the state of North Dakota. Some work for government agencies, educational institutions, and private firms. Drafting and design experience helpful. May be licensed.

SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Engineers, Physics Applications (M) Design advanced components and instrumentation for space exploration, environmental monitoring, medical applications, and scientific research activities.	Engineers (Electrical, Mechanical), Physical Scientists	243,200 → 365/21 ↗ \$53,260-\$83,480	Investigative HS HW 	Employed by component and instrument manufacturers, aircraft companies, federal agencies, and national scientific laboratories. Some pursue advanced degrees. May be licensed.
Environmental Scientists and Specialists (M) Conduct research or perform investigation to identify, abate or eliminate sources of pollutants or hazards that affect either the environment or public health.	Conservation Scientists; Forest and Conservation Technicians	89,400 → NA/NA \$39,780-\$64,310	Investigative HS HW	A bachelor's degree is adequate for a few entry-level positions, but environmental scientists and geoscientists increasingly need a master's degree in a natural science.
Meteorologists (M) Study the atmosphere to increase knowledge about weather, and how it affects the environment. Develop methods and techniques for making more accurate weather forecasts. Report weather conditions to the public.	Geologist, Environmental Scientist, Hydrologists	9,500 → 81/2 → \$62,840-\$94,760	Investigative HS HW	A master's degree is being required by an increasing number of employers. The national weather service employs one-half of all meteorologists.

	BICC	BSC	CCCC	DCB	DSU	EATC	FBCB	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MISU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC				
SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM)																																								
Aeronautics																																				4				
Aerospace Sciences																																					G			
Airport/Aviation Management																																					G			
Anatomy																							4														4			
Anthropology																																				4G				
Applied Math, General											4																							4						
Atmospheric Sciences/Studies															A																					G				
Automotive Technology		1-2													1-2							1-2															2			
Aviation						2		2															4G	2												G				
Biochemistry											4									4																				
Bioinformatics & Computational Biology				A	4										A		4			4			4G												4G		4	A		
Biology											4												G											4						
Biology, Cell & Molecular																					A		4													4				
Biology, Fisheries & Wildlife																					A*		4										4							
Biomedical Engineering																							G													G				
Biotechnology																							4G																	
Biotechnology																					A*		4																	
Botany						4									A		4			4			4G												4G		4	A		
Building Construction Technology	1-2																					2														2				
Chemistry				A							4												G																	
Coatings & Polymeric Sciences																				4																		A		
Construction Engineering Management																							4																	
Diesel Technology															1-2							2															2			
Earth/Environmental Science								2,4															G			2-4						4								
Economics/Applied Economics															A								4												4G			A		
Electrical Technology		1-2*																				2																		
Electronics/Telecommunications Technology		1-2																																						
Energy Technician																										2														
Engineering & Management, Industrial																			M				4G																	
Engineering & Surveying Technology, Civil																							2																	
Engineering Software																											G*													
Engineering, Agricultural & Biosystems																											4G													
Engineering, Chemical																			M																	4*G				
Engineering, Civil																			M					4G												4*G				
Engineering, Electrical																			M					4G												G*-C				
Engineering, Electrical & Computer																							G																	
Engineering, General							2,A								A						A		G		2													A		
Engineering, Geological																			M																		4*G			
Engineering, Manufacturing																			M					4G																
Engineering, Mechanical																											4G											4*G		

SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

	BICC	BSC	CCCC	DCB	DSU	EATC	FBOC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MISU	NDSOS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTC	VCSU	WSC	
SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM)																																					
Engineering, Petroleum		1-2*																																	4*		
Engineering, Sustainable Energy																																			6		
Entomology																																			4		
Environmental Technology				2																																	
Environmental Technology/Lab & Field Tech				2																																	
Environmental Technology/Water Management				2																																	
Fire Technology		1-2																																			
Forensic Science															2						1-2																1-2
General & Technical Studies																						G										4					
Genomics & Bioinformatics															2						1-2														C		1-2
Geographic Information Science																																		4G			
Geography																				4		4												4G			
Geology																						C															
Greenhouse Technology				1-2*																																	
Heating, Ventilation, Air Conditioning & Refrigeration Technology		1-2																			1-2																
History										4												4G														G	
Industrial Technology/Mechanical Maintenance Technology		1-2																																	4G		
Instrumentation & Control Technology		1,1-2*																																			
John Deere Ag Technology																					2																
Land Surveying & Civil Engineering Technology																						1-2															
Landscape Design/Technology				1-2*																																	
Materials & Nanotechnology																						G															
Mathematics			A	4	2				4			A	4*	4	4G																	4	4G	4	A		
Microbiology																					1-2																
Microelectronics Technology																																			4		
Micromanufacturing Technology																					1-2																
Molecular & Integrative Biology																						G													G		
Molecular Pathogenesis			A																																G		
Nanoscience Technology																					2																
Nuclear Power Technology		1-2																																			
Petroleum Production Technology		1-2*																																			1-2
Pharmacology, Physiology & Therapeutics																				4	A														4	A	
Physical Science															A					4	4G													4G		A	
Physics																						4G															
Plant Pathology				4											A							4												4		A	
Political Science									4												G																
Power Plant Technology		1-2*																																			
Process Plant Technology		1-2*																																			
Recreational Engines Technology																					2																
Renewable Generation Technology		1-2*																																			
Science, General				C	2																														G		
Scientific Computing			A	4											A	4	4	4G																4	4		
Simulator Maintenance Technology															2																						
Social Science																																	4	G			
Space Studies		2A	2	2											2						2																2
Statistics																						C,4G															
Sustainable Construction Technology		1-2																																			
Transfer/Pre-Professional/University Parallel																						4G															
Tribal Environmental Science							2,4																													2	
Urban Forestry Technology				1-2*																																	
US Air Transportation Policy																																		4C		A	
Veterinary Technology																						4															A
Wildlife & Fisheries Technology/Science				2																																4	
Zoology																						4G															

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	Related Occupations	Nat'l Employment ND Employment/ Proj. Openings ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
Air Traffic Control Specialists (M) Control air traffic on and within vicinity of airport and movement of air traffic between altitude and control sectors, according to established procedures and policies. Authorize and control commercial airline flights.	Airline-Radio Operators, Airplane Dispatchers, Pilot	27,000 ↘ 172/8 → \$58,340-\$90,750	Conventional HS HW	Must pass a written examination, a rigid physical exam and be under 31 years old. After formal training controllers are trained on the job and in the classroom. Very competitive. Hired by federal government and airports.
Aircraft Mechanics (M) Diagnose, adjust, repair or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems.	Auto Mechanics, Electricians, Diesel Mechanics	123,800 → 261/16 ↗ \$36,280-\$56,310	Realistic HS HW ☀	Graduation from an FAA approved school is required by all employers. Certification required. Hired by airlines or federal government.
Auto Body Repairers (M) Repair and refinish automotive vehicle bodies and straighten vehicle frames.	Painters, Truck and Bus Mechanics, Auto Detailer	171,000 → 660/26 → \$21,670-\$39,320	Realistic HS ☀	Completion of training program is necessary. Hired by repair shops and automobile dealers. May be self-employed.
Automotive Service Technicians (M) Diagnose, adjust, repair or overhaul automotive vehicles.	Autobody Repairers, Diesel Mechanics, Farm Equipment Mechanics	723,400 → 2,379/100 → \$25,530-\$45,660	Realistic HS HW ☀	Preference given to an apprenticeship or career and technical education trained applicant. Hired by repair shops, government and supply shops. May be self-employed.
Bus Drivers Drive bus or motor coach, including regular route operations, charters and private carriage.	Truck Drivers, Taxi Drivers	186,300 → 182/8 → \$24,420-\$30,030	Realistic	Ability to work with people improves chances for employment. A good driving record is essential. Must be licensed. Hired by school and private transit systems.
E Diesel Mechanics/Bus and Truck Mechanics (M) Diagnose, adjust, repair or overhaul trucks, buses and all types of diesel engines.	Autobody Repairers, Auto Mechanics, Aircraft Mechanics	242,200 → 1,329/81 ↗ \$32,610-\$49,540	Realistic HS HW ☀	High school graduation is required and career and technical education or apprenticeship training preferred by employers. Hired by construction companies, bakeries, dairies, schools, and government.
E Drivers, Truck (M) Operate trucks, tractor-trailers and similar vehicles powered by gasoline or diesel engines. Travel short or long distances to transport goods and materials.	Bus Drivers, Chauffeurs, Taxi Drivers	2,460,800 → 11,910/902 ↑ \$26,855-\$45,590	Realistic HD	Employers prefer high school graduates. Ability to judge distances accurately, to operate safely and efficiently, and to prepare delivery forms and other driving records is essential. Must be able to work with little supervision.
Farm Equipment Mechanics Diagnose, adjust, repair or overhaul farm machinery and vehicles, such as tractors, harvesters and related equipment.	Machinists, Auto Mechanics, Diesel Mechanics, Welders	32,900 → 632/38 ↗ \$25,890-\$42,110	Realistic HS ☀	Prefer high school graduate with past experience, career and technical education, or apprenticeship training. Farm background an advantage.
Flight Attendants, Airplane (M) Greet passengers, verify tickets and help locate seats, serve meals and beverages. Observe passengers to detect signs of discomfort.	Gate Agents, Host/Hostesses	90,500 ↘ NA/NA \$24,990-\$62,470 US	Enterprising HS HW	Preference is given to those with two years of college or experience dealing with the public. Must have excellent health, good vision, and good communication skills. Fluency in foreign language necessary for overseas travel.
E Heavy Equipment Mechanics (M) Repair and service a wide variety of construction and mining equipment. Diagnose, disassemble, replace parts and assemble, recondition, align, fit and reassemble equipment.	Diesel Mechanics, Aircraft Mechanics, Auto mechanics	124,600 → 919/64 ↑ \$38,070-\$58,810	Realistic HS HW ☀	Prefer high school graduate with past experience, career and technical education, military or apprenticeship training. Must have an aptitude for mechanical work. Hired by mining companies and heavy equipment dealers.
Mail Carriers Sort mail for delivery. Deliver mail on established route by vehicle or on foot.	Delivery-Route Truck Drivers, Newspaper Carriers	316,700 ↘ 843/28 → \$39,150-\$53,090	Conventional HW	Must take an examination and names are listed according to the scores of the exam. When a vacancy appears, one of the top three names on the list is chosen. Work for the federal government.
Postmasters (M) Coordinate activities of workers engaged in postal work. Set up work schedules, handle customer complaints, hire and train managers. Direct safety, finance, and maintenance for post office.	Postal Inspector, Postal Worker	24,500 ↘ 293/6 ↘ \$26,990-\$55,870	Enterprising HS HW	Postmasters are appointed from within the postal service. Appointees should have good communication, managerial and finance coordination skills and demonstrate initiative.
Small Engine Mechanics Service and repair lawn mowers, chain saws, outboard motors, and motorcycles. May adjust clutches and brakes. Provide tune-ups. May rebuild entire engine.	Aircraft Mechanics, Auto Mechanics, Motorcycle Mechanics	68,900 → 188/9 → \$25,807-\$37,450	Realistic HS	Employers may prefer applicants with career and technical education training or train on the job. Employers look for applicants with mechanical ability as well as an ability to meet and work in the public. Hired by shops and retail.
Postsecondary Programs – Bachelors Degree or More				
Airplane Pilots (M) Fly planes and helicopters to transport passengers, mail, or freight or for other commercial purposes. Use radar, compasses and direct vision. May spray crops. May test new aircraft.	Air Traffic Controllers, Helicopter Pilots	103,500 → 70/4 ↗ \$32,890-\$62,750	Realistic HS HW	Pilots, other than private pilots, must have a commercial license from the FAA which includes at least 250 hours of flight experience. Must pass a strict physical exam, have 20/20 vision, good hearing, etc. Very competitive occupation. Must be certified.

TRANSPORTATION, DISTRIBUTION & LOGISTICS

	BICC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDGF	JZT	LRSC	LWT	MaSU	MBC	MIL	MSU	NDSCS	NDSU	PAR	RCB	RCF	SBC	SCN	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC		
TRANSPORTATION, DISTRIBUTION & LOGISTICS																																						
Aeronautics																																			4			
Airport/Aviation Technology Management																																		4			A	
Auto Body Repair		1-2																			2																	
Automotive Technology		1-2													1-2						1-2																2	
Aviation						2		2							A				M				2											6				
Caterpillar Dealer Service																					2																	
Commercial Pilot						2		2	2										M				2															
Diesel Technology															1-2				M			2															2	
Industrial Technology/Mechanical																																						
Maintenance Technology		1-2																																		4G		
John Deere Ag Technology																						2																
Recreational Engines Technology																						2																
Simulator Maintenance Technology															2																							
Space Studies																																				6		
Supply Chain Management		2																					G												4			
Transportation & Urban Systems																							1-2,G															
Truck Driving																			M			C																
Unmanned Aircraft Systems Operations																							4															

NOTES

Fast Fact:

From 2010-20 in North Dakota, the Transportation, Distribution, and Logistics career cluster is projected to grow by 34.5%, compared to 18.2% statewide.

PROGRAM LENGTH IS INDICATED BY:

- 1 less than one year
- 1-2 one to two years
- 2 two years
- 4 four years
- 4+ more than 4 years
- G graduate school
- 4G four years or a graduate program
- C upper-level certificate program
- A AA/AS programs are general transfer programs
- M Military
- * May be offered through distance education

SYMBOLS:

-  : Energy Occupations in North Dakota
-  : Bright Outlook

See pages 16-17 for more information on the contents of these charts.

ENERGY:

High-Paying, Life-Long Careers

Companies across North Dakota and the entire world are looking for qualified people to fill their positions!

What kind of work is it?

- Operating, troubleshooting and repairing equipment
- Using computers, heavy machinery, instruments and tools
- Working in teams and separately
- Using math and science

What should I expect as an employee in the industry?

- Working in various temperatures, heights and spaces
- Working days, nights, weekends and holidays in shift hours
- Ability to pass random drug testing

How do I meet those qualifications?

- Enroll with one of the following North Dakota colleges on campus or online
 - Bismarck State College - bismarckstate.edu/energy
 - Lake Region State College - lrsc.edu
 - North Dakota State College of Science - ndscs.edu
 - Williston State College - willistonstate.edu
- Certificate and degree options can be completed in 1, 2 or 4 years

Where can I work?

- Natural Gas Facilities
- Petroleum Production Companies
- Electric Cooperatives
- Utility Companies
- Power Plants
- Wind Farms
- Solar Facilities
- Ethanol and Biodiesel Plants
- Water Treatment Plants
- Maintenance Contracting Companies
- Nuclear Plants
- Food Processing Plants

Oilfield Jobs in North Dakota
<http://jobsnd.com>

Look for the **E** in the Occupational Section, pages 19-52, for energy occupations in North Dakota.

MONEY FOR COLLEGE



FAFSA is the first step. **FAFSA** stands for Free Application for Federal Student Aid, and you complete it after your parents do their taxes.

- Get it done as soon after January 1 as possible so you don't miss any scholarship opportunities, and for sure before April 15!
- The form is located at **fafsa.gov** or in your counselor's office.
- After the **FAFSA** is submitted, you will receive a **Student Aid Report (SAR)**. Check it over to make sure the information is correct.
- The **FAFSA** is sent to the schools that you select when you complete the **FAFSA**. The schools send you an award letter telling you the types of aid available for you.



FOLLOW US

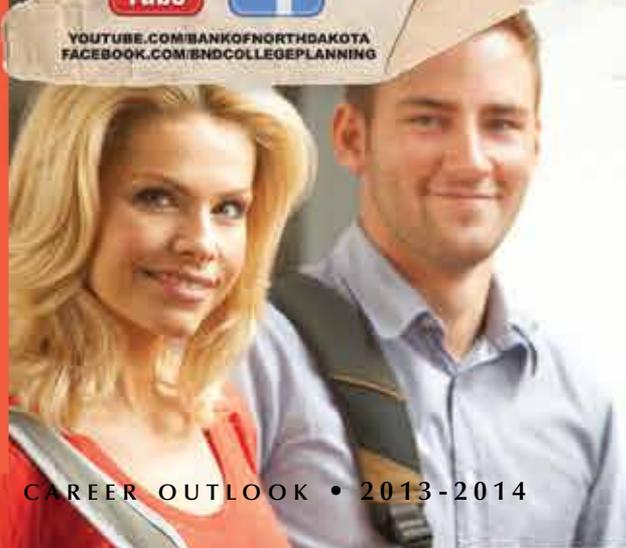


YOUTUBE.COM/BANKOFNORTHDAKOTA
FACEBOOK.COM/BNDCOLLEGEPLANNING

CRASH COURSE/FAFSA 101

There are two types of events held in the winter of 2014, **Crash Course** and **FAFSA 101** that can help you with any questions about paying for college. **Crash Courses** are held throughout the state and help you and your family to learn about financial aid, FAFSA, and career opportunities. **FAFSA 101** is a video conference held at high schools throughout North Dakota. Both events discuss FAFSA and financial aid in detail.

Visit the College Planning Center at **banknd.nd.gov** or your counselor for dates in your area.



4 WAYS TO PAY FOR COLLEGE

The types of aid you will receive depend on your grade level, family size, income and assets.

Scholarships

Scholarship money is great because you don't need to repay it. Most of the scholarships are for good grades, sports, or music. These aren't linked to your FAFSA application so you can start applying in the fall of your senior year.

Scholarships take some time and effort on your part. The College Planning Center gives you tips on writing them and tells you where you can apply.

Grants

Grants are financial aid that don't need to be repaid. They are offered by the federal or state government, the college, or a private foundation. Common grants are Pell, FSEOG, and State Student Incentive.

Work-Study

You can earn money by working part-time in a work-study program. Many jobs are located right on campus. Ask the admissions department at the college about work study opportunities.

Student Loans

Students and parents may borrow money to pay for school. These loans need to be repaid with interest when you have completed school. It is important to keep student loan debt as low as possible so it's easier to repay.

Education loans come in four major categories: Federal Direct student loans, Federal Perkins loans, DEAL – the North Dakota state-sponsored loan program, and private student loans.

STUDENT LOANS ARE NOT FREE MONEY!

You need to start paying loans back six months after you finish college. Here are a few things to think about so you don't take on too much debt and then have problems paying your bills.

- Take dual credit courses in high school so you can graduate college earlier.
- Spend time thinking about a career that you will be happy doing some day. When you switch majors in college, it often means that it takes longer to get through, and then you need to pay more.
- Student Loan payments should not be more than 10 percent of your income. Check out the Occupation Section of this magazine so you know how much you can make in your selected career.



SCAN QR CODE TO
LEARN MORE
ABOUT PLANNING
FOR COLLEGE



banknd.nd.gov

“How can I take courses?”

Let me count the ways...”

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. High school students can get a head start on college by enrolling in college credit classes. Many schools award dual credit for the college class in lieu of their high school class equivalent so students are earning high school and college credits at the same time.

Advantages of Dual Credit Courses

- The letter grade received in the course is the same and is posted on both high school and college transcripts.
- The college transcripts will not differentiate between college courses taught on campus and those taught to high school students as dual credit courses.
- Students and parents can save on the immediate and long-term costs of a college education.
- Students can ease into college classes in a comfortable, familiar environment with smaller class sizes.
- Successful completion of a dual credit class can fulfill one of the requirements of the North Dakota Academic Scholarship.
- Completion of some college credits while in high school increases the likelihood of completing a college degree.

Take Classes At Home

Are education opportunities limited by where you live? Not at all! Today’s high school or adult learner student can access education via online courses. The North Dakota Center for Distance Education is accredited by the North Dakota Department of Public Instruction. This provides opportunities for students of all ages who do not have high school diplomas to:

- Take courses that aren’t offered locally,
- Continue their education while homebound, disabled or even living in another country,
- Earn a high school diploma through alternative methods.



For more information, contact your school counselor or:
North Dakota Center for Distance Education
PO Box 5036 • 1510 12th Avenue North
Fargo ND 58105-5036
Phone: 701-231-6000 Fax: 701-231-6052
www.NDCDE.org



NORTH DAKOTA UNIVERSITY SYSTEM DISTANCE EDUCATION IN ND

The North Dakota University System (NDUS) has made access to a college education easier than ever. NDUS offers more than 120 programs entirely online through its system of 11 colleges and universities. These virtual learning opportunities provide students the freedom to choose courses from several campuses while completing just one application. Distance Education college classes are offered through the following methods:

- Online
- IVN (Interactive Video Network)

For more information about these opportunities, go to www.ndus.nodak.edu/sutdents/online-courses-degrees.

**If you are considering taking a distance education course from a college other than a University System institution, do your homework first. Please make sure the college is a legitimate accredited institution and not a degree mill.*

North Dakota University System Admission Requirements

If you plan to attend a North Dakota University System (NDUS) college or university, it is important to understand the admission requirements for the institution you wish to attend. You CAN go to college if you have a high school diploma or GED! Please see the admission requirements below to help you find the school that is the best fit for you and your goals.

2-year college admission requirement:

- A beginning freshman applicant who is a high school graduate may be admitted to any two-year campus. Each campus does have the right to have admission requirements that are in addition to the general admission requirement. It is important to contact the NDUS campus for details.
- GED tests may be used to satisfy the high school graduation requirement.
- For technical programs, high school graduation is recommended. However, applicants 17 years of age or older may be admitted if the applicant successfully meets program standards.

4-year college admission requirement:

- 4 units of English
- 3 units of mathematics (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)

Although not required, it is recommended that if you desire to attend a 4-year institution, that you also take advanced algebra and at least two foreign language courses.

Additional courses may be required before you can be admitted to some college programs. Your school counselor or college admissions representative can tell you more about specific requirements for the programs that interest you.

Pathways

In Fall 2014, the new Pathways admissions requirements will be in effect. Pathways ensures that all North Dakotans have ACCESS to post-secondary education. Clearly defined admissions standards guide students to start at the right institution based on their level of preparation. Under Pathways “ACCESS + QUALITY + STANDARDS = SUCCESS”

- Community Colleges remain open access for high school and GED graduates. There may be secondary admission requirements for some programs.
- Admission to a regional or research four-year institution is based on a multi-component mathematical formula score. The results of that score give an index number that qualifies a student for automatic admission to a respective campus.
- Students not achieving automatic admission or lacking a component in criteria will be reviewed individually.

For more information and to try out the Pathways calculator, go to sits.ndus.edu/pathways

Planning to Transfer

Are you planning to start at one school and finish at another? The North Dakota University System has a program that will help you. It's called the General Education Requirement Transfer Agreement or GERTA for short.

GERTA allows students to attend any public or tribal college or university in North Dakota, complete that college or university's general education requirements, and then transfer to another institution having met both institutions' requirements. In many cases, students can complete an entire associate's degree close to home before transferring to another campus to complete a bachelor's degree. This will save students time and money.

Many of our college and university programs also have what are called articulation agreements. These agreements are pacts, signed between campuses that allow students to know exactly which courses to complete for particular majors prior to transfer. This means no wasted time or money, and it means graduating more quickly.

For more information, visit your counselor or advisor, or go to www.ndus.edu and select the “Students” tab, then select “Easy Transfer within or to North Dakota Campuses.” You can also call the North Dakota Director of Articulation and Transfer at 701-858-3494.



Why Choose a North Dakota Campus?



- **Relevant!** You can find a North Dakota college to meet your needs.
- **Peace of mind!** You can live and learn in a safe, secure environment.
- **Lifestyle!** You can participate in extra curricular activities and organizations.
- **Quality!** North Dakota colleges have nationally recognized programs of study.
- **Skills!** These programs will prepare you for a successful career.
- **Jobs!** North Dakota has more jobs than we have people to fill them.
- **Investment!** Invest in yourself and North Dakota...a perfect combination!

Explore the possibilities at
www.ndchoose.com



Checklist for Admission to a College or University

- Select more than one campus for consideration.
- Request college catalogs and/or visit each campus website.
- Make appointments to tour the selected campuses (contact admissions office).
- Take the ACT – colleges can provide testing dates, or go to www.actstudent.org.
- Submit admission applications to the selected colleges (including fees and related paperwork).
- Request your high school transcript be forwarded to the selected campuses.
- Verify with each college registrar's office that you have met "core course" and other admission requirements.
- Contact each institution's financial aid office to apply for financial aid and scholarships.
- Prepare parent and student (if applicable) income tax forms as soon as possible after January 1, 2014, for use in completing the Free Application for Federal Student Aid (FAFSA) form.
- Complete the 2014-15 FAFSA form to apply for federal and state grants and loans. The NDUS priority FAFSA deadline is April 15.
- Consider applying for institutional and private scholarships at each selected institution.
- Weigh your options, including financial aid packages, and select a college or university.
- Attend the college or university's orientation session.
- Get ready for the experience of a lifetime.

NORTH DAKOTA: 2013-2014 ESTIMATED ON-CAMPUS BUDGETS FOR RESIDENT DEPENDENT STUDENTS

FAFSA CODE	SCHOOL	MAILING ADDRESS	FINANCIAL AID PHONE NUMBER	ADMISSIONS PHONE NUMBER	TUITION & FEES	BOOKS & SUPPLIES	ROOM & BOARD	TOTAL
2988	Bismarck State College www.bismarckstate.edu	PO Box 5587 Bismarck ND 58506	701-224-5494 800-445-5073	701-224-5429 800-445-5073	\$4,172	\$1,000	\$5,990	\$11,162
15793	Cankdeska Cikana Community College www.littlehoop.edu	PO Box 269 Fort Totten ND 58335	701-766-1374 888-783-1463	701-766-1342 888-783-1463	\$3,300	\$700	\$4,000	\$8,000
2995	Dakota College at Bottineau www.dakotacollege.edu	105 Simrall Blvd Bottineau ND 58318	701-228-5437 800-542-6866	701-228-5426 800-542-6866	\$4,020	\$1,100	\$5,387	\$10,507
2989	Dickinson State University www.dickinsonstate.edu	291 Campus Drive Dickinson ND 58601	701-483-2371 800-279-4295	701-483-2175 800-279-4295	\$5,846	\$1,100	\$5,582	\$12,528
15536	Fort Berthold Community College www.fbcc.bia.edu	PO Box 490 New Town ND 58763	701-627-4738 Ext. 236	701-627-4738	\$4,200	\$1,000	\$3,800 ³	\$9,000
41394	The Hair Academy www.thehairacademynd.com	2101 E Broadway Ave Bismarck ND 58501	701-255-3547 800-793-9594	701-255-3547 800-793-9594	\$10,920	\$1,499	\$10,610 ³	\$23,029
16232	Headquarters Academy of Hair Design	108 S Main Street Minot ND 58701	701-852-8329 800-891-5135	701-852-8329 800-891-5135	\$12,000	\$380	\$8,880 ³	\$21,260
12295	JZ Trend Academy Paul Mitchell Partner School www.jztrendacademy.edu	1320 Tacoma Ave Bismarck ND 58504	701-223-8804	701-223-8804 800-767-5079	\$14,395	\$1,800	\$11,750 ³	\$27,945
2990	Jamestown College www.jc.edu	6085 College Lane Jamestown ND 58405	701-252-3467 Ext. 5556	701-252-3467 Ext. 5562 800-336-2554	\$18,494	\$1,000	\$6,244	\$25,738
7756	Josef's School of Hair Design, Inc. www.jsohd.com	627 NP Avenue Fargo ND 58102	701-235-0011 800-201-0012	701-235-0011 800-201-0012	\$13,100	\$1,185	\$7,700 ³	\$21,985
10406	Josef's School of Hair Design, Inc. www.jsohd.com	2011 S Washington Grand Forks ND 58201	701-772-2728 800-201-0012	701-772-2728 800-201-0012	\$13,100	\$1,185	\$7,700 ³	\$21,985
10406-02	Josef's School of Hair Design, Inc. www.jsohd.com	4501 15th Ave SW Fargo ND 58103	701-235-9910 800-201-0012	701-478-6292 800-201-0012	\$17,200	\$1,570	\$7,700 ³	\$26,470
2991	Lake Region State College www.lrscc.edu	1801 College Dr N Devils Lake ND 58301	701-662-1517 800-443-1313	701-662-1514 800-443-1313	\$4,037	\$1,000	\$5,270	\$10,307
2993	Mayville State University www.mayvillestate.edu	330 3rd Street NE Mayville ND 58257	701-788-4767 800-437-4104	701-788-4667 800-437-4104	\$6,353 ⁴	\$1,000	\$6,022	\$13,375
2994	Minot State University www.minotstateu.edu	500 University Ave W Minot ND 58707	701-858-3375 800-777-0750	701-858-3350 800-777-0750	\$6,086	\$1,100	\$5,550 ⁵	\$12,736
16929	Moler Barber College of Hairstyling	16 S 8th Street Fargo ND 58103	701-232-6773	701-232-6773	\$5,480	\$855	\$5,335 ³	\$11,670
2996	North Dakota State College of Science www.ndscs.edu	800 N 6th Street Wahpeton ND 58076	701-671-2207 800-342-4325 Ext. 32207	701-671-2521 800-342-4325 Ext. 32521	\$4,325 ⁶	\$1,000	\$5,384	\$10,709
2997	North Dakota State University www.ndsu.edu	PO Box 6050 Dept 5240 Fargo ND 58103	701-231-6200 866-924-8969	701-231-8643 800-488-6378	\$7,300	\$1,100	\$7,540	\$15,940
4846	Rasmussen College www.rasmussen.edu	1701 E Century Ave Bismarck ND 58503	701-530-9600 877-530-9600	701-530-9600 877-530-9600	\$13,140 ⁷	\$0	\$4,826 ³	\$17,966
4846	Rasmussen College www.rasmussen.edu	4012 19th Ave SW Fargo ND 58103	701-277-3889 800-817-0009	701-277-3889 800-817-0009	\$13,140 ⁷	\$0	\$4,826 ³	\$17,966
40313	The Salon Professional Academy www.thesalonprofessionalacademy.com	4377 15th Ave S Fargo, ND 58103	701-478-1772 Ext. 111 877-478-1772	701-478-1772 Ext. 104 877-478-1772	\$15,290	\$2,075	\$11,256 ³	\$28,621
9354	Sanford College of Nursing www.medcenterone.com/collegeofnursing	512 N 7th St Bismarck, ND 58501	701-323-6270	701-323-6271	\$11,579	\$1,278	\$6,624	\$19,481
14993	Sitting Bull College www.sittingbull.edu	9299 Highway 24 Fort Yates ND 58538	701-854-8000 701-854-8013	701-854-8020	\$3,910	\$1,200	\$4,734	\$9,844
12059	Trinity Bible College www.trinitybiblecollege.edu	50 S 6th Avenue Ellendale ND 58436	888-822-2329	888-822-2329	\$13,900	\$1,000	\$5,410	\$20,310
9450	Turtle Mountain Community College www.tm.edu	PO Box 340 Belcourt ND 58316	701-477-7862	701-477-7862	\$2,050	\$200	\$3,664 ³	\$5,914
2992	University of Mary www.umary.edu	7500 University Dr Bismarck ND 58504	701-255-7500 800-288-6279	701-255-7500	\$14,730	\$1,184	\$5,505 ⁸	\$21,419
3005	University of North Dakota www.und.edu	264 Centennial Dr Stop 8371 Grand Forks ND 58202	701-777-3121 800-CALLUND	701-777-3821 800-CALLUND	\$7,508	\$1,000	\$6,586 ⁸	\$15,094
14470	United Tribes Technical College www.uttcc.edu	3315 University Dr Bismarck ND 58504	701-255-3285 Ext. 1385 888-643-8882	701-255-3285 Ext. 1334 888-643-8882	\$3,840	\$1,400	\$2,660	\$7,900
3008	Valley City State University www.vcsu.edu	101 College St SW Valley City ND 58072	701-845-7412 800-532-8641	701-845-7101 800-532-8641	\$6,516 ^{1,4}	\$1,200	\$5,770	\$13,486
3007	Williston State College www.willistonstate.edu	1410 University Ave Williston ND 58801	701-774-4248 888-863-9455	701-774-4210 888-863-9455	\$3,622 ¹	\$1,100	\$9,780 ⁸	\$14,502

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

Tuition and Fee Estimator:

With the use of a web-based tuition and fee estimator, parents and students can make cost comparisons among the 11 North Dakota University System colleges and universities. To use the estimator, visit <http://fees.ndus.edu>.

Chart Footnotes:

- 1 Based on 15 credits per term.
- 2 Up to \$150/month may be added for child care.
- 3 Estimate for off campus housing. School does not have dorm facilities.
- 4 Includes notebook computer.
- 5 Based on double room occupancy and unlimited meal plan.
- 6 Based on 16 credits per term.
- 7 Based on 12 credits per term.
- 8 Contact campus housing for actual costs.



It's Time to Think about SEARCHING FOR A JOB

BE PREPARED

- Have an up-to-date, basic resume ready at all times, along with a master copy of a general application form.
- Target your resume for each job you apply for by comparing the description of the job to your qualifications. In your resume, promote your skills that match the job posting requirements.
- Have a cover letter that can be targeted to each job to accompany your resume.
- Have copies of your letters of recommendation ready and don't forget to check with your references in advance so they know to expect those phone calls.
- Check your voicemail messages to see if a company has tried to reach you.

SELF-BRANDING

- Stand out from the crowd and create a personal branding statement that describes your unique value to the company.
- Consider creating a virtual resume (burn to a CD so you have control over who sees it) to catch employers attention.
- Edit your social networking sites and make sure they give the impression of the professional image that you would like to project – if you don't want your grandma to see it, don't post it.
- Be aware that your personal photo and information posted

could be used against you by potential employers. Some employers screen for explicit photos and unprofessional comments on social networking websites.

- Remember, you cannot control content that your friends might post about you. Check your profile regularly to see what comments have been posted. You might also want to consider using the “block comments” feature. Everything on the internet is archived and there is no eraser!

Helpful links to job hunting tools:

www.jobsnd.com
www.careeronestop.org
www.ajb.org
www.rileyguide.com

GET HELP

- Utilize the people and agencies that are there to help you in this search.
- Check with high school and college counselors, career offices, Job Service North Dakota (JSND) and the public library.

BE THOROUGH

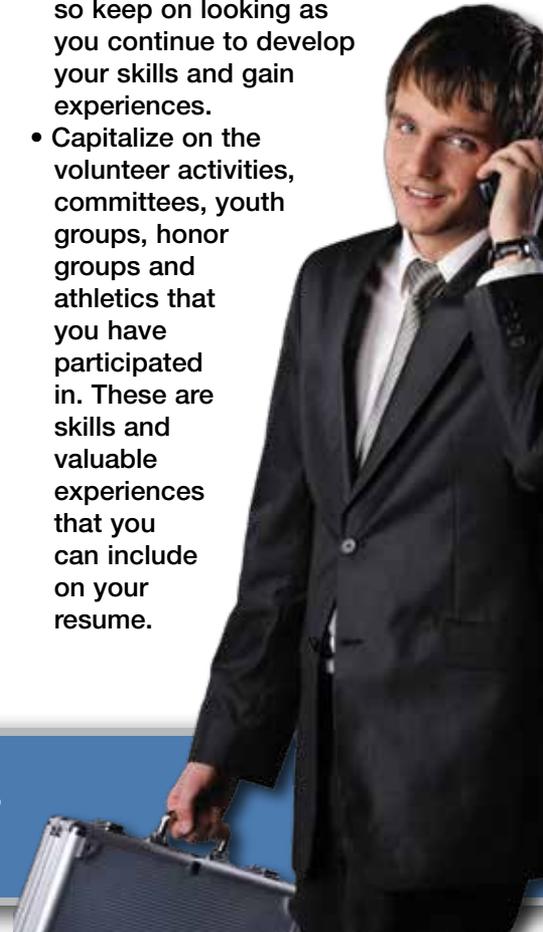
- Exhaust all possibilities when searching for the next job and don't forget to network. Networking is one of the most successful ways to find a job.
- Do your research. Use search engines to explore the company's website to learn as much about the company as you possibly can.

SAVE TIME

- Consider hiring someone to help with your resume and/or applications to save time and ensure a professional product.
- Ask for samples of their work and be aware of what the charges will be. Decide whether or not it is a service you can afford.
- Give them solid information about you so you can be assured the application material will be an accurate, honest and true picture of you.

NEVER QUIT

- Don't give up, even when it seems like you have been searching forever and there is little hope in finding a suitable job.
- The job for you is out there so keep on looking as you continue to develop your skills and gain experiences.
- Capitalize on the volunteer activities, committees, youth groups, honor groups and athletics that you have participated in. These are skills and valuable experiences that you can include on your resume.



Steve Beutler, Minot High School, has created a job search tool kit that will help you with all the details for your job search. Go to www.nd.gov/cte/crn and click on “Nail That Job” in the Students column to find all of the resources you need to get started.

Is Self-Employment for You?

Burian Rangeland Services, based out of Manning, is just one of North Dakota's many entrepreneurial success stories. Founder and owner Trevor Burian, 25, recognized a need for the management of noxious and invasive plant species in the grasslands of western North Dakota and developed a business to address the need.

Trevor began spraying noxious weeds as a summer employee for Billings County while pursuing a college degree in Natural Resource Management. His education and experience provided the knowledge and expertise to build his business, and his desire to be self-employed provided the drive to

Name: Trevor Burian
Title: Founder and Owner,
Burian Rangeland Services
Age: 25

pursue the opportunity.

Three years ago, at the age of 22, Trevor started with himself and one employee and the business has grown to employ nine individuals that manage noxious weeds and invasive plant species over a span of 700 square miles in southwest North Dakota. His main clientele are farmers and ranchers and the U.S. Forest Service.

"It has been a wonderful experience. I encourage other young people to follow their dreams," says Trevor.



- Do you have a skill or service that is marketable in today's economy? (Or can you acquire training needed?)
- 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?
- Can you handle challenges and persevere during difficult times?
- Are you highly self-motivated and self-directed?
- Can you sell yourself and your product to clients and customers?
- Do you have good business communication and marketing skills?
- Do you have money or resources needed to start a business?
- Do you have the technical skills you need?
- Do you have needed space to operate and run a business?

Visit www.nd.gov/cte/crn/docs/EmployYourself.pdf to complete a checklist to help you learn more about entrepreneurs and yourself!

You can also contact:

Marketplace for Kids

210 N 4th St, Bismarck ND 58501

701-663-0150 or 888-384-8410

www.marketplaceforkids.org

or visit www.InnovateND.com

Extended Learning Experiences

Expect competition for the jobs you want. Employers hire candidates with the best combination of education, experience, and personal qualities. Make your career plans happen by gaining real work experience.

Put your talents to work in extended learning experiences—learning that takes place in the world of work, beyond the classroom. Go to www.nd.gov/cte/crn and click on Extended Learning Experiences in the Student Column to learn more about these options:

- Job Shadowing and Mentoring
- Internships
- Volunteer Service and Service Learning
- Cooperative Education
- Career Camps
- Part-time Jobs and Summer Employment
- School-Based Businesses and Work Simulations
- Apprenticeship Programs
- On-the-Job Training

Which of these benefits do you want?

- Gain work experience that gives you a competitive edge.
- "Try out" a career and see if it meets your expectations.
- Build a connection with an employer.
- Gain knowledge and skills specific to an occupation and industry.
- Develop your interests and gain insights into yourself.
- Develop general workplace skills.
- Accomplish things that benefit others—make the world a better place.
- Get paid for some of these opportunities.

Seek out opportunities in your community that match your career interests. Your counselor may be able to assist you.



HELPFUL RESOURCES



Adult Learning Centers

Belcourt Adult Learning Center

Turtle Mountain Community College
701-477-7913 • www.tm.edu

Bismarck Adult Learning Center

Bismarck State College
701-323-4530 • www.bismarckschools.org/adultlearning

Devils Lake Adult Learning Center

Lake Region State College • 701-662-1568

Dickinson Adult Learning Center

Dickinson Public Schools
701-456-0008 • www.dickinson.k12.nd.us/adult_learning

Fargo Adult Learning Center

Fargo Public Schools
701-446-2806 • www.fargo.k12.nd.us

Fort Totten Adult Education Program

Cankdeska Cikana Community College • 701-766-1377

Grafton Adult Learning Center

North Valley Career Tech Center
701-352-3705 • www.northvalley.k12.nd.us

Grand Forks Adult Learning Center

Grand Forks Public Schools-Stanford Centre
701-795-2785

Jamestown Adult Learning Center

James Valley Career Technology Center
701-252-8841



Postsecondary Institutions

www.nd.gov/cte/crn/docs/EdDir.pdf

Area Career and Technical Centers

www.nd.gov/cte/links/centers.html

Information Technology

Information Technology career videos,
salary information, skill sets,
free software, and much more.
www.discoverndit.com



Minot Adult Learning Center

Minot Public Schools • 701-857-4488

New Town Adult Education Program

Fort Berthold Community College
701-627-4738 Ext. 258

Valley City Adult Learning Center

Sheyenne Valley Area Career Tech Center
701-845-0256

Wahpeton Adult Education Program

North Dakota State College of Science
701-671-2184

West Fargo Adult Education Program

West Fargo Public Schools • 701-356-2008

Williston Adult Learning Center

Williston State College
701-572-5886 • www.adultlearningcenter.com

See page 10 or visit www.dpi.state.nd.us/adulted for more
information about the programs and services available at ALCs.

Beulah
119 E Main
701-873-5607

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

Devils Lake
301 College Dr S
701-662-9300

Dickinson
66 Osborn Dr
701-227-3100

Fargo
1350 32nd St S
701-239-7300

Grafton
927 12th St W
701-352-4450

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

Harvey
119 9th St W
701-324-4552

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

Minot
3416 N Broadway
701-857-7500 7

New Town
204 Main St
701-627-4390

Oakes
924 S 7th St
701-742-2546

Rolla
103 E Main Ave
701-477-5631

Valley City
325 2nd Street NW
701-845-8860

Wahpeton
524 2nd Ave N
701-671-1550

Williston
422 1st Ave W
701-774-7900



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



Vocational Rehabilitation/ Human Services Regional Offices

Bismarck
701-328-8800
888-862-7342 (toll free)
ND Relay 1-800-366-6888
1237 West Divide Avenue Suite #2
Bismarck, ND 58501

Devils Lake
701-665-2235
888-607-8610 (toll free)
ND Relay 1-800-366-6888
200 Highway 2 SW
P.O. Box 650
Devils Lake, ND 58301-0650

Dickinson
701-227-7600
888-227-7525 (toll free)
ND Relay 1-800-366-6888
117 1st Street East
Dickinson, ND 58601

Fargo
701-298-4459
888-342-4900 (toll free)
ND Relay 1-800-366-6888
2624 Ninth Avenue SW
Fargo, ND 58103-2350

Grand Forks
701-795-3100
888-256-6742 (toll free)
ND Relay 1-800-366-6888
151 S. 4th Street Suite 401
Grand Forks, ND 58201-4735

Jamestown
701-253-6388
800-639-6292 (toll free)
ND Relay 1-800-366-6888
520 Third Street NW
PO Box 2055
Jamestown, ND 58402-2055

Minot
701-857-8642
888-470-6968 (toll free)
ND Relay 1-800-366-6888
1015 South Broadway Suite 18
Minot, ND 58701-4667

Williston
701-774-4662
800-231-7724 (toll free)
ND Relay 1-800-366-6888
316 Second Avenue West
PO Box 1266
Williston, ND 58802-1266



Financial Aid

**Bank of North Dakota (BND)
College Planning Center**
701-328-5835 or
800-554-2717
banknd.nd.gov

**Student Financial
Assistance Program**
State Grant Program
North Dakota Scholars Program
701-328-2906
ndfinaid@ndus.edu
www.ndus.edu

**Bank of North Dakota
Student Loan Services**
701-328-5763 or
701-328-5739 TDD
800-472-2166 or
800-643-3916 TDD
mystudentloanonline.nd.gov

**Free Application for Federal
Student Aid (FAFSA)**
www.fafsa.ed.gov

See page 6 for more information or visit one of these websites:
Vocational Rehabilitation Offices: www.nd.gov/dhs/dvr/about/regional-contact.html
Human Service Centers: www.nd.gov/dhs/locations/regionalhsc

Grow the Skills You Need

You will soon be entering a highly competitive workforce based on a global knowledge and information economy. To be career and college ready, you need to be able to integrate and apply 21st century skills, technical knowledge and skills, and core academic knowledge. With an emphasis on real world, real life skills, Career and Technical Education in North Dakota connects you to academics and training that will help you be successful in the future.

NORTH DAKOTA STUDENT CTSO LEADERS



DECA allows you to connect to the world of marketing and business outside the classroom.

“DECA prepares emerging leaders in marketing, finance, hospitality and management by helping teens help others. It has prepared me for the future.” — Andrew Kelsh, DECA State President



FBLA gives students valuable connections to business and industry partners.

“FBLA prepares the next generation of business leaders, entrepreneurs, and managers for the world of business and has been vital to my personal success both academically and in the business world.” — Kyle McFadden, FBLA State President



FCCLA promotes personal growth and leadership development through Family & Consumer Sciences Education.

“FCCLA has provided me with the leadership skills that instill the confidence I need to be successful.” — Bryjett Nordmark, FCCLA State President



FFA provides challenging coursework and hands-on experiences in agriculture education.

“FFA has helped me grow through Career Development Events which will propel myself into a career I love.” — Charles Steinberger, FFA State President



SkillsUSA promotes work skills, teamwork and citizenship in trade, industry and health careers.

“SkillsUSA is a fun, fully energized student leadership organization dedicated to preparing members for the workforce.” — Heather McCann, SkillsUSA State President



TSA is devoted to students interested in technology through careers in various technical areas.

“TSA is a student organization that focuses on technology and leadership through events and posing challenges.” — Liz Adsero, TSA State President

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:

- Learn more about careers
- Develop leadership skills that will prepare you for college and career
- Test your skills at state and national competitions
- Participate in community service opportunities

North Dakota Department of Career & Technical Education
 600 E Blvd Ave – Dept 270
 Bismarck, ND 58505
 Ph: 701-328-3180
 Fax: 701-328-1255
 cte@nd.gov • www.nd.gov/cte

