

NORTH DAKOTA CAREER RESOURCE NETWORK

# CAREER OUTLOOK

29TH EDITION • 2011-2012



**RU Ready**  
**ND.com**  
EDUCATION & CAREER PLANNING

 Find us on  
Facebook





**What does it mean to be "career ready?"**

Career readiness involves three major skill areas:

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



You are entering an exciting time in your life – filled with important decisions and vast and varied experiences. Now is the time to begin thinking about your future career. In order to be prepared to meet tomorrow, your planning should begin today.



**What is the goal of Career and Technical Education?**

To prepare students for success in life. CTE courses offer students the opportunity to explore a wide range of careers and gain job specific skills through hands-on classroom activities and related work experiences. By enrolling in these and other courses in school, you are gaining academic knowledge and building on the employability and technical skills necessary to be successful in your chosen career field.



**What opportunities exist for the future?**

The future has never been brighter in North Dakota. With proper planning, the career you choose will play a role in fulfilling a critical need in your community and our country. The workforce of tomorrow needs to be educated, prepared, adaptable, and competitive. With so many career options to choose from, the decisions that need to be made may seem overwhelming.



This publication will help guide you in the process of setting goals as well as planning and preparing for a lifetime of success, which we hope will be in North Dakota.

I wish you the best as you continue to prepare yourself to be "career ready!"  
Good Luck!  
*Wayne Kutzer, Director*  
*ND Department of Career and Technical Education*



## ACKNOWLEDGEMENTS

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

**Kathy Holle**  
CRN Supervisor

**Laura Glasser**

CRN Administrative Assistant

**Career Resource Network  
North Dakota Department of  
Career and Technical Education**  
State Capitol, 15th Floor  
600 E Boulevard Ave, Dept 270  
Bismarck, ND 58505-0610  
[www.nd.gov/cte/crn](http://www.nd.gov/cte/crn)  
Telephone: (701) 328-9733  
Fax: (701) 328-1255  
E-Mail: [cte@nd.gov](mailto:cte@nd.gov)

### CAREER RESOURCE COORDINATORS

[www.nd.gov/cte/crn/crc](http://www.nd.gov/cte/crn/crc)

**Jennie Granrud**

NW Career Resource Coordinator

**Donna Fricke**

SW Career Resource Coordinator

**Judy Barstad**

NE Career Resource Coordinator

**Jody Breker**

SE Career Resource Coordinator

### CRN ADVISORY COMMITTEE

Job Service North Dakota

Department of Career and  
Technical Education

North Dakota Department of  
Commerce, Division of Economic  
Development and Finance

North Dakota Department of  
Human Services, Division of  
Vocational Rehabilitation

North Dakota University System

North Dakota Department  
of Public Instruction

North Dakota College Access Network,  
Administered by Bank of North Dakota  
Workforce Development Council

### ND STATE BOARD FOR CAREER AND TECHNICAL EDUCATION

Darrel Remington, Belfield

Maren Daley, Bismarck

William Goetz, Bismarck

Dr. Wayne Sanstead, Bismarck

Jeffery Lind, Rugby

Brian Duchscherer, Carrington

Tim Mairs, Lisbon

Val Moritz, Valley City

#### Permission to Reprint:

Reference to the North Dakota  
Department of Career and Technical  
Education's Career Resource Network  
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.*

# Contents

- 2 Introduction
- 3 Acknowledgements
- 3 Table of Contents
- 62 Helpful Resources



## Self Assessment

- 12 RUReadyND.com
- 13 Reality Check
- 14 Career Clusters  
Interest Survey
- 53 Are You Ready for Life  
After High School?
- 61 Is Self-Employment  
for You?



## Occupational Research

- 12 RUReadyND.com
- 13 Youth Forward
- 16 How to Use the  
Occupational Section
- 17 Occupational Section  
Index
- 19 Occupational Section



## Education and Training

- 4 Energy: A High-Paying,  
Life-Long Career
- 5 Give Yourself an Edge!
- 5 Registered Apprenticeship
- 6 Vocational Rehabilitation -  
Make the Transition
- 8 North Dakota Army  
National Guard
- 9 Learn About the Military
- 10 Adult Education... Gives  
You a Second Chance!
- 10 Job Corps - Job Training  
and Career Placement
- 12 RUReadyND.com

- 18 ND Postsecondary  
Education/Training  
Programs
- 56 Distance Education in ND
- 56 Take Classes At Home
- 57 Checklist for Admission to  
a College or University
- 57 What are the ND University  
System Admission  
Requirements?
- 58 Planning to Transfer
- 58 Why Choose a ND  
Campus?
- 64 Career and Technical  
Education Works!



## Financing Your Education

- 11 ND Academic and  
Career and Technical  
Education Scholarship  
Programs
- 54 Major Sources of  
Financial Aid
- 54 Show Me the Money
- 55 You Can Plan for College
- 59 Estimated On-Campus  
Budgets



## Employment

- 7 Job Service North Dakota
- 60 It's Time to Think About  
Searching for a Job
- 61 Life Skills for the Workplace



#### 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.

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

# ENERGY:

## A HIGH-PAYING, LIFE-LONG CAREER

The energy industry is an exciting and sustainable place to be!  
Consider the opportunities:



- Earn a great job with one, two and four year college programs
- College programs available on North Dakota campuses and online
- Starting salaries begin between \$18 to \$32 an hour
- Job opportunities across the country
- Internships and scholarships are available

What is expected of people who are employed in the energy industry?



- Hands-on work
- Willingness to work in various temperatures, heights and confined spaces
- Interest in troubleshooting, working in teams and separately
- Willingness to work shift work, nights, weekends and holidays
- Ability to understand math and science
- Good communication skills (reading, writing and speaking)
- Ability to pass random drug testing



Which two-year colleges offer technical energy programs?



Bismarck State College  
Lake Region State College  
North Dakota State College of Science  
Williston State College



Where could I work with an energy-related certificate or degree?



Fossil-Fueled, Hydro, Wind, Solar and  
Geothermal Power Generation Facilities  
Refineries  
Ethanol Plants  
Biodiesel Plants  
Gasification Plants  
Food Processing Plants  
Water Treatment Plants  
Natural Gas Facilities  
Petroleum Production Companies  
Electric Cooperatives  
Utility Companies  
Maintenance Contractors for  
Energy-Related Facilities  
Nuclear Plants

# Give Yourself An *Edge!*

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.

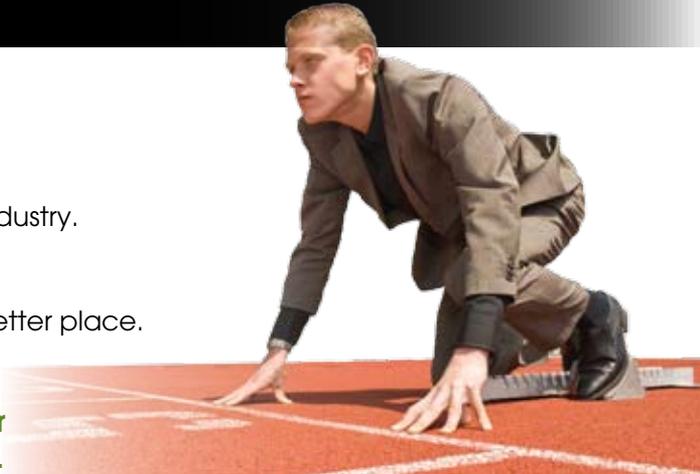
Put your talents to work in “extended learning experiences”– learning that takes place in the world of work, beyond the classroom. Go to [www.nd.gov/cte/crm](http://www.nd.gov/cte/crm) and click on Extended Learning Experiences in the **Student** column to learn more about these options:

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

## 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.



## REGISTERED APPRENTICESHIP

Support Your Career:

Earn.

Learn.

Succeed.

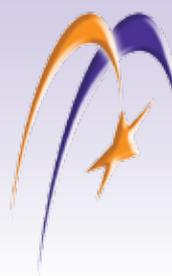
1,000 career opportunities with more than 250,000 employers nationwide.

Call your state apprenticeship office at 701-250-4700 or visit [www.ndapprenticeship.com](http://www.ndapprenticeship.com) to learn more about apprenticeship.

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.

\*Must be 16 or older to apply.



REGISTERED APPRENTICESHIP  
*Earn. Learn. Succeed.*

# Make the Transition from High School to College or the World of Work **“TAKING THE NEXT STEP”**

The decisions you are making concerning your future could have a life-long impact. 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:



- Knowing when and how to discuss your disability with an instructor or employer
- Determining what questions are appropriate on an application or during an interview
- Knowing what your rights are under the Americans with Disability Act (ADA) or Section 504
- Determining whether modification 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 consultant 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
- By assisting with services you need that are not provided by the institution (i.e., personal aids and assistive technology devices) and
- By assisting you with school costs if there is a financial need

---

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

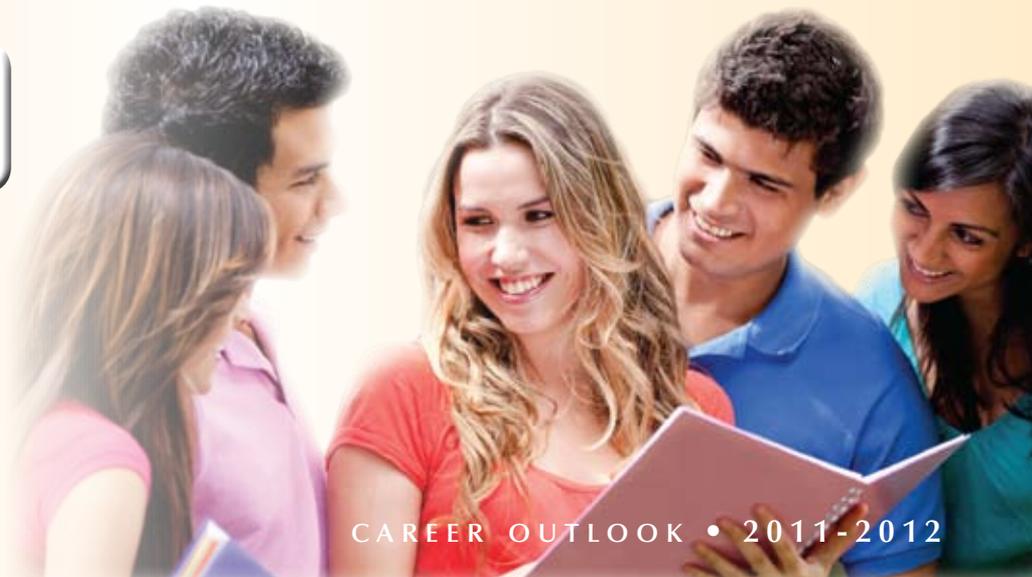


- Job search assistance
- Job coaching and placement
- On-the-job training
- Tools or clothing associated with your employment goal



[www.nd.gov/dhs/dvr](http://www.nd.gov/dhs/dvr)

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



# JOB SERVICE North Dakota



## CAREER

exploration

everything you ever wanted to know about North Dakota career opportunities

(well - nearly everything)

**jobsnd.com**

(type)



(click)

Products

(click)

(scroll)

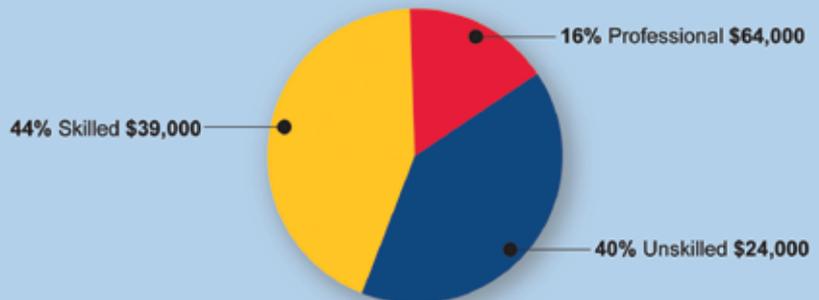


(click)

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

### PERCENTAGE OF NORTH DAKOTA JOBS BY SKILL LEVEL

including 2010 average (mean) wages



**Professional** Bachelors degree or higher, plus work experience

**Skilled** More than one month's on-the-job training, Postsecondary vocational award, Associates degree, or work experience in a related occupation

**Unskilled** Less than 30 days on-the-job training

Job Service North Dakota



**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**.

# PART-TIME TRAINING FOR A FULL-TIME FUTURE



## NATIONAL GUARD *North Dakota*

I-888-ND-GUARD

NDGUARD.com

THE NORTH DAKOTA ARMY NATIONAL GUARD OFFERS HANDS-ON, TECHNICAL TRAINING FOR REAL-LIFE CAREERS. GET A JUMP ON YOUR CAREER BY GAINING EXPERIENCE BEFORE YOU GET YOUR DEGREE.

- Construction Equipment Operator
- Plumber
- Interior Electrician
- Concrete/Asphalt Equipment Operator
- Carpentry/Masonry Specialist
- Avionics Mechanic
- Air Traffic Control Operator
- Information Technology Specialist
- Cable Systems Installer/Maintainer
- Paralegal Specialist
- Military Police
- Human Resources Specialist
- Public Affairs Broadcast Journalist
- Dental Specialist
- Patient Admin Specialist
- Radiology Specialist
- Health Care Specialist
- Mental Health Specialist
- Motor Transport Operator (Truck Driver)
- Wheeled Vehicle Mechanic
- Power Generator Equipment Repairer
- Machinist/Metal Worker
- Construction Equipment Repairer
- Food Service Specialist (Cook)
- **Many more!**

# LEARN ABOUT THE MILITARY

The Army, Navy, Air Force, Marines and Coast Guard are all active duty segments of the military. Active duty soldiers serve full-time, similar to working a full-time civilian job. Assignments are available in all 50 states and in countries all over the world. For an active duty soldier/airman/sailor, length of service can range from two to six years.

**What careers and jobs are available?**  
**What are the enlistment benefits?**  
**How do you join?**

Find out the basics of each branch of the service by visiting the following websites:

**ARMY:** [www.goarmy.com](http://www.goarmy.com)

**NAVY:** [www.navy.com](http://www.navy.com)

**AIR FORCE:** [www.airforce.com](http://www.airforce.com)

**MARINES:** [www.marines.com](http://www.marines.com)

**COAST GUARD:** [www.uscg.mil](http://www.uscg.mil)



## MILITARY RECRUITERS

### AIR FORCE

Bismarck • 701-258-5163  
Fargo • 701-277-1818  
Grand Forks • 701-775-9361  
Minot • 701-839-4635

### AIR NATIONAL GUARD

1-800-972-8825

### ARMY & ARMY RESERVE

Bismarck • 701-223-5455  
Dickinson • 701-227-8669  
Fargo • 701-277-1299  
Grand Forks • 701-772-2171  
Minot • 701-838-7919

### ARMY NATIONAL GUARD

[www.ndguard.com](http://www.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

**ASVAB CAREER  
EXPLORATION PROGRAM**  
Fargo • 701-234-0072 or  
1-800-323-0513

### COAST GUARD

1-800-NOW-USCG  
(1-877-669-8724)  
Fargo • 701-235-0954

### MARINES

1-800-345-8762  
Bismarck • 701-223-3019  
Fargo • 701-277-8403  
Grand Forks • 701-772-3627  
Minot • 701-839-2091

### NAVY

1-800-USA-NAVY  
(1-800-872-6289)  
Bismarck • 701-255-4572  
Fargo • 701-277-1096  
Grand Forks • 701-775-5281  
Minot • 701-838-9612



**PROUD TO SERVE AGAIN**

Attention: Current and former military personnel (Active, 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 or to add endorsements in critical teaching fields. Financial benefits may also be available for current teachers who are redeploying members of the National Guard or Reserves. For further information, consult the Lewis & Clark Region TTT website at [www.montana.edu/ttt](http://www.montana.edu/ttt).

# 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 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 250 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](http://quentinnburdick.jobcorps.gov).

## Career and Technical Training ▶

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

## 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, or visit [quentinnburdick.jobcorps.gov](http://quentinnburdick.jobcorps.gov).

**BELIEVE!**

**ACHIEVE!!**

**SUCCEED!!!**

## ADULT EDUCATION...gives YOU a second chance!



Adult Education promotes and supports free 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 classes provide a second opportunity for adult learners committed to improving their academic and life skills.

### Each Adult Learning Center provides instruction to...

- master basic educational skills in reading, math, computer literacy, science, social studies and language/writing;
- English skills and citizenship preparation;
- prepare for and take the GED exam; and
- workplace and career readiness skills/instruction.



# North Dakota Academic and Career and Technical Education Scholarship Programs

In 2009 the State Legislature showed its support for North Dakota youth by creating the “North Dakota Scholarship Program.” This program rewards high school graduates who meet the specific coursework, grade point average, and test score requirements for either the North Dakota Academic Scholarship or the North Dakota Career and Technical Education Scholarship. Qualified students may be eligible for up to \$6,000 to be used for undergraduate study after graduation from high school. Some of the scholarship eligibility criteria are listed below.

## A STUDENT MUST:

1. be a North Dakota resident
2. graduate from high school in North Dakota or a bordering state
3. have obtained a grade of at least a “C” in each 1/2 unit or unit required for the diploma and scholarship
4. have a cumulative GPA of at least a “B” (3.0) on a 4.0 scale
5. have completed 1 unit of Algebra II and meet other course requirements as specified
6. earn a 24 on the ACT or, for the CTE Scholarship, three 5s on the WorkKeys assessments

## SCHOLARSHIP/S:

7. awards are \$750 per semester or \$1,500 for the academic year
8. may be used at an accredited public or private institution of higher education in North Dakota
9. are renewable provided the student maintains a 2.75 grade point average on a 4.0 scale



To establish eligibility, North Dakota seniors must apply by June 7. Recipients have six years following high school graduation to utilize their scholarship award. Students will need to select their high school coursework carefully in order to meet all the eligibility requirements within the usual 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](http://www.dpi.state.nd.us/resource/act/act.shtm) or call 701-328-2755.

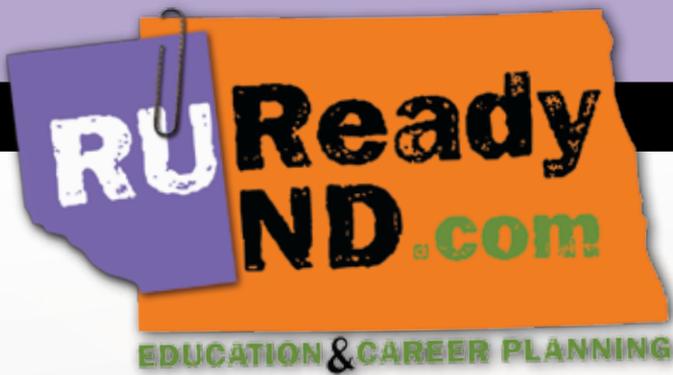
Over the past several years, North Dakota Adult Learning Centers (ALCs) have served between 1,800 to 2,500 students per year. The most recent census data estimates more than 70,000 individuals in North Dakota are without a high school diploma. Approximately 900 additional individuals are added to this list every year as a result of high school dropouts.

According to the US Census, individuals who receive a GED will earn \$9,671 more annually than those who do not. This in turn improves an individual’s economic status, spending patterns and tax contributions. National statistics show that the United States has the strongest economy in the world because of adult education programs. North Dakota needs every able body in the workforce – ALCs can provide a trained worker in a reasonable time that meets the needs of employers.



*Student success is everyone's business*

Visit [www.dpi.state.nd.us/adulted](http://www.dpi.state.nd.us/adulted) for more information. See page 62 for ALCs in your area.



Students ▶

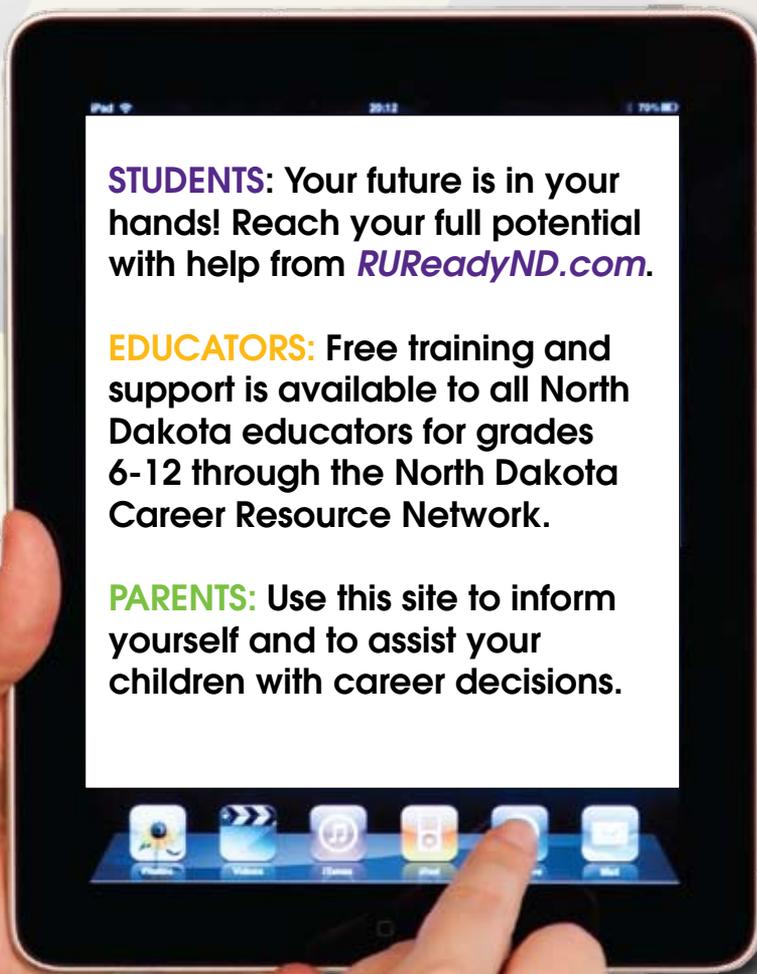
Educators ▶

Parents ▶

## THE PREMIER ONLINE TOOL FOR CAREER EXPLORATION AND PLANNING.

# WHAT CAN YOU DO AT

## RUReadyND.com?



**STUDENTS:** Your future is in your hands! Reach your full potential with help from [RUReadyND.com](http://RUReadyND.com).

**EDUCATORS:** Free training and support is available to all North Dakota educators for grades 6-12 through the North Dakota Career Resource Network.

**PARENTS:** Use this site to inform yourself and to assist your children with career decisions.

### EXPLORE HUNDREDS OF OCCUPATIONS

- What occupations interest me?
- What does a person do in a typical day on the job?
- What are the salary ranges for this occupation?
- Is there a demand for people in this field of work? How many jobs are there going to be?
- What training or education is needed for this type of work?
- What are the latest trends in this occupation?
- Link to current job openings to see what skills employers expect.

### BUILD A MEANINGFUL PLAN TO REALIZE YOUR GOALS

- What courses do I need to succeed?
- Compare your options after high school.
- Create a plan, then create a back-up plan - change it as often as you like.

### RAISE YOUR TEST SCORES

- Improve subject area skills so you achieve higher scores on the ACT, NDSA, and other high stakes tests using testGEAR®.
- Develop test taking skills.
- Complete practice ACT tests.

For more information see your school counselor or visit [www.nd.gov/cte/crn](http://www.nd.gov/cte/crn).



# REALITY CHECK



## What it costs to live on your own

As you start dreaming about your future life and career, you'll need to consider what it will cost to live on your own. The estimated living expenses below show you the basic costs for a 22-year-old living in the United States. Using these figures or those you have adjusted to fit your lifestyle and expenses more accurately, estimate the amount of money you will need to earn each month. Then, look at the occupations in the Occupational Section (pages 16-52) to find occupations that pay enough to meet your basic living expenses and the amount needed for taxes, retirement and insurance.\*

\*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.

### Estimated basic monthly expenses for a 22-year-old living in the United States

Cell Phone:  
\$60-\$80



Household  
Furnishings  
& Equipment:  
\$80-\$100



Car Payment  
(Used):  
\$200-\$300



Rent & Utilities:  
\$600-\$700  
(studio & 1-bed-  
room apartments)

Car  
Insurance &  
Maintenance:  
\$195-\$215



Food: \$350-\$400  
Groceries, fast  
food, & take-out

Entertainment:  
\$135-\$150  
Movies, concerts,  
restaurants, etc.



Clothing &  
Footwear:  
\$60-\$80

Laundry &  
Cleaning  
Supplies:  
\$25-\$50



Health Care:  
\$60-\$80



Gasoline:  
\$150-\$175

**Total: \$1,915 to \$2,330 monthly/\$22,980 to \$27,960 a year**

**Totals do not include saving for retirement or student loan payments**

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](http://www.bls.gov/bls/inflation.htm))

**youth  
FORWARD**  
[www.ndyouthforward.com](http://www.ndyouthforward.com)



**PROMOTING  
NORTH DAKOTA'S  
OPPORTUNITIES**

Youth Forward connects people ages 14-24 to a future in North Dakota by promoting jobs, education, entertainment, and more opportunities for youth.

Visit [NDYouthForward.com](http://NDYouthForward.com) and connect with positive news and opportunities in North Dakota.



/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.

	<b>Activities that describe what I like to do:</b>	<b>Personal qualities that describe me:</b>	<b>School subjects that I like:</b>	<b>Total number checked</b>
<b>1</b>	<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	
<b>2</b>	<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 (stick to it)	<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	
<b>3</b>	<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 (stick with it)	<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	
<b>4</b>	<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	
<b>5</b>	<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	
<b>6</b>	<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	
<b>7</b>	<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	
<b>8</b>	<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	

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

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

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

	Activities that describe what I like to do:	Personal qualities that describe me:	School subjects that I like:	Total number checked <input checked="" type="checkbox"/>
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	
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	
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"/> Logic/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	
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	
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	
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	
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	
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	

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

1	Agriculture, Food & Natural Resources		9	Hospitality & Tourism	
2	Architecture & Construction		10	Human Services	
3	Arts, A/V Technology & Comm.		11	Information Technology	
4	Business Management & Administration		12	Law, Public Safety, Corrections & Security	
5	Education & Training		13	Manufacturing	
6	Finance		14	Marketing	
7	Government & Public Administration		15	Science, Technology, Engineering & Mathematics	
8	Health Science		16	Transportation, Distribution & Logistics	

For more information see your career or school counselor, 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 \$ND Earnings      4 Holland Type  
5 Rating      6 Hiring Practices

Postsecondary Programs – Associate Degree Or Less					
<b>Agriculture</b>	<b>Farmworkers</b> 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	807,000 ↘ 3,596/163 → \$17,200-24,600	Realistic HD	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.
	<b>Landscaping and Groundskeeping Workers</b> Landscape or maintain grounds of 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	1,205,800 → 1,940/67 → \$17,500-27,600	Realistic HD	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.

- 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.
- 2 Related Occupations** - A listing of occupations that are similar in work performed on the job.
- 3 Nat'l Employment ND Employment \$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);      Stable → (0-1.9% per year); and  
Faster than average ↗ (2-3.5% per year);      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 Rating**
- 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.

- 5 Rating**
- HW:** High Wage - North Dakota entry annual salary at least \$45,000.  
**HD:** High Demand - Occupation has a very high number of annual openings and/or is a fast growing occupation in North Dakota.  
**HS:** High Skill - Occupation requires at least one year of post high school education or training.

- 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 RUREadyND.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 2008-2018 North Dakota Employment Projections, 2010 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 and employment numbers were updates using the 2011 Edition of the Wages for North Dakota Jobs and North Dakota Employment and Wages 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.

# Occupational Section Index

Accountants and Auditors .....	26	Diesel Mechanics/Bus and Truck Mechanics (M) .....	51	Interior Designers .....	47	Printing Press Operators (M) .....	24
Administrative Service Managers (M).....	27	Dietetic Technicians .....	34	Janitors and Cleaners .....	26	Process Plant Operator (Chemical Plant and System Operators) .....	44
Agricultural and Food Science Technicians .....	38	Dietitians and Nutritionists (M) .....	35	Land Surveyors (M) .....	23	Property and Real Estate Managers.....	47
Agricultural Inspectors (M).....	19	Dispatchers (M) .....	43	Landscaping and Groundskeeping Workers .....	19	Psychologists (M) .....	39
Air Traffic Control Specialists (M) ..	51	Dispensing Opticians (M) .....	34	Lawyers (M) .....	43	Public Relations and Fundraising Managers.....	27
Aircraft Mechanics (M) .....	51	Drafters (M) .....	22	Legal Assistants (paralegal) (M) .....	43	Public Relations Specialists (M) .....	24
Airplane Pilots (M) .....	52	Drivers, Truck (M) .....	51	Legal Secretaries.....	26		
Architects (M) .....	23	Drywall Installers .....	22	Librarians .....	24	Radio and Television Announcers (M) .....	24
Architects, Landscape .....	23	Education Administrators .....	29	Library Technicians .....	24	Radiologic Technologists (M) .....	35
Auctioneers.....	46	Electric Utility Worker (Electrical Power-Line Installers and Repairers) (M) .....	22	Livestock Sales Representatives ..	19	Real Estate Agents.....	46
Auto Body Repairers (M).....	51			Loan Officers .....	32	Receptionists (M) .....	26
Automotive Service Technicians (M).....	51	Electrical and Electronic Engineering Technicians (M).....	44	Lodging Managers .....	38	Recreation Workers.....	38
		Electricians (M).....	22			Respiratory Therapists (M) .....	35
Bakers (M).....	44	Electro-Mechanical Technicians.....	44	Machinists (M) .....	44	Retail Florist (Floral Designer) .....	46
Barbers .....	46	Emergency Medical Technicians (M).....	34	Maids and Housekeeping Cleaners.....	38	Retail Store Managers (M) .....	46
Bill and Account Collectors .....	32	Energy Industry Manager (Managers of Production and Operating Workers).....	44	Mail Carriers (M) .....	51	Roustabouts .....	19
Biological Technicians and Technologists (M).....	48	Engineers, Agricultural .....	48	Management Analysts.....	27		
Biologists and Zoologists (M).....	20	Engineers, Chemical .....	48	Marketing Managers .....	47	Sales Agent, Advertising.....	47
Bookkeeping and Accounting Clerks (M).....	32	Engineers, Civil (M).....	48	Massage Therapists .....	34	Sales Agents, Securities .....	32
Bricklayers and Stonemasons (M) ..	22	Engineers, Electrical (M) .....	48	Mechanical Engineering Technicians.....	44	Sales Representatives.....	47
Broadcast Technicians (M) .....	24	Engineers, Energy .....	48	Medical and Clinical Laboratory Technicians (M).....	34	Sales Route Drivers.....	47
Bus Drivers (M) .....	51	Engineers, Industrial (M) .....	48	Medical and Clinical Laboratory Technologists (M) .....	35	Salespersons, Parts .....	47
Butchers and Meat Cutters (M) .....	46	Engineers, Mechanical (M).....	49	Medical and Public Health Social Workers.....	39	Salespersons, Retail Trade .....	47
Buyers and Purchasing Agents .....	46	Engineers, Physics Applications .....	49	Medical Assistants (M).....	34	Scientists, Animal.....	20
		Environmental Scientists and Specialists .....	49	Medical Records and Health Information Technicians (M) .....	34	Secretaries, Except Legal, Medical and Executive.....	26
		Excavating and Loading Machine Operators.....	22	Meteorologists (M) .....	49	Security Guards (M) .....	43
		Executive Secretaries and Administrative Assistants (M) .....	26	Network and Computer Systems Administrators .....	41	Self-Enrichment Education Teachers .....	29
		Faculty Members, Colleges and Universities (M).....	29	News Analysts, Reporters and Correspondents (M) .....	24	Sheet Metal Workers (M) .....	23
		Farm and Home Management Advisors .....	29	Nuclear Operator (non-licensed) .....	19	Simulator Maintenance Technician (M) .....	48
		Farm Equipment Mechanics.....	51	Nurse Practitioners (M) .....	35	Small Engine Mechanics (M) .....	51
		Farmers and Ranchers.....	19	Nursery and Greenhouse Managers.....	19	Social and Community Service Managers.....	33
		Farmworkers.....	19	Nurses Aides, Orderlies, including Cert. Nurse Aide (M).....	35	Social and Human Service Assistants .....	39
		Financial Managers .....	32	Nurses, Licensed Practical (M).....	35	Social Workers (M) .....	39
		Fire Chiefs (M) .....	43	Nurses, Registered (M) .....	35	Software Developers, Applications (M) .....	41
		Fire Fighters (M) .....	43	Occupational Therapists (M).....	36	Soil and Plant Scientists .....	20
		Flight Attendants, Airplane (M).....	51	Occupational Therapy Assistants (M).....	35	Speech-Language Pathologists (M) .....	36
		Food Services Managers (M).....	38	Office Managers (M) .....	26	Stationary Engineers (M).....	23
		Forest and Conservation Technicians.....	19	Operating Engineers/Construction Equipment Operators (M) .....	22	Structural Metal Workers .....	23
		Funeral Service Directors, Morticians and Undertakers.....	46	Optometrists (M).....	36	Surgical Technologists (M).....	35
						Surveying and Mapping Technicians (M).....	48
		Gaming Dealers .....	38	Personal and Home Care Aides .....	39	System Operator (Power Distributors and Dispatchers).....	20
		Grain Elevator Superintendents .....	19	Pharmacists (M).....	36		
		Graphic Designers (M) .....	24	Pharmacy Technicians (M).....	35	Teacher Assistants .....	29
				Photographers (M).....	24	Teachers, Career and Technical Education Secondary School.....	29
		Health Services Managers (M).....	35	Physical Therapists (M).....	36	Teachers, Elementary .....	29
		Health Unit Coordinators (M).....	34	Physical Therapy Aides and Assistants (M).....	35	Teachers, Secondary.....	29
		Heating and Air Conditioning Mechanics (M) .....	22	Physician Assistants (M).....	36	Teachers, Special Education .....	29
		Heavy Equipment Mechanics (M) ..	51	Physicians (M) .....	36	Telecommunications Line Installers and Repairers (M).....	24
		Home Health Aides .....	34	Plumbers and Pipefitters (M) .....	23	Tellers.....	32
		Hosts and Hostesses .....	38	Police and Sheriff's Patrol Officers .....	43	Tool and Die Makers (M) .....	45
		Hotel Desk Clerks (M) .....	38	Police Chiefs (M) .....	43	Training and Development Specialists .....	27
		Human Resources Managers (M) ..	27	Postmasters (M) .....	51		
				Power Plant Operators (M) .....	19	Veterinarians (M).....	36
		Industrial Machinery Mechanics and Maintenance Workers .....	44	Prepress Occupations (M) .....	24	Veterinary Technicians and Technologists .....	36
		Information Security Analysts.....	41	Preschool Teachers: Except Special Ed.....	29		
		Inspectors and Compliance Officers except Construction and Agriculture (M) .....	33			Writers and Waitresses .....	38
		Instructors, Sports {Coaches} (M) ..	38			Water Treatment Plant Operators (M) .....	20
		Insurance Sales Agents .....	32			Welders and Cutters (M) .....	45
						Writers and Editors (M) .....	24



# 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 table 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:

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

<b>BJCC</b>	Burdick Job Corps Center
<b>BSC</b>	Bismarck State College
<b>CCCC</b>	Cankdeska Cikana Community College
<b>DCB</b>	Dakota College at Bottineau
<b>DSU</b>	Dickinson State University
<b>EATC</b>	Executive Air Taxi Corporation
<b>FBCC</b>	Fort Berthold Community College
<b>FFS</b>	Fargo Flight School
<b>GFKFS</b>	GFK Flight Support
<b>HAHD</b>	Headquarters Academy of Hair Design
<b>JC</b>	Jamestown College
<b>JSHDF</b>	Josef's School of Hair Design Fargo
<b>JSHDGF</b>	Josef's School of Hair Design Grand Forks
<b>JZT</b>	JZ Trend Academy
<b>LRSC</b>	Lake Region State College
<b>LW</b>	Lynnes Welding
<b>MIL</b>	Military
<b>MaSU</b>	Mayville State University

<b>MBC</b>	Moler Barber College
<b>MiSU</b>	Minot State University
<b>MOCN</b>	Medcenter One College of Nursing
<b>NDSCS</b>	North Dakota State College of Science
<b>NDSU</b>	North Dakota State University
<b>PARR</b>	Pietsch Aircraft and Restoration
<b>RCB</b>	Rasmussen College Bismarck
<b>RCF</b>	Rasmussen College Fargo
<b>SBC</b>	Sitting Bull College
<b>TBC</b>	Trinity Bible College
<b>THA</b>	The Hair Academy
<b>TMCC</b>	Turtle Mountain Community College
<b>TSPA</b>	The Salon Professional Academy
<b>UM</b>	University of Mary
<b>UND</b>	University of North Dakota
<b>UTTC</b>	United Tribes Technical College
<b>VCSU</b>	Valley City State University
<b>WSC</b>	Williston State College

# 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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Agricultural Inspectors (M)</b> Inspect agricultural commodities, processing equipment, and facilities, and fish and logging operations, to ensure compliance with regulations and laws governing health, quality, and safety.	Consumer Safety Inspectors, Food and Drug Inspectors	16,600 ↘ 90/4 → \$21,700-39,700	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.
<b>Farmers and Ranchers</b> 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 Manwager	985,900 ↘ 26,900/164 ↘ \$NA-NA	Realistic HD HS	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.
<b>Farmworkers</b> 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	807,000↘ 3,596/163→ \$17,200-24,600	Realistic HD	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.
<b>Forest and Conservation Technicians</b> 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	34,000 → 180/10 → \$29,800-43,300	Realistic HS	Most employers require career and technical education training. Must like working outdoors. Hired by the federal, state, or local government.
<b>Grain Elevator Superintendents</b> Coordinate and supervise workers in loading, storing, unloading, cleaning, and blending grains for milling and shipment. Inspect grain.	Purchasing Agents, Grain Buyers	14,100 ↘ 360/7 → \$43,900-66,000	Enterprising HS	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.
<b>Landscaping and Groundskeeping Workers</b> Landscape or maintain grounds of 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	1,205,800 → 1,940/67 → \$17,500-27,600	Realistic HD	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.
<b>Livestock Sales Representatives</b> 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	NA N/A/N/A \$N/A-N/A	Enterprising HS	Training ranges from a high school diploma to a bachelors degree. Experience working with cattle and knowledge of various breeds necessary. Good communication skills essential.
<b>Nuclear Operator (non-licensed)</b> 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	6,000 → NA/NA → \$54,600-100,300(US)	Realistic HW HS	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.
<b>Nursery and Greenhouse Managers</b> 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	217,900 → 240/10 → \$28,100-49,900	Enterprising HS	Training is available on the job or through a career and technical education program. Knowledge of horticulture important. Must like working outdoors.
<b>Power Plant Operators (M)</b> Control, operate or maintain machinery to generate electrical power.	Boiler Operators, Stationary Engineers, Water Treatment Plant Operators	35,400 → 140/NA → \$56,300-70,700	Realistic HW HS	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.
<b>Roustabouts</b> 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	65,700 ↑ 1,162/79 ↑ \$33,700-49,600	Realistic HD HS	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.

# AGRICULTURE, FOOD & NATURAL RESOURCES

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment \$ND Earnings	Holland Type Rating	Hiring Practices
<b>System Operator (Power Distributors and Dispatchers)</b> Control the flow of power on the grid, ensure safe and reliable power is delivered to customers.	Transmission Operator, Transmission System Operator, Generation Coordinator	10,000 → NA/NA → \$46,100-89,500 (US)	Realistic HW HS	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.
<b>Water Treatment Plant Operators (M)</b> 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	113,400 → 440/21 → \$26,400-43,800	Realistic HD 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.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Biologists and Zoologists (M)</b> 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	19,500 → 90/3 → \$44,300-64,300	Investigative HS	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 doctoral is generally required for college teaching and independent research.
<b>Conservation Scientists</b> 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	18,300 → 180/NA → \$42,200-73,400	Investigative HS	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.
<b>Scientists, Animal</b> 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	4,000 → NA/NA \$31,700-107,700 (US)	Investigative HS	A bachelor's degree is required; a master's or doctoral for advancement and administrative positions. Ability to work independently and communicate effectively essential. May be hired by private or government sector.
<b>Soil and Plant Scientists</b> 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. May classify and map soils and investigate effects of alternative practices on soil and crop productivity.	Biochemists, Life Scientists, Foresters, Plant Physiologist, Environmental Scientist	13,900 → 140/7 → \$39,300-66,800	Investigative HS	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.

	BJCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RGB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC
--	------	-----	------	-----	-----	------	------	-----	------	------	----	-------	-------	-----	------	----	-----	------	-----	------	------	-------	------	------	-----	-----	-----	-----	-----	------	------	----	-----	------	------	-----

AGRICULTURE, FOOD & NATURAL RESOURCES	BJCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RGB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC		
Agribusiness and 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	4														A	
Agriculture Sales & Service/Ag Industry & Technology		2			2		1-2																															
Agronomy Technician																																					C	
Animal & Range Sciences																							4G														A	
Animal Health Management																							C															
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																																		G				
Energy Management		4*																																				
Engineering, Environmental																	M						G											G*				
Entomology																								G														
Environmental & Conservation Science							2A																G														A	
Environmental Geoscience																	M																4					
Environmental Technology/Lab & Field Tech				2																																		

# AGRICULTURE, FOOD & NATURAL RESOURCES

	BICC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC	
<b>AGRICULTURE, FOOD &amp; NATURAL RESOURCES</b>																																					
Environmental Technology/Science				2	4																																
Environmental Technology/Water Management				2																																	
Equine Studies																							C,4			1											
Flowershop & Greenhouse Technology				1													M																				
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				2													M																				
Greenhouse Technology				1-2*																																	
Landscape Design/Technology				1-2*													M																				
Turf Management				2																			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*																																	
Urban Forestry Technology				1-2*																																	
Veterinary Technology																							4													A	
Water Quality Technology				1													M																				
Wildlife & Fisheries Technology/Science				2													M																		4		
Zoology																							4G														

## NOTES

# ARCHITECTURE & CONSTRUCTION



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

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Bricklayers and Stonemasons (M)</b> 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	135,800 → 180/12 → \$39,500-57,200	Realistic HS	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.
<b>Carpenters (M)</b> 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	1,284,900 → 2,820/84 → \$24,600-37,400	Realistic HD 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.
<b>Construction Laborers</b> 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	1,248,700 ↗ 2,490/75 → \$23,100-32,900	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.
<b>Construction Managers</b> 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	551,000 → 530/21 → \$52,200-105,700	Enterprising HD HW HS	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.
<b>Drafters (M)</b> 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	230,700 ↘ 484/16 → \$27,700-46,200	Realistic HS	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.
<b>Drywall Installers</b> 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	153,300 → 190/9 → \$25,300-41,300	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.
<b>Electric Utility Worker (Electrical Power-Line Installers and Repairers) (M)</b> Inspect, operate and repair electrical equipment in substations, in-service relays, and with distribution systems.	Transmission Designer, Lineworker, Relay Apparatus Technician, Substation Electrician Technician, System Protection Technician, Substation Operator, Metering Technician	113,900 → 740/6 → \$42,100-66,600	Realistic HD HS	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.
<b>Electricians (M)</b> 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	694,900 → 2,020/82 → \$31,700-54,500	Realistic HD HS	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.
<b>Excavating and Loading Machine Operators</b> Operate or tend machinery equipped with scoops, shovels or buckets to excavate and load loose materials.	Maintenance Mechanics, Truck Drivers, Operating Engineers	75,700 → 450/NA → \$30,800-53,200	Realistic	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.
<b>Heating and Air Conditioning Mechanics (M)</b> Install or repair heating, central air conditioning or refrigeration systems, including oil burners, hot-air furnace and heating stoves.	Boilmakers, Electrical Appliance Servicers, Plumbers, Sheet Metal Workers	308,200 ↗ 400/32 ↗ \$32,800-50,900	Realistic HD HS	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.
<b>Operating Engineers/Construction Equipment Operators (M)</b> Operate construction equipment, such as graders, bulldozers, scrapers, pumps, derricks and front-end loaders.	Mining Machine Operators, Truck Drivers	424,200 → 2,210/75 → \$32,600-55,800	Realistic HD HS	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.



# 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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Broadcast Technicians (M)</b> Operates and maintains radio transmitter to broadcast radio and television programs. Monitors signal transmission. Test, repair, and maintain broadcast equipment.	Engineering Technicians, Electronic Technologist	38,800 → 164/5 ↓ \$18,100-40,900	Realistic HS	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.
<b>Library Technicians</b> 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	120,600 → 297/13 → \$17,100-30,200	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.
<b>Photographers (M)</b> 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	152,000 → 346/10 → \$19,100-36,800	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.
<b>Prepress Occupations (M)</b> 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	61,200 ↓ 154/2 ↓ \$15,900-29,600	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.
<b>Printing Press Operators (M)</b> Set up or operate various types of printing machines, such as offset, letterset, or screen printers to print on paper or other materials.	Photoengravers, Electrotypes, Pre-Press Occupations	195,600 ↓ 241/6 → \$22,100-39,000	Realistic	Mechanical aptitude is important in making machine adjustments. Ability to visualize color is essential for work on color presses.
<b>Radio and Television Announcers (M)</b> Introduce various types of programs. Interview guests. Act as a master of ceremonies. Read news bulletins and make other announcements. Broadcast weather, traffic conditions, and other information.	Sportscasters, Narrators, Disc Jockey	55,100 ↓ 320/12 ↓ \$17,700-33,200	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.
<b>Telecommunications Line Installers and Repairers (M)</b> 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	171,000 → 320/5 ↓ \$36,500-60,000	Realistic HS	Good eyesight and color discrimination necessary. Mechanical, electronic, and computer background essential. Most are hired by telephone and cable TV companies.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Graphic Designers (M)</b> 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	286,100 → 624/24 → \$25,100-40,000	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.
<b>Librarians</b> 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	158,400 → 450/13 → \$29,500-50,800	Artistic HS	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.
<b>News Analysts, Reporters and Correspondents (M)</b> 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	61,600 ↓ 170/7 ↓ \$17,350-31,000	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.
<b>Public Relations Specialists (M)</b> 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	275,200 ↗ 410/21 ↗ \$30,500-52,400	Enterprising HD HS	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.
<b>Writers and Editors (M)</b> 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	330,200 → 399/12 → \$24,900-40,100	Artistic HS	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

BJCC BSC CCCC DCB DSU EATC FBCC FFS GFKFS HAHD JC JSHDF JSHDF JZT LRSC LW MIL MaSU MBC MiSU MOCN NDSCS NDSU PARR RCB RCF SBC TBC THA TMCC TSPA UM UND UTTC VCSU WSC

## ARTS, A/V TECHNOLOGY & COMMUNICATIONS

	BJCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MiSU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC		
<b>ART</b>																																						
Art			2	A	4						4							A	4			4												2	4			
Art Entrepreneurship					4						4																											
Art, Commercial		1-2																																				
Arts, Visual											4																							4G				
Interior Design																							4															
Mass Communication											4																					4						
Music					4						4									4		A	4G				2,4				4	4G		4	A			
Music Management																																		4				
Musical Theatre																																	4					
Theater Arts					4						4									4			4G									4G						
<b>COMMUNICATION</b>																																						
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												4															
Public History																							4															
Public Relations and Advertising																							4															
Web Development																					C																	
Writing & Editing																																		C				
<b>AUDIO/VIDEO TECHNOLOGY</b>																																						
Desktop & Web Publishing																						C																
Graphic Design Technology/New Art Media			2		1-2																	4	4		2							4						
Information Processing		1-2												1-2								2														1-2		
Library and Information Technologies																																			6			
Public Relations and Advertising																							4															
Webmaster/Web Designer		1-2		1-2																		4	1-2	4												1-2		

## NOTES

# 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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Clerks, General Office (M)</b> 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	3,024,400 → 9,670/245 → \$17,200-27,300	Conventional HD	A high school diploma is usually required. Employers require typing, word processing, and other general office skills.
<b>Clerks, Shipping and Receiving (M)</b> 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	750,500 ↓ 1,110/37 ↓ \$19,900-33,600	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.
<b>Customer Service Representatives</b> Interact with customers to provide information in response to inquiries about products and services and to handle and resolve complaints.	Retail Salespersons; Wholesale Sales Representative	2,252,400 → 5,090/303 ↗ \$20,900-33,500	Conventional HD	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.
<b>Executive Secretaries and Administrative Assistants (M)</b> 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	1,594,400 → 3,170/105 → \$27,200-43,200	Conventional HD	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.
<b>Janitors and Cleaners</b> Keep buildings in clean and orderly condition. Clean floors, shampoo rugs, washing windows.	Window Cleaners, Hotel Maids, Gardeners	2,375,300 → 6,710/157 → \$17,500-27,400	Realistic HD	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.
<b>Legal Secretaries</b> 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	262,699 → 580/9 → \$25,000-35,300	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.
<b>Medical Secretaries</b> 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	471,100 ↗ 650/26 → \$21,900-31,400	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.
<b>Office Managers (M)</b> Supervise and coordinate the activities of clerical and administrative support workers.	Department Store Managers, Sales Managers, Food Service Managers	1,457,200 → 2,670/107 → \$29,300-49,300	Enterprising HS	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. Promotion within the company is common.
<b>Receptionists (M)</b> 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	1,139,200 → 2,700/103 → \$18,600-26,100	Conventional HD	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.
<b>Secretaries, Except Legal, Medical and Executive</b> 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	2,020,000 → 3,060/55 ↓ \$23,500-33,800	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.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Accountants and Auditors</b> 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	1,290,600 ↗ 2,660/110 ↗ \$35,000-60,900	Conventional HD HS	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 (CPAs).



# BUSINESS MANAGEMENT & ADMINISTRATION

	BICC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC
<b>BUSINESS MANAGEMENT AND ADMINISTRATION</b>																																				
Knowledge Management																					C															
Management										4													4								4					
Management Information Systems/ Information Tech							1-2			4				1-2					4			A	4								4	4			1-2	
Managerial Finance & Accounting										4													4										4			
Marketing										4																					4G				2	
Marketing & Sales																									2*											
Marketing Management			2A												A				4			2	C										4			
Medical Secretary	1		2*			1-2											M		2*			2														
Merchandising																							C,G												C	
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														2	4			
Statistics																							C,4G													
Virtual Business																				4																
<b>GOVERNMENT AND PUBLIC</b>																																				
Caregiver Services				1-2*																																
Community Management/Development																							G													
Eligibility Worker		C																																		
Human Services		2																							2*											
Nonprofit Leadership																																		C		
Public Administration						2									A		M																C,4G		A	
Public Health																							C,G													

## NOTES

# 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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Self-Enrichment Education Teachers</b> 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	253,600 ↗ 150/7 ↗ \$16,700-36,100	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.
<b>Teacher Assistants</b> Perform duties that are instructional in nature or deliver direct services to students or parents. Serve in a position for which a teacher or another professional has ultimate responsibility for the design and implementation of educational programs and services.	Child Care Attendants, Home Health Aides, Librarian Attendants	1,312,700 → 4,380/85 → \$19,400-28,300	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.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Counselors, Education and Vocational (M)</b> Counsel individuals and provide group educational and career guidance services.	Clinical Psychologists, School Social Workers, Employment Counselors	275,800 → 690/23 → \$33,600-55,400	Social HS	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.
<b>Education Administrators</b> 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	414,100 → 600/24 → \$44,800-71,500	Social HS	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.
<b>Faculty Members, Colleges and Universities (M)</b> 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	1,699,200 ↗ 3875/143 ↗ \$36,665-65,800	Investigative HS	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.
<b>Farm and Home Management Advisors</b> Advise, instruct, and assist individuals and families engaged in agriculture, agricultural-related processes, or home economics activities. Includes county agricultural agents, home economists, and extension service advisors.	Adult and Career and Technical Education Teachers, Plant Physiologists	13,100 → 130/3 ↘ \$27,500-51,100	Social HS	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.
<b>Preschool Teachers: Except Special Ed</b> 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	457,200 → 526/19 → \$21,300-31,100	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.
<b>Teachers, Career and Technical Education Secondary School</b> Teach or instruct technical subjects at the secondary school level.	Secondary Teachers, Vocational Counselors, Software Trainer	99,400 ↘ 490/17 → \$30,500-48,500	Social HS	Educational requirements may vary from apprenticeship to college training depending upon on 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.
<b>Teachers, Elementary</b> Teach pupils in public or private schools at the elementary level - basic academic, social and other formative skills.	High School Teachers, Counselors, Personnel Managers	1,549,500 → 5,480/173 → \$32,200-48,200	Social HS	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.
<b>Teachers, Secondary</b> 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	1,087,700 → 2,780/88 → \$31,900-45,900	Social HD HS	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.
<b>Teachers, Special Education</b> 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	473,000 → 1250/50 → \$34,900-52,000	Social HD HS	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

	BJCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC
<b>EDUCATION &amp; TRAINING</b>																																				
<b>EDUCATION</b>																																				
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	
Digital Enterprise																								C												
Education											4				A					G		A	4G				4						4G	4	A	
Education Foundation & Research																																		G		
Education, Ag																							4G													
Education, Art						4															4															4
Education, Biological Sciences																								4										4		
Education, Business						4									A					4		A											4	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							2				4																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	A	
Education, English					4						4							4	4G					4								4			4*	
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					4					A			4	4					4							4				4*	
Education, Industrial Arts/Technology																																	4		4	
Education, Life & Physical Sciences						4												4	4G					4										4	4	
Education, Mathematics					A	4					4							4*	4G					4									4	4	4	
Education, Middle/High Level					A						4																							4		A
Education, Music						4					4									4G				4									4	G	4	
Education, Physical						4					4				A			4	4					4				4					4		4	A
Education, Reading																																		G	G	
Education, Science																																4				
Education, Social Science/Social Studies						4*	A				4							4	4					4									4	4	4	
Education, Speech and Theater						4																												4		
Education, Technology						4																												G		4G
Education, Vocational-Technical																																				4
eLearning																																			C*	
English											4																						4			
English Language Learners																																			G*	G*
English/Practical Writing/Rhetoric, Writing, Culture						A	4								A			4	4					4G									4G	4	A	
Food and Nutrition/Community Nutrition																																		4		
General Studies						2	A	4										4	4		A	4						2,4*				4	4	4	A	
Health Ed/Community; School																								4												
Humanities																																				
K-12 Technology Integration ITD																																			G,C	
Language, Foreign & Classical						4					4									4				4									4		4	
Library and Information Technologies																																				G
Linguistics																																			G	



# FINANCE



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

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Bill and Account Collectors</b> 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	411,000 → 709/23 → \$21,600-32,600	Conventional HD	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.
<b>Bookkeeping and Accounting Clerks (M)</b> 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	2,063,800 → 6,830/166 → \$23,100-35,900	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.
<b>Claims Adjusters, Examiners, Investigators</b> 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	294,600 → 870/47 → \$33,500-57,700	Conventional HD HS	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.
<b>Tellers</b> 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	600,500 → 2,400/146 → \$19,700-26,000	Conventional HD	Chances of employment may be enhanced through career and technical education training and on-the-job training.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Financial Managers</b> 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	539,300 → 1,120/37 → \$54,900-108,200	Enterprising HD HW HS	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.
<b>Insurance Sales Agents</b> Sell life, casualty, health, automotive or other types of insurance.	Real Estate Agents, Securities Sales Workers, Financial Advisors	434,800 → 1,010/79 → \$30,800-98,800	Enterprising HD HS	Some employers prefer applicants with formal training and experience; however, others will train on the job. Must display sales and leadership. License required.
<b>Loan Officers</b> 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	327,800 → 1,150/36 → \$38,400-66,600	Enterprising HD HS	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.
<b>Sales Agents, Securities</b> Buy and sell stocks and bonds based on customers' orders. Give advice and furnish client with information regarding possible purchases, market conditions, and prospects.	Commodities Brokers, Insurance Agents, Real Estate Agents	317,200 ↗ 220/21 → \$32,500-95,200	Enterprising HD HS	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	CCGC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UND	UTTC	VCSU	WSC	
<b>FINANCE</b>																																						
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		A	C		2*								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															A							A	C											4				
Financial Accounting																									2*													
Financial Investigation																									2*													
Investments																								4														
Managerial Finance and Accounting										4													4						2					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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Inspectors and Compliance Officers except Construction and Agriculture (M)</b> 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	260,200 ↗ 740/31 ↗ \$36,400-63,200	Conventional  HS	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.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Social and Community Service Managers</b> 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	130,600 → 530/18 → \$36,000-58,700	Social  HS	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

# 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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Cardiovascular Technologists (M)</b> 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	49,500 ↗ 70/3 ↗ \$28,400-49,200	Investigative HS	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.
<b>Dental Assistants (M)</b> Assist dentist, set up patient and equipment and keep records.	Medical Assistants, Optometric Assistants, Chiropractor Assistants	295,300 ↗ 595/24 ↗ \$27,800-36,400	Social HD	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.
<b>Dental Hygienists (M)</b> Clean teeth and examine oral areas, head and neck for signs of oral disease.	Dental Assistants, Nurses, Radiological Technologists	174,100 ↑ 553/24 ↗ \$41,700-63,200	Social HD HW HS	Must be a graduate of an approved training program. License required. Hired by dental offices, public health offices, hospitals or clinics.
<b>Dietetic Technicians</b> Assist dietitians in the providing of food service and nutritional programs.	Dieticians, Home Economist, Food Service Managers	25,200 → 102/4 → \$20,900-29,800	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.
<b>Dispensing Opticians (M)</b> 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	59,800 → 360/10 → \$21,400-31,100	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.
<b>Emergency Medical Technicians (M)</b> 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	210,700 → 620/16 → \$17,800-35,700	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.
<b>Health Unit Coordinators (M)</b> 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	483,600 ↗ 370/21 ↗ \$21,900-30,200	Conventional HD	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.
<b>Home Health Aides</b> 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	921,700 ↑ 1,950/88 ↗ \$18,900-26,700	Social HD	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.
<b>Massage Therapists</b> 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	122,400 ↗ 270/6 → \$16,700-38,200	Social HS	750 hours of instruction from an accredited massage therapy school. License required.
<b>Medical and Clinical Laboratory Technicians (M)</b> 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	155,600 → 500/14 → \$24,000-38,400	Investigative HD 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.
<b>Medical Assistants (M)</b> 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	483,600 ↗ 583/21 ↗ \$21,900-30,200	Social HD	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.
<b>Medical Records and Health Information Technicians (M)</b> 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	172,500 ↗ 515/19 → \$23,100-34,500	Conventional HD HS	Work in hospitals, clinics, nursing homes, or other related institutions. Employers prefer graduates of a two-year associate's degree or vocational program.
<b>Medical Transcriptionists (M)</b> 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	105,200 ↑ 620/13 → \$23,200-34,500	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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Nurses Aides, Orderlies, including Cert. Nurse Aide (M)</b> 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	1,469,800 → 6,520/166 → \$21,000-27,100	Social HD 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.
<b>Nurses, Licensed Practical (M)</b> 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	753,600 ↗ 3,280/152 → \$29,400-38,300	Social HD 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.
<b>Nurses, Registered (M)</b> Assess patient health problems and needs, develop and implement nursing care plans and maintain medical records. Administer nursing care to ill, injured, convalescent or disabled patients. May specialize in areas as profusionist, nurse anesthetist and other areas.	Occupational Therapists, Physical Therapists, Physician Assistants	2,618,700 ↗ 6,880/248 ↗ \$40,000-65,500	Social HD HS	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.
<b>Occupational Therapy Assistants (M)</b> Assist occupational therapists in providing occupational therapy treatments and procedures.	Physical Therapist Assistants, Occupational Therapists	26,600 ↗ 90/2 → \$32,400-45,400	Social HS	An associate's degree is required. Must write a proficiency exam. Must be able to work with people. Hired by hospitals, schools, private agencies.
<b>Pharmacy Technicians (M)</b> Prepare medications under the direction of a pharmacist.	Dental Assistant, Certified Nurse Aide, Surgical Technician	326,300 ↗ 670/28 ↗ \$25,400-35,000	Conventional HD HS	Two-year degree in pharmacy technology.
<b>Physical Therapy Aides and Assistants (M)</b> Assist physical therapists in providing physical therapy treatments and procedures.	Occupational Therapy assistants, Physical Therapists	109,900 ↗ 242/7 → \$24,800-35,800	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.
<b>Radiologic Technologists (M)</b> 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	214,700 → 487/14 → \$33,800-50,700	Realistic HD HS	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.
<b>Respiratory Therapists (M)</b> Following a doctor's orders, administers treatment to patients suffering from asthma, emphysema, drowning, stroke, etc. Use special equipment such as ventilators and breathing machines to restore and aid in breathing. Instruct patients in performing breathing exercises.	Dialysis Technicians, Licensed Practical Nurses	105,900 ↗ 210/9 ↗ \$37,300-47,300	Investigative HD HS	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.
<b>Surgical Technologists (M)</b> Assist in operations, under supervision of surgeons, registered nurses or other surgical personnel.	Licensed Practical Nurses, Medical Assistants, Certified Nurses Aides	91,500 ↗ 240/10 ↗ \$28,200-37,500	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.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Chiropractors</b> 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	49,100 → 110/5 → \$38,900-111,900	Investigative HS	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.
<b>Dentists (M)</b> Diagnose and treat diseases, injuries and malformations of teeth, gums and related oral structures.	Psychologist, Optometrists, Physicians, Veterinarians, Podiatrists	120,200 → 170/10 → \$111,800-238,800	Investigative HW 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.
<b>Dietitians and Nutritionists (M)</b> Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease.	Food Technologists, Home Economists, Food Service Managers, Dietetics Assistant	60,300 → 210/9 → \$37,900-52,900	Investigative HS	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.
<b>Health Services Managers (M)</b> 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	283,500 ↗ 650/20 → \$51,500-82,900	Enterprising HD HW HS	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.
<b>Medical and Clinical Laboratory Technologists (M)</b> Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff.	Biologist, Chemical Laboratory Technicians, Criminologists	172,400 → 539/16 → \$38,500-53,200	Investigative HD HS	A bachelor's degree is the minimum requirement. Accuracy, dependability and the ability to work under pressure necessary. May supervise work of medical laboratory technicians. Certification required.
<b>Nurse Practitioners (M)</b> Provide specialized nursing care and treatment. Perform physical examinations and preventive health measures within prescribed guidelines. May evaluate tests, recommend other therapies and treatments. Most work directly with a physician, but may be employed by health department or other agencies.	Physician Assistants, Registered Nurses, Nurse Anesthetist	49,000 NA/NA \$NA-NA	Social HD HW HS	One-year continuing education program or master's level program. A preceptorship with a practicing physician may be required. Must pass a certification examination in order to be eligible for advanced license. Most work in specialized areas such as pediatrics or orthopedics or work in general physician offices.

# HEALTH SCIENCE

<b>Occupational Therapists (M)</b> Assess, plan, organize and participate in rehabilitative programs that help restore vocational, homemaking and daily living skills, as well as general independence, to disabled persons.	Physical Therapists, Music Therapists, Occupational Therapy Assistants	104,500 ↗ 350/8 → \$40,800-63,900	Social HS	May work in hospitals, nursing homes, rehabilitation institutions, schools and other related sites. OT graduates complete a master's degree. License required.
<b>Optometrists (M)</b> Diagnose, manage, and treat conditions and diseases of the human eye and visual system. Examine eyes and visual system, diagnose problems or impairments, prescribe corrective lenses, and provide treatment.	Chiropractors, Dentists, Physicians, Nurse Practitioner	34,800 ↗ 119/6 → \$48,800-132,500	Investigative HW HS	A bachelor's degree plus two-three years of pre-optometric study required. Business ability and self-discipline are necessary, as well as ability to deal with people. High aptitude in science and math. Most are self-employed.
<b>Pharmacists (M)</b> Dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medication and their use.	Pharmacologist, Pharmaceutical Chemist, Pharmaceutical Bacteriologist	269,900 → 876/35 → \$71,400-113,900	Investigative HD HW HS	A five-year program of study required. Employers may require completion of a residency program at an accredited hospital or several years of experience. Willingness to work evenings and weekends necessary. License required.
<b>Physical Therapists (M)</b> Assess, plan, organize and participate in rehabilitative programs that improve mobility, relieve pain, increase strength and decrease or prevent deformity of patients suffering from disease or injury.	Occupational Therapists, Orthotists, Prosthetists, Physical Therapy Assistants	185,500 ↗ 540/13 → \$47,400-70,000	Social HD HW HS	A bachelor's degree is required; however, master's degrees are becoming increasingly important. Hired by medical care facilities, schools, and other related facilities. To be licensed in ND, must be a graduate of an accredited PT program and pass the licensure exam.
<b>Physician Assistants (M)</b> Provide healthcare services typically performed by a physician, under the supervision of a physician. Conduct complete physicals, provide treatment and counsel patients.	Registered Nurse, Nurse Practitioner, Physical Therapist	74,800 ↑ 309/14 ↗ \$61,800-88,000	Investigative HD HW HS	Must have worked at least four years as a registered nurse to enter the training program. Work in health facilities. Ability to work with people essential. License required.
<b>Physicians (M)</b> Diagnose, treat and help prevent diseases and injuries that commonly occur in the general population. May specialize in specific areas of medicine.	Dentists, Optometrists, Chiropractors, Veterinarians	661,400 ↗ 1020/27 → \$106,200-224,300	Investigative HW HS	Cost of schooling can be extremely high. Must exercise good judgment and act quickly. High aptitude in sciences and math necessary. License required.
<b>Speech-Language Pathologists (M)</b> Assess and treat patients with speech, language, voice and fluency disorders.	Occupational Therapists, Physical Therapists, Physical Therapists	119,300 → 450/9 → \$39,100-47,300	Social HS	Master's degree is required by many employers. May work in hospitals, nursing homes, schools, or private practice. Must be able to work with people in an encouraging manner. Patience and persistence advantageous qualities.
<b>Veterinarians (M)</b> Diagnose and treat diseases and dysfunctions of animals. May engage in a particular function, such as research and development, consultation, technical writing, sale or production of commercial products or rendering technical services.	Dentists, Optometrists, Physicians, Animal Health Technologist	59,700 ↗ 120/7 ↗ \$53,300-79,300	Investigative HW HS	Two-years of pre-veterinary study and a four-year professional degree essential. May choose to work with small animals (cats, dogs, etc.) or large animals (cows, pigs, horses, etc.). High aptitude in sciences and math. License required.
<b>Veterinary Technicians and Technologists</b> 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 such as urinalysis and blood counts.	Registered Nurses, Surgical Technicians, Medical Technologists, Medical Assistants	79,600 ↑ 190/9 ↗ \$23,900-31,900	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.

	B/JCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC
--	-------	-----	------	-----	-----	------	------	-----	-------	------	----	-------	-------	-----	------	----	-----	------	-----	------	------	-------	------	------	-----	-----	-----	-----	-----	------	------	----	-----	------	------	-----

## HEALTH SCIENCE

	B/JCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC		
Addiction Studies							2				4										4*																A	
Administrative Assistant/Health Information Management																						A							1-2								1-2*	
Administrative Assistant/Medical	1	1-2		2*			2														2*	A*			2*	2*												
Advanced Nursing Practice																							G															
Athletic Training/Corporate Fitness/Human Performance & Fitness																				4		A	4G*										4	4			A	
Behavioral Statistics																							4															
Caregiver Services				1-2*																																		
Child Daycare Provider																													1-2									
Child Development & Family Science																							4G*															
Clinical Lab Science		2A									4								4*	4		A											4					
Clinical Laboratory Science											4						M			4			4									4	C,4G					
Clinical Laboratory Technician		2A															M								2													
Communication Sciences & Disorders																																	4G			A		
Communications, Health/Agriculture/Management																							4															
Community Health																																			2			

# HEALTH SCIENCE

	BJCC	BSC	CCCG	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC	
<b>HEALTH SCIENCE</b>																																					
Conflict Transformation																																				C	
Couple and Family Therapy																							4G													4	
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																							C														
Health Administration											4														2*								G	C			
Health Information Technology																																			2		
Health Information/Technician/Management	1-2																M					2*		2*	2*											1-2	
Health Science				A											A																				4		
Histotechnician																																		C			
Massage Therapy													1																		1					1-2*	
Medical Assistant		2*	1-2	2*												M																					
Medical Coding	1			1*																			1*													1*	
Medical Secretary	1																			2*			2														
Medical Transcription				1*																			1*												2	1-2*	
Medicine (Physicians)															A																			G		A	
Mental Health Care Associate																							2													1-2*	
Mental Health/Addiction Technician																																				1-2*	
Nurse Assistant	1	1	2				1								1																						
Nurse Practitioner/Specialist																																	G	C,G			
Nursing Administration																																		G			
Nursing, Practical	1			1	2	1-2									2								2*				2								2	1*	
Nursing, Registered	2	2,A		2	4	2				4					A					4	4	2	4G									4G	4G		2*		
Nutrition and Foodservice																																				2	
Occupational Safety and Environmental Health																	M																		4		
Occupational Therapy										4							M																G	G		A	
Occupational Therapy Assistant																	M						2														
Paramedic (EMT) Technology				1-2*																			1-2*														
Pharmaceutical Sciences															A									4G												A	
Pharmacy Doctorate																								G												A	
Pharmacy Technician																	M																				
Phlebotomy Technician		1															M						1-2														
Physical Therapy										4							M																G	4G		A	
Physical Therapy Assistant																	M																			2	
Physician Assistant Studies																																		C			
Psychology, Clinical											4																							G		A	
Psychology, Counseling											4										G													G		A	
Psychology/Applied Psychology/Experimental					4					4				A		4		4	4		A	4G							4	4G		4			4		
Public Health																								C,G										C,G			
Radiologic Technology/Sciences											4						M			4														4			
Recreation Management, Sports and Recreational Studies				1-2*						4														4											4		A
Rehabilitation & Human Services																																			4		
Respiratory Care																																		4G			
School Psychology																						G															
Speech-Language Pathology																						4G													G		
Speech-Language Pathology Assistant															2																					2*	
Surgical Technology		2																																			
Veterinary Technology																								4													A

# HOSPITALITY & TOURISM



Hospitality & Tourism encompasses the management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services.

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Agricultural and Food Science Technicians</b> Work with agricultural scientists in food, fiber and animal research, production and processing; assist with animal breeding, nutrition work and crop research.	Agricultural Scientists; Farm and Home Management Specialist	21,900 → 150/9 → \$27,100-41,900	Realistic HS	Many employers prefer applicants who have at least 2 years of specialized training or an associate's degree in applied science or science-related technology.
<b>Chefs and Head Cooks (M)</b> Direct the preparation, seasoning and cooking of salads, soups, fish, meats, vegetables, desserts or other foods.	Caterers, Bakers, Decorators	2,247,600 → 6744/202 → \$20,500-29,700	Realistic HD HS	Most employers prefer applicants with past experience, career and technical education training, or completion of an apprenticeship program.
<b>Food Services Managers (M)</b> Manages businesses that serve food such as cafeterias and restaurants. Determines the types, prices and amounts of goods and services sold. Hires and supervises staff, plans budgets.	Hotel/Motel Manager, Department Store Managers, Sales Managers	338,700 → 300/15 → \$33,700-54,700	Enterprising HS	Many positions filled with experienced food service workers. Employers prefer two and four-year graduates of food services management programs. Good communications skills essential.
<b>Gaming Dealers</b> Operate table games. Stand or sit behind table and operate games of chance by dispensing the appropriate number of cards or blocks to players, or operating other gaming equipment. Payoff or collect players' money or chips.	Tellers, Waiter/ Waitresses	91,100 → 1,940/60 → \$17,500-27,600	Realistic HS	Training obtained through a technical school or may receive training on the job. Must have neat appearance, work well with people, and be 21 years old. Must work rapidly and accurately with arithmetic.
<b>Hosts and Hostesses</b> Welcome patrons, seat them at table or in lounge, and help ensure quality of facilities and service.	Waiters/Waitresses, Flight Attendants	350,700 → 1,070/89 → \$16,000-18,700	Enterprising HD	Most are trained on the job. Must be able to work in a rapid and cordial manner. A clean, neat appearance and pleasant manner is necessary.
<b>Hotel Desk Clerks (M)</b> Register guests and assign rooms in hotels and similar establishments. Receive telephone messages for guests. Collect payment for room charges when guests leave.	Receptionists, Sales Clerks	230,200 → 1,050/54 → \$16,800-19,800	Conventional	Employers prefer applicants with clerical ability and a knowledge of bookkeeping. Must enjoy working with people and display a courteous and friendly manner.
<b>Instructors, Sports (Coaches) (M)</b> Teach sport activity to individuals or groups at private recreational facility or school. Explain, demonstrate, observe, lecture, and motivate participants. Organizes and conducts competition and tournaments.	Recreation Programmers, Athletic Trainer, Golf Club Professional	225,700 ↗ 584/26 ↗ \$16,700-42,000	Social HS	May instruct at park and recreation facilities, camps, or schools. Must be able to work with children and adults. Good communication skills and athletic ability necessary. Those who teach in schools must hold a teacher's license.
<b>Lodging Managers</b> Plan, organize, direct and control the operation of hotels and motels. Set policies, hire personnel and determine work schedules. Handle customer and worker complaints. Organize and direct the work of others.	Restaurant Managers, Apartment Building Managers	59,800 → 160/5 → \$27,400-44,700	Enterprising HS	Employers look for an individual with management skills that can be gained either in formal training or through experience. Employers may require graduates of 2-4 year hotel/motel management program.
<b>Maids and Housekeeping Cleaners</b> Make beds, replenish linens, clean and vacuum rooms and halls, and perform related services in hotels, motels, tourist homes, and other lodging facilities.	Janitors, Maintenance Engineers	1,498,200 → 4,320/89 ↘ \$16,800-20,200	Realistic HD	Employers may prefer a high school graduate. Must be able to deal effectively with people.
<b>Recreation Workers</b> Plan and organize public recreation programs, playgrounds, camps, etc. Coordinate programs for children and adults. Promote interest in crafts, games, and organized recreation.	Sports Statistician, Coaches	327,500 → 1,010/34 → \$17,900-29,800	Social	Training ranges from a high school diploma to a bachelor's degree. A number of these positions are part-time, seasonal, and volunteer. Work in hospitals, prisons, private and public recreation facilities.
<b>Waiters and Waitresses</b> Take orders and serve food and beverages to patrons at tables in dining establishment.	Flight Attendants, Counter Workers, Hosts and Hostesses	2,381,600 → 7,350/472 → \$16,100-18,300	Social	Most learn their skills on the job. Many are students working part-time. Must be at least 21 if alcoholic beverages are served.

	B/JC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC
--	------	-----	------	-----	-----	------	------	-----	------	------	----	-------	-------	-----	------	----	-----	------	-----	------	------	-------	------	------	-----	-----	-----	-----	-----	------	------	----	-----	------	------	-----

## HOSPITALITY AND TOURISM

Athletic Training/Corp Fitness/Human Performance & Fitness																	M			4			A	G											4	4			A				
Culinary Arts	1-2																						1-2																				
Exercise Science/Leisure Studies/Sports Management											4																													4		4	
Hotel/Restaurant/Hospitality/Tourism Management											4							M					2	4																			
Recreation Management, Sports and Recreational Leadership				1-2*							4												4																		4		A

# 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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Child Care Workers</b> Attend to children at schools, businesses, private households and child care institutions.	Teachers Aides, Home Care Aides	1,301,900 → 2,580/141 → \$16,600-19,100	Social HD	Employers may prefer career and technical education training. Must have the desire and ability to work with small children.
<b>Personal and Home Care Aides</b> Assist elderly or disabled adults with daily living activities at the person's home or in a daytime non-residential facility. Duties performed at a place of residence may include keeping house (making beds, doing laundry, washing dishes) and preparing meals.	Occupational therapist assistants; Physical therapist assistants; Nurse Assistant	817,200 ↑ 1,513/58 ↗ \$16,500-22,400	Social HD	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.
<b>Social and Human Service Assistants</b> Assist professionals from a wide 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 social and community services and help clients obtain them. May assist social workers.	Child, Family, and School Social Workers; Personal and Home Care Aides	352,000 ↗ 1,370/55 → \$19,500-30,400	Social HD	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.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Clergy (M)</b> 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	670,100 → 1,349/33 → \$22,400-44,300	Social HS	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.
<b>Counselors, Rehabilitation</b> 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	129,500 → 242/8 → \$27,900-43,600	Social HS	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.
<b>Medical and Public Health Social Workers</b> Provide persons, families or vulnerable populations with psychosocial support needed to cope with chronic, acute or terminal illnesses.	Social Workers; Clergy	138,700 ↗ 420/17 → \$30,300-43,400	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.
<b>Psychologists (M)</b> 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	154,300 → 300/10 → \$48,800-68,800	Investigative HW	A 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.
<b>Social Workers (M)</b> 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	292,600 → 597/22 → \$31,100-44,800	Social HD HS	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

	BICC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC		
<b>HUMAN SERVICES</b>																																						
Addiction Studies							2			4							M			4*													4			A		
Anthropology																							G															
Behavioral Statistics																							4															
Community Management/Development																							G															
Conflict Transformation																																		C				
Couple and Family Therapy																							4G															
Eligibility Worker		C																																				
Forensic Psychology																																		G				
Gerontology																							C															
Human Services		2					2																	2*														
Human Services Technician																											2											
Intercultural Studies																												2-4										
Mental Health Care Associate																	M					2														1-2*		
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	4	4	A	4G									4	4G		4				
Rehabilitation & Human Services																																	4					
School Psychology																					G																	
Social Work		4*,A													A						4	A										4	4G		A			
Sociology				A											A					4		4G										4G			A			

## NOTES

# 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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Computer and Office Machine Repairers (M)</b> 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	152,900 ↘ 360/8 ↘ \$22,700-38,900	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.
<b>Computer Operators (M)</b> Monitor and control computer and peripheral equipment to process business, scientific, engineering and other data according to instructions.	Systems Analysts, Computer Service Tech, Webmasters	110,000 ↘ 341/4 ↘ \$23,600-35,600	Conventional	High school diploma required. Employers prefer applicants with experience in computer operation or those formally trained. Must be adaptable and willing to learn.
<b>Computer Support Specialist (M)</b> 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 User Support Specialists, Computer and Network Support Specialists, LAN Technicians, Data Recovery Specialists, Computer Repairers	565,700 → 2,090/69 → \$24,800-47,400	Investigative HD HS	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.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Computer and Information Systems Managers</b> Plan, direct or coordinate activities in electronic data processing, information systems, systems analysis and computer programming.	Computer Systems Analysts; Computer Programmers	293,000 → 520/17 → \$58,000-97,000	Enterprising HD HW HS	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.
<b>Computer Programmers (M)</b> 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	426,700 ↘ 550/10 ↘ \$34,700-59,400	Investigative HS	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.
<b>Computer Systems Analysts (M)</b> 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	532,200 ↗ 910/38 ↗ \$40,900-75,100	Investigative HD HS	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.
<b>Data Base Administrators (M)</b> Coordinate changes to computer databases, test and implement the database, applying knowledge of database management systems.	Computer Programmers, Data Recovery Specialists	120,400 ↗ 256/13 ↗ \$42,500-68,100	Investigative HD HS	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.
<b>Information Security Analysts</b> Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure. May respond to computer security breaches and viruses.	Computer Security Specialist, Network Security Analyst, Internet Security Specialist	292,000 ↗ 311/21 ↗ \$40,400-68,500	Investigative HD HS	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.
<b>Network and Computer Systems Administrators</b> 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	339,500 ↗ 560/18 ↗ \$42,900-62,200	Conventional HD HS	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.
<b>Software Developers, Applications (M)</b> 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	514,800 ↗ 750/26 ↗ \$45,300-66,300	Investigative HD HS HW	Employers may prefer applicants with a graduate degree. Must have creative, analytical minds and capacity for detail. Research communication essential. Must be licensed. Hired by research laboratories, industrial plants, and government.

# INFORMATION TECHNOLOGY

	BJCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC
<b>INFORMATION TECHNOLOGY</b>																																				
Application Software Specialists																					C															
Computer Information Systems				2A			2								2			4				1-2									4				4	
Computer Information Technology			2							4														2*										2		
Computer Science/Programming		4*,A			4						4				A						C,4	2A	4G										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																									2*											
Database Technology				2																																
Engineering, Computer																							4G													
Enterprise Applications																																			C*	
Graphic Design Technology/New Art Media																				4		4		2								4				
Information Assurance/Network Security				2																		1		2*												
Information Processing Technician				2			2																													1-2
Information Systems																					G															
Information Technology				2						4								C								2					4					
Knowledge Management																					C															
Management Information Systems/ Information Tech										4				1-2						4		A	4		2						4	4			1-2	
Multimedia Technologies/Web Design																									2*											
Network Administration																									2											
Network Engineering				2																																
Office Technology																											1-2									
Operating System Tech				1-2																																
Software Engineering																							G,G		2											
Virtual Business																																				
Web Development																						4														
Webmaster/Web Designer/Development & Design		1-2*	1-2																		4	1-2	4	2*												1-2

## NOTES

# 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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Correctional Officers (M)</b> Guard inmates in penal or rehabilitative institutions.	Bailiffs, Store Detectives, Security Guards, Probation Officers	454,500 → 650/19 → \$25,700-36,700	Realistic	Employers may prefer persons with one or two years of postsecondary school in law enforcement.
<b>Dispatchers (M)</b> 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	295,600 ↘ 668/17 → \$26,500-42,000	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.
<b>Fire Chiefs (M)</b> Supervise and coordinate activities of workers engaged in fire fighting and fire prevention and control.	Fire fighters, Police officers, EMT	55,200 → 46/2 → \$51,900-71,400	Realistic HS	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.
<b>Fire Fighters (M)</b> 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 → 560/24 → \$30,800-51,500	Realistic HS	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.
<b>Legal Assistants (paralegal) (M)</b> 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	263,800 ↗ 270/9 → \$27,000-47,900	Enterprising HD HS	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.
<b>Police and Sheriff's Patrol Officers</b> 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	661,500 → 1,053/37 → \$31,200-48,400	Social HS	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.
<b>Police Chiefs (M)</b> Supervise and coordinate activities of members of police force.	Correctional Officers, Fish and Game Wardens, Police Officers	97,300 → 193/10 → \$47,600-80,700	Enterprising HW HS	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.
<b>Security Guards (M)</b> Guard, patrol or monitor premises to prevent theft, violence or infractions of rules.	Border Guards, Correctional Officers, Fish and Game Wardens	1,040,300 → 1,520/28 ↘ \$18,300-28,900	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.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Detectives and Criminal Investigators (M)</b> Conduct investigations related to suspected violations of federal, state or local laws to prevent or solve crimes.	Police Officers; Correctional Officers	112,200 → 310/8 → \$40,900-82,800	Enterprising HS	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.
<b>Lawyers (M)</b> 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	759,200 → 1,237/29 → \$49,300-97,100	Enterprising HD HW HS	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	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTC	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	
Law (J.D.)															A								A											G		A	
Law Enforcement																2							A														
Paralegal/Legal Assistant																2							A						1-2								
Peace Officer															1																						
Police Management & Investigation																																					
Private Security Officer															1																						

# 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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Bakers (M)</b> 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	151,600 → 410/11 → \$17,100-25,143	Realistic HD 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.
<b>Cabinetmakers</b> 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	131,700 → 360/13 → \$25,000-37,600	Realistic HD 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.
<b>Civil Engineering Technicians</b> Apply theory and principles of civil engineering in planning, designing and overseeing construction and maintenance of structures and facilities under the direction of a civil engineer.	Civil Engineers; Drafters; Construction Managers	91,700 → 460/18 ↗ \$31,900-47,700	Realistic HS	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.
<b>Dental Laboratory Technicians (M)</b> Construct and repair full or partial dentures or dental appliances.	Orthotics and Prosthetics Technicians, Opticians	46,000 → 184/5 → \$23,900-34,100	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.
<b>Electrical and Electronic Engineering Technicians (M)</b> 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	164,000 ↘ 300/5 → \$42,100-64,200	Realistic HS	Employers prefer applicants with technical training. Must have ability to do detail work with high degree of accuracy. Hired by manufacturers and public utilities.
<b>Electro-Mechanical Technicians</b> 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 ↘ N/A/N/A \$34,600-48,700	Realistic HS	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.
<b>Energy Industry Manager (Managers of Production and Operating Workers)</b> 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	681,000 → 1,330/NA → \$35,700-63,000	Enterprising HW HS	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.
<b>Industrial Machinery Mechanics and Maintenance Workers</b> Repair, install, adjust, lubricate or maintain industrial production machinery and processing machinery or refinery and pipeline distribution systems.	Heavy Equipment Mechanics, Diesel Mechanics, Machinist	1,769,600 → 3,754/113 → \$31,500-47,100	Realistic HD 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.
<b>Machinists (M)</b> Set up and operate a variety of machine tools to produce precision parts and instruments.	Blacksmiths, Gunsmiths, Locksmiths, Welders	421,500 ↘ 610/10 → \$27,200-43,500	Realistic HD HS	Completion of apprenticeship, career and technical education or on-the-job training necessary. Mechanical ability essential. Hired by manufacturers and federal government.
<b>Mechanical Engineering Technicians</b> Develop and test machinery and equipment. Review blueprints. Draft detail drawings. Assemble modified mechanical components. Work directly under a mechanical engineer.	Drafters, Mechanical Engineers	46,100 ↘ 90/1 → \$27,000-52,900	Realistic HS	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.
<b>Process Plant Operator (Chemical Plant and System Operators)</b> 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	45,000 → NA/NA → \$54,600- 74,100(US)	Realistic HW HS	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.



# MARKETING



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

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Auctioneers</b> 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	NA NA/NA \$NA-NA	Enterprising	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.
<b>Barbers</b> 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	53,500 → 143/3 → \$15,700-40,600 (US)	Realistic HS	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.
<b>Butchers and Meat Cutters (M)</b> Cut, trim or prepare consumer-sized portions of meat for use or sale in retail establishments.	Bakers, Cooks, Kitchen Supervisors	129,100 → 600/17 → \$19,700-28,100	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.
<b>Buyers and Purchasing Agents</b> 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	442,900 → 800/32 → \$34,200-60,100	Enterprising HS	Businesses prefer to hire applicants who are familiar with the merchandise they sell as well as with wholesaling and retailing practices.
<b>Cashiers and Checkers (M)</b> 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	3,500,000 → 11,500/526 → \$16,400-18,800	Conventional HD	Employers prefer high school graduates. Many are part-time high school and college students. Must be able to do repetitive work accurately.
<b>Clerks, Counter and Rental</b> 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	448,200 → 1,500/42 → \$16,600-22,800	Conventional HD	Employers prefer applicants with a pleasant personality and a neat appearance. Some sales clerks are commissioned, others are salaried. Many are part-time workers.
<b>Clerks, Stock (M)</b> Receive, store and distribute supplies, material, and equipment and other items from stockroom to shelves or to customers.	Shipping and Receiving Clerks, Routing Clerks	1,858,800 → 4,240/118 → \$16,900-25,700	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.
<b>Cosmetologists and Hairstylists</b> 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	630,700 ↗ 1,090/48 → \$16,800-26,600	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.
<b>Funeral Service Directors, Morticians and Undertakers</b> 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	30,000 → 140/2 → \$38,100-74,000	Enterprising HS	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.
<b>Real Estate Agents</b> 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	394,400 → 914/25 → \$27,100-61,300	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.
<b>Retail Florist (Floral Designer)</b> Design, cut and arrange live, dried or artificial flowers or foliage.	Retail Salesperson, Store Manager, Horticulturist	76,100 ↘ 240/8 ↘ \$16,912-24,500	Artistic	Some employers prefer or require technical training. Must like working with flowers and plants. Long hours at holidays.
<b>Retail Store Managers (M)</b> 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	1,685,500 → 3,370/97 → \$23,100-41,400	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.

# MARKETING

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Sales Agent, Advertising</b> 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	166,800 ↗ 530/11 → \$21,800-53,700	Enterprising	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.
<b>Sales Representatives</b> 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	1,973,200 → 4,671/159 → \$34,000-77,600	Enterprising HD HS	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.
<b>Sales Route Drivers</b> 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	406,400 ↘ 1,480/NA → \$17,000-30,800	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.
<b>Salespersons, Parts</b> Sell spare and replacement parts and equipment in repair shop of parts store.	Auto Mechanic, Sales Representatives	227,500 → 1,250/55 → \$22,100-36,600	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.
<b>Salespersons, Retail Trade</b> Sell merchandise, such as furniture, cars, appliances and apparel in a retail store.	Sales Route Drivers, Real Estate Agents, Insurance Agents	4,489,200 → 11,680/456 → \$16,800-31,900	Enterprising HD	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.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Interior Designers</b> Plan, design and furnish interiors of residential, commercial or industrial buildings. Formulate design which is practical, aesthetic and conducive to intended purposes.	Floral Designers, Fashion Designers	71,700 → 105/4 → \$21,500-38,900	Artistic HD 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.
<b>Marketing Managers</b> 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	175,600 → 240/NA → \$52,600-95,800	Enterprising HD HS HW	College graduates with related experience, high level of creativity and strong communication skills needed. Keen competition for jobs expected.
<b>Property and Real Estate Managers</b> 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	304,100 → 210/12 → \$32,700-66,700	Enterprising HS	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.
<b>Sales Managers</b> Direct distribution of product or service to the customer, establishing sales territories, quotas and goals. Analyze sales statistics.	Public Relations Managers; Marketing Managers	346,900 → 730/35 ↗ \$48,300-97,700	Enterprising HD HW HS	College graduates with related experience, high level of creativity and strong communication skills needed. Keen competition for jobs expected.

	BICC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOGN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC
--	------	-----	------	-----	-----	------	------	-----	-------	------	----	-------	-------	-----	------	----	-----	------	-----	------	------	-------	------	------	-----	-----	-----	-----	-----	------	------	----	-----	------	------	-----

MARKETING																																					
Advertising and Marketing				1-2							4																										
Apparel & Textiles/Merchandising																				1				4													
Barbering																																					
Cosmetology									1-2			1	1	1															1			1					
Esthetician/Skin Care												1	1	1																		1					
Interior Design																								4													
Marketing & Sales																											2*										
Marketing/Marketing Management											4				1-2		M			4			2	C									4	4			1-2A
Merchandising																									C,G												
Nail Technology/Manicurist														1	1																	1					

## NOTES

# 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 \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Postsecondary Programs – Associate Degree Or Less</b>				
<b>Biological Technicians and Technologists (M)</b> 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.	79,500 → 230/NA ↗ \$24,400-36,000	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.
<b>Chemical Technicians (M)</b> 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	66,100 ↘ 245/9 → \$18,300-33,300	Realistic HS	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.
<b>Simulator Maintenance Technician (M)</b> 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 malfunctions.	Electronic Repair Technicians, Computer Repairers, Bio-Medical Equipment Technicians	NA NA/NA \$38,000-45,000 (US)	Realistic HS	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.
<b>Surveying and Mapping Technicians (M)</b> 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	77,000 ↗ 220/9 ↗ \$27,400-44,400	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.
<b>Postsecondary Programs – Bachelors Degree or More</b>				
<b>Chemists (M)</b> 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	84,300 → 70/NA → \$41,700-80,300	Investigative HS	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.
<b>Engineers, Agricultural</b> 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 → 50/1 ↗ \$50,700-77,000	Investigative HW HS	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.
<b>Engineers, Chemical</b> 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	31,700 ↘ 30/1 → \$66,200-108,200	Investigative HW HS	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.
<b>Engineers, Civil (M)</b> 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	278,400 → 910/29 ↗ \$47,700-78,000	Realistic HD HW HS	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.
<b>Engineers, Electrical (M)</b> 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	157,800 → 260/9 → \$56,400-80,600	Investigative HD HW HS	Employed by manufacturers of electrical and electronic equipment, aircraft, and business machines. Some work for public utilities, government agencies, and universities. Must be licensed.
<b>Engineers, Energy</b> 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)	NA → N/A/N/A → \$28,700-116,100	Investigative HS	Employers generally prefer applicants with a graduate degree. Employed by federal and private research laboratories, universities, and power companies.
<b>Engineers, Industrial (M)</b> 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	214,800 → 404/17 → \$53,600-81,900	Enterprising HD HW HS	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.

# SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

Occupational Title/Description	Related Occupations	Nat'l Employment ND Employment \$ND Earnings	Holland Type Rating	Hiring Practices
<b>Engineers, Mechanical (M)</b> 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	238,700 → 360/17 → \$50,400-77,600	Realistic HD HW HS	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.
<b>Engineers, Physics Applications</b> Design advanced components and instrumentation for space exploration, environmental monitoring, medical applications, and scientific research activities.	Engineers (Electrical, Mechanical), Physical Scientists	NA N/A/N/A \$N/A-N/A	Investigative HW HS	Employed by component and instrument manufacturers, aircraft companies, federal agencies, and national scientific laboratories. Some pursue advanced degrees. May be licensed.
<b>Environmental Scientists and Specialists</b> 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	85,900 ↗ 132/6 → \$40,000-55,900	Investigative HS	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.
<b>Meteorologists (M)</b> 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	9,400 → 80/1 ↘ \$35,300-72,900	Investigative HS	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	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MISU	MOGN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC	
<b>SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM)</b>																																					
Aeronautics																																			4		
Airport/Aviation Management																																			4		A
Anatomy																																			6		
Anthropology																								4											4		
Applied Math/General											4																							4			
Atmospheric Sciences/Studies																																			4G		
Automotive Technology		1-2													1-2								1-2													2	
Aviation						2		2							A										2										G		
Biochemistry											4												4G												G		
Bioinformatics & Computational Biology																				4																	
Biology				A	4						4				A		4	4					4G									4	4G	4	A		
Biology, Cell & Molecular																							G														
Biology, Fisheries and Wildlife																							A	4								4	4				
Biotechnology																							A*	4													
Biotechnology																							A*	4													
Botany																							4G														
Building Construction Technology		1-2																					2												2		
Chemistry					4						4				A		4	4					4G										4G	4	A		
Coatings & Polymeric Sciences				A																			G														
Construction Engineering Management																								4													
Diesel Technology															1-2								2													2	
Earth/Environmental Science							2,4													4							2-4					4			A		
Economics/Applied Economics															A								4										4G			A	
Electrical Technology		1-2*																					2														
Electronics/Telecommunications Technology		1-2																																			
Energy Technician																												2									
Engineering and Management, Industrial																	M						4G														
Engineering and 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															A								A	G												A	
Engineering, Geological																	M																	4*G			
Engineering, Manufacturing																	M						4G														

# SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

	BJCC	BSC	CCCC	DCB	DSU	EATC	FBCC	FFS	GFKFS	HAHD	JC	JSHDF	JSHDF	JZT	LRSC	LW	MIL	MaSU	MBC	MSU	MOCN	NDSCS	NDSU	PARR	RCB	RCF	SBC	TBC	THA	TMCC	TSPA	UM	UND	UTTC	VCSU	WSC	
<b>SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM)</b>																																					
Engineering, Mechanical																							4G												4*G		
Engineering, Petroleum		1-2*																																	4*		
Engineering, Sustainable Energy																																			G		
Entomology																								G													
Environmental Technology				2																																	
Environmental Technology/Lab & Field Tech				2																																	
Environmental Technology/Water Management				2																																	
Fire Technology		1-2																																			
Forensic Science																																			4		
General & Technical Studies														2									1-2									4				1-2	
Genomics and Bioinformatics																							G														
Geographic Information Science														2									1-2											C		1-2	
Geography																																		4G			
Geology																				4			4											4G			
Geosciences																											1-2										
Gerontology																							C														
Greenhouse Technology				1-2*																																	
Heating, Ventilation, Air Conditioning and Refrigeration Technology		1-2																					1-2														
History				A	4					4				A						4			4G										4G	4	A		
Industrial Technology/Mechanical Maintenance Technology		1-2																																4G			
Instrumentation & Control Technology		1-2*																																			
John Deere Ag Technology																							2														
Landscape Design/Technology				1-2*																																	
Materials and Nanotechnology																							G														
Materials and Nanotechnology																							G														
Mathematics				A	4		2			4				A				4*		4			4G									4	4G	4	A		
Microbiology																							4G											G			
Microelectronics Technology																							1-2														
Micromanufacturing Technology																							1-2														
Molecular & Integrative Biology																																		4			
Molecular Pathogenesis																								G										G			
Nanoscience Technology																							2														
Nuclear Power Technology		1-2																																			
Petroleum Engineering Technology		1-2*																																			
Petroleum Production Technology		1-2*																																			
Pharmacology, Physiology & Therapeutics				A																														G			
Physical Science																																		4	A		
Physics															A								4G										4G		A		
Plant Pathology																								4G													
Political Science					4					4				A										4									4			A	
Power Plant Technology		1-2*																																			
Process Plant Technology		1-2*																																			
Recreational Engines Technology																							2														
Renewable Generation Technology		1-2*																																			
Science, General							2																														
Scientific Computing																																			G		
Simulator Maintenance Technology															2																						
Social Science				A	4									A				4		4			4G									4	4		4		
Space Studies																																		G			
Statistics																								C,4G													
Transfer/Pre-Professional/University Parallel		2A		2	2										2								2													2	
Tribal Environmental Science							2																												2		
Urban Forestry Technology				1-2*																																	
US Air Transportation Policy																																			C		
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 \$ND Earnings	Holland Type Rating	Hiring Practices
Postsecondary Programs – Associate Degree Or Less				
<b>Air Traffic Control Specialists (M)</b> 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	26,200 → 150/3 → \$57,600-92,800	Conventional HW HS	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.
<b>Aircraft Mechanics (M)</b> Diagnose, adjust, repair or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems.	Auto Mechanics, Electricians, Diesel Mechanics	121,500 → 250/0 → \$33,600-56,200	Realistic HD HS	Graduation from an FAA approved school is required by all employers. Certification required. Hired by airlines or federal government.
<b>Auto Body Repairers (M)</b> Repair and refinish automotive vehicle bodies and straighten vehicle frames.	Painters, Truck and Bus Mechanics, Auto Detailer	186,000 → 681/22 → \$24,700-43,900	Realistic HS	Completion of training program is necessary. Hired by repair shops and automobile dealers. May be self-employed.
<b>Automotive Service Technicians (M)</b> Diagnose, adjust, repair or overhaul automotive vehicles.	Autobody Repairers, Diesel Mechanics, Farm Equipment Mechanics	763,700 → 2,020/53 → \$20,500-40,700	Realistic HD HS	Preference given to an apprenticeship or career and technical education trained applicant. Hired by repair shops, government and supply shops. May be self-employed.
<b>Bus Drivers (M)</b> Drive bus or motor coach, including regular route operations, charters and private carriage.	Truck Drivers, Taxi Drivers	193,900 → 180/9 → \$22,500-30,500	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.
<b>Diesel Mechanics/Bus and Truck Mechanics (M)</b> Diagnose, adjust, repair or overhaul trucks, buses and all types of diesel engines.	Autobody Repairers, Auto Mechanics, Aircraft Mechanics	263,100 → 1,250/42 → \$30,000-45,800	Realistic HD HS	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.
<b>Drivers, Truck (M)</b> 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	2,782,900 → 9,940/385 → \$23,400-39,500	Realistic HD HS	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.
<b>Farm Equipment Mechanics</b> Diagnose, adjust, repair or overhaul farm machinery and vehicles, such as tractors, harvesters and related equipment.	Machinists, Auto Mechanics, Diesel Mechanics, Welders	31,200 → 610/28 ↗ \$27,000-38,300	Realistic HS	Prefer high school graduate with past experience, career and technical education, or apprenticeship training. Farm background an advantage.
<b>Flight Attendants, Airplane (M)</b> Greet passengers, verify tickets and help locate seats, serve meals and beverages. Observe passengers to detect signs of discomfort.	Gate Agents, Host/Hostesses	98,700 → NA/NA \$28,900-81,000 (US)	Enterprising HS	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.
<b>Heavy Equipment Mechanics (M)</b> 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	136,300 → 850/25 → \$33,600-55,400	Realistic HD HS	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.
<b>Mail Carriers (M)</b> Sort mail for delivery. Deliver mail on established route by vehicle or on foot.	Delivery-Route Truck Drivers, Newspaper Carriers	343,300 ↘ 860/NA ↘ \$37,400-51,900	Conventional	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.
<b>Postmasters (M)</b> 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	25,600 ↘ 300/6 ↘ \$28,400-54,500	Enterprising HS	Postmasters are appointed from within the postal service. Appointees should have good communication, managerial and finance coordination skills and demonstrate initiative.
<b>Small Engine Mechanics (M)</b> 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	70,300 → 210/NA → \$25,900-34,800	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.



# Are You Ready for Life *After* High School?

Let's face it. How you've done so far in your school and work has a lot to do with your personal skills. See how your skills compare to the ones you'll need for the future, like college or your career.

iPad 8:18 PM

**Rate yourself a:**

**4** my skills are great    **3** I'm doing pretty good    **2** my skills are ok    **1** I need to work on my skills

\_\_\_\_\_ I am organized and prepared for the day.  
\_\_\_\_\_ I work independently on my class assignments.  
\_\_\_\_\_ I am comfortable taking exams and answer the best I can.  
\_\_\_\_\_ I have good critical thinking skills and put them to use.  
\_\_\_\_\_ I get my work done promptly.  
\_\_\_\_\_ I persevere in all I do and work hard on any given assignment.  
\_\_\_\_\_ I go to classes without reminders from parents or teachers.  
\_\_\_\_\_ If I miss class, I remember to get my make-up work for my classes without reminders.  
\_\_\_\_\_ If I need help, I will find the teacher or another person to help me and I respond to their feedback.  
\_\_\_\_\_ I use my decision-making skills to make positive choices.  
\_\_\_\_\_ I get my assignments in on time and keep up-to-date on my work.  
\_\_\_\_\_ I know what study methods work best for me and use them to take notes.  
\_\_\_\_\_ I have an interest in learning.  
\_\_\_\_\_ I take advantage of the library, computers, and all resources.  
\_\_\_\_\_ I seek out advice from others who are knowledgeable about a subject and look for feedback on my work.  
\_\_\_\_\_ I work well with strangers and am fairly comfortable with them.  
\_\_\_\_\_ I monitor my own performance and set goals for myself.  
\_\_\_\_\_ I manage my time wisely.  
\_\_\_\_\_ I choose courses that help me prepare for my future and that I will enjoy.  
\_\_\_\_\_ I persevere and do not give up.  
\_\_\_\_\_ I will find more information and get extra sources to prepare if the teacher does not specifically cover a topic in class.  
\_\_\_\_\_ I will review material on my own if I get behind.  
\_\_\_\_\_ I will get my work done, even if I feel under pressure.  
\_\_\_\_\_ I know what I want my future to look like or at least have an idea.  
\_\_\_\_\_ I participate in class and am my own leader.

**Add up total points:** \_\_\_\_\_

**100 - 88:** You seem to have the skills to understand and connect information and will probably be successful in whatever you pursue after high school.

**87 - 63:** You have a focus in what you would like accomplished in your education and are willing to use your strengths to accomplish your goals.

**62 - 38:** You are seeking your talents and aligning them with your goals. You may need to search out resources that would help you with your effectiveness.

**37 - 25:** You may need to develop your skills before continuing on. Seek out some resources that will help you develop the skills to be successful in either the academic environment or your job. Try talking to your school counselor; he or she could be very helpful.



# SHOW ME THE MONEY

## Where and How Do I Fill Out the Forms?

- Apply for admission to the campus(es) of your choice.
- Fill out the FREE Application for Federal Student Aid (FAFSA).
  - To maximize your aid potential fill your FAFSA out as soon after January 1 as possible.

The FAFSA is **free** and can be obtained at your high school guidance counselor's office, the college admission or financial aid office, or on-line at [www.fafsa.gov](http://www.fafsa.gov).

Gather all of your federal tax return information (you will need this information to complete the FAFSA), keep copies of everything you submit and be sure to clearly indicate which school(s) should receive your financial information.

- Receive your Student Aid Report (SAR).
  - Once your FAFSA is processed, you will receive the SAR which is a summary of the information you submitted on your FAFSA.
  - Check your SAR for accuracy and make changes if necessary.
- Receive an Award Letter.
  - The school(s) you chose will use your FAFSA information to determine the amount and type of aid it can offer to you. This information will be outlined in an Award Letter which is usually sent out in late spring or early summer.

## Need More Help Filling Out the Forms?

- Attend College Goal Sunday
  - College Goal Sunday is free event where prospective college students and their families will receive help in completing the FAFSA.



This program is coordinated by the North Dakota Association of Student Financial Aid Administrators through grant funding from Lumina Foundation for Education. For more information and a list of locations visit [www.collegegoalnd.org](http://www.collegegoalnd.org) or call 866-454-3308.

## Where Can I Get Additional Financial Aid?

- Seek out scholarships.
  - You may find scholarship opportunities at local businesses and organizations, a library, colleges and universities, religious organizations, fraternal organizations, employers, tribal agencies and state agencies.
  - The internet can be another great source for scholarship information.

## What Are the Deadlines?

- The priority FAFSA deadline in North Dakota is April 15th.
- Deadlines for admissions, applications and required tests may vary from school to school so make sure to contact your school for all deadline information.

## How Much Can I Get?

- There are several factors which can determine how much aid you are eligible to receive.
  - Grade level
  - Family size
  - Income and assets
- The Financial Aid Office at your school will use the FAFSA and other information to determine your eligibility and need for financial aid.
- Financial Aid can include:
  - Scholarships
  - Grants
  - Loans
  - Work Study jobs

## How Much Should I Borrow?

- Estimate what your income will be after college
  - This information can be found in this publication - see pages 19-52.
- Your total student loan payments should not exceed 10 percent of your income.

## MAJOR SOURCES OF FINANCIAL AID



### Grants:

(Money awarded which does not need to be repaid)



### Loans:

(Must be repaid with interest or sometimes service)



### Scholarships:

(Generally based on achievement)



### Work:

Type of Aid	Need Based	Non-Need Based	SOURCE OF FUNDS
Federal Pell Grant.....	X		Federal
Federal Supplemental Education Opportunity Grant (SEOG).....	X		Federal/Institutional
Academic Competitiveness Grant.....	X		Federal
National Science and Mathematic Access to Retain Talent Grant (SMART).....	X		Federal
State Student Incentive Grant (SSIG or State Grant).....	X		Federal/State
Bureau of Indian Affairs (BIA).....	X		Federal
Workforce Investment Act (WIA) (Check with Job Service North Dakota).....	X		Federal
Federal Perkins Loan.....	X		Federal/Institutional/State
Direct Stafford Subsidized Loan.....	X		Federal/State/Private Sector
Direct Stafford Unsubsidized Loan.....		X	Federal/State/Private Sector
Direct PLUS.....		X	Federal/Private Sector
Nursing Education Loan.....	X		State Nursing Fees
DEAL Loan-Alternative Loan through Bank of North Dakota.....		X	State
Robert C. Byrd Honors Scholarship (a).....		X	Federal
North Dakota Scholars Scholarship (a).....		X	State
Institutional Scholarships (a).....	X	X	Institutional
North Dakota Indian Scholarship.....	X	X	State
Federal Work Study.....	X		Federal/State

# You CAN Plan for College.

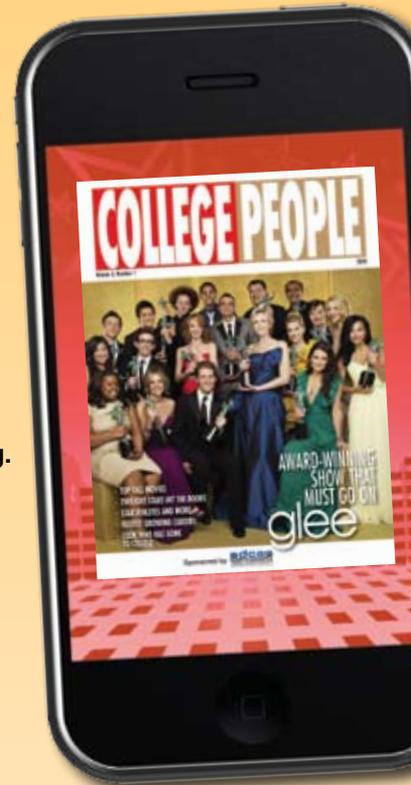


**N**orth Dakota College Access Network, administered by Bank of North Dakota, helps parents and students of all ages plan for college. Visit the website [www.nd-can.com](http://www.nd-can.com) to learn what to do to take the next step toward a college education.

Besides being a **FREE** service, here are some of the following benefits, opportunities and information provided through NDCAN:

## Crash Courses:

- An event where students in grades 7-12 and their families can learn financial aid and FAFSA information along with other topics such as job opportunities, exploring interests with **RUReadyND.com**, scholarships, and college planning.
- Held in host communities and invite towns within 30 miles of each host community.
- A free meal is provided for students and their parents.
- Prizes will be given away.
- Visit [www.nd-can.com](http://www.nd-can.com) for locations, dates, and times.
- More information on Crash Course times and dates will be made available in the spring of 2012.



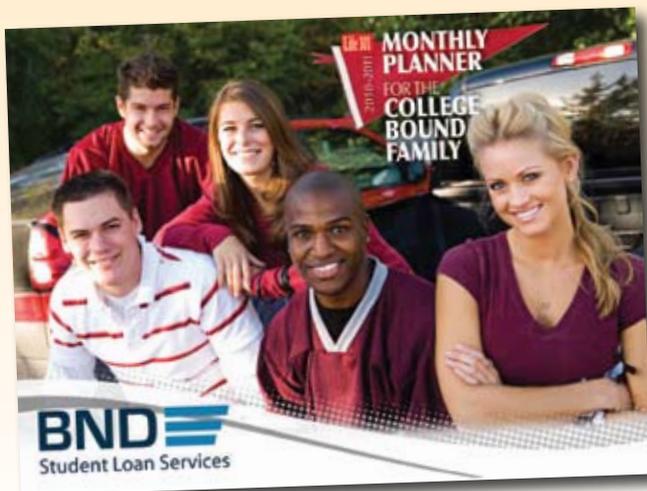
## Scholarships:

- Find school specific scholarships and Native American opportunities.
- Access the Dual Credit Assistance application.
- Search many other online scholarship sites provided in one location.

## Paying for College:

- Find where to get help completing the FAFSA.
- Discover how to pay for college.
- Learn about College SAVE.
- Save more with Education Tax Benefits.

College **SAVE**<sup>™</sup>  
Picture the Future



## College and Career Planning:

- Start with NDCAN to access tools and information to help you make informed decisions on which school and career are right for you.
- Read College Bound Calendar for tips on what to do each month to prepare for college.
- Check out Life 101 magazine to find out where your favorite star went to college.

**ndcan**  
**NORTH DAKOTA**  
college access network  
ADMINISTERED BY BANK OF NORTH DAKOTA

# Take Classes at Home ▼



Are education opportunities limited by where you live? Not at all! Today's learners can access education from home or a nearby location and can schedule classes around their work or other activities. Both youth and adults can benefit from distance education courses offered through the North Dakota Center for Distance Education and the North Dakota University System.

The **North Dakota Center for Distance Education (NDCDE)** is accredited by the North Dakota Department of Public Instruction. It provides opportunities for middle school students, high school students, and adults 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; and
- earn a high school diploma through alternative methods.

For more information, contact your school counselor or the:

North Dakota University System (NDUS) colleges and universities offer both undergraduate and graduate courses by distance education. For more information, refer to "Distance Education in North Dakota" below, and to the clearinghouse of distance education at [www.ndus.edu](http://www.ndus.edu).



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](http://www.NDCDE.org)

## DISTANCE EDUCATION in North Dakota

Access to education has never been easier because of the distance learning opportunities available through the North Dakota University System (NDUS).

For nearly two decades, the NDUS has provided undergraduate and graduate distance learning opportunities through the Interactive Video Network (IVN), audio conferencing, satellite downlink, off campus, face-to-face and correspondence. Meeting the flexibility needs of today's students, the North Dakota University System Online (NDUSO) also offers online courses and programs.

The NDUS delivers certificate,

two-year, bachelor and graduate programs through the collaboration of the 11 system colleges and universities of the NDUS with more than 120 programs entirely online. These virtual learning opportunities provide students the freedom to choose courses from several campuses while completing just one application.

This is a great option for individuals who are unable to attend classes in the traditional setting because of work, family or other commitments. Online courses also appeal to high school students who wish to take college classes as part of a dual-credit or advanced placement

program. Overall, online instruction provides increased schedule flexibility for all students/residential or at-a-distance.

More information about NDUS distance learning opportunities is available by contacting the individual campuses. Detailed information concerning online learning opportunities can be found at: [www.ndus.edu](http://www.ndus.edu).

To evaluate whether or not you're a good candidate for online distance education, visit: [www.bsconline.org/index.learn?action=quiz](http://www.bsconline.org/index.learn?action=quiz). This self-test will help you get a clearer picture of your own online distance learning abilities.

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

# What are the North Dakota University System Admission Requirements?

If you plan to attend a North Dakota University System (NDUS) four-year university, you'll need to take the following core high school courses:

- **English:** Four units
- **Mathematics:** Three units (algebra 1 and above)
- **Laboratory science:** Three units (including at least two in biology, chemistry, physics or physical science)
- **Social studies:** Three units (not including consumer education, cooperative marketing, orientation to social science or marriage/family)

Although not required, the NDUS recommends 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 can tell you more about specific requirements for the programs that interest you.

These requirements are not in effect at the two-year NDUS colleges. If you don't take the core courses required to attend a four-year university, you can attend a two-year college. After successfully completing 24 credits, you may be eligible to transfer to a four-year university. The ACT assessment or another test will be required to determine college eligibility and student placement into courses. Please contact the campus admissions office to determine their specific requirements.



## 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](http://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, 2012, for use in completing the Free Application for Federal Student Aid (FAFSA) form.
- Complete the 2012-13 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.

# Planning to Transfer

**A**re 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](http://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?**



North Dakota's public and private colleges and universities offer you outstanding opportunities:

- ▶ Educational challenges ranging from career and technical education programs to professional degrees in law, medicine and pharmacy
- ▶ Individualized attention from professors and instructors
- ▶ Nationally recognized programs of study
- ▶ Learning environments consistently ranked among the top in the nation
- ▶ Instructional programs that prepare students for the skills required in today's workplace
- ▶ Opportunities to participate in student organizations, intramural sports and inter-collegiate sports
- ▶ The peace-of-mind that comes from living and learning in a safe, secure environment
- ▶ Excellent return on your investment

# NORTH DAKOTA: 2011-2012 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
002988	Bismarck State College www.bismarckstate.edu	PO Box 5587 Bismarck ND 58506	701-224-5494 800-445-5073	701-224-5429 800-445-5073	\$4,007	\$1,000	\$5,548	\$10,555
015793	Cankdeska Cikana Community College www.littlehoop.edu	PO Box 269 Fort Totten ND 58335	701-766-1374	701-766-1342	\$2,770	\$700	\$5,750	\$9,220
002995	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	\$3,857	\$1,000	\$4,630	\$9,487
002989	Dickinson State University www.dickinsonstate.edu	291 Campus Drive Dickinson ND 58601	701-483-2371 800-279-4295	701-483-2175 800-279-4295	\$5,608	\$1,000	\$4,950	\$11,558
015536	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 <sub>3</sub>	\$9,000
041394	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	\$9,720	\$1,399	\$10,170 <sub>3</sub>	\$21,289
016232	Headquarters Academy of Hair Design	108 S Main Street Minot ND 58701	701-852-8329 800-891-5135	701-852-8329 800-891-5135	\$10,800	\$330	\$4,560 <sub>3</sub>	\$15,690
012295	JZ Trend Academy www.jztrendacademy.edu	1320 Tacoma Ave Bismarck ND 58504	701-223-8804	701-223-8804 800-767-5079	\$14,295	\$1,600	\$9,000 <sub>3</sub>	\$24,895
002990	Jamestown College www.jc.edu	6085 College Lane Jamestown ND 58405	701-252-3467 Ext. 5556	701-252-3467 Ext. 5562 800-336-2554	\$17,270	\$1,000	\$5,700	\$23,970
007756	Josef's School of Hair Design, Inc. www.jsohd.com	627 N P Avenue Fargo ND 58102	701-235-0011 800-201-0012	701-235-0011 800-201-0012	\$13,100	\$699	\$7,700	\$21,499
010406	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	\$699	\$7,700	\$21,499
002991	Lake Region State College www.lrsc.edu	1801 College Dr N Devils Lake ND 58301	701-662-1517 800-443-1313	701-662-1514 800-443-1313	\$3,908	\$1,000	\$4,900	\$9,808
002993	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	\$6,084 <sub>4</sub>	\$900	\$5,540	\$12,524
009354	Medcenter One College of Nursing www.medcenterone.com/collegeofnursing	512 N 7th Street Bismarck ND 58501	701-323-6270	701-323-6271	\$10,851	\$1,169	\$5,949	\$17,969
002994	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	\$4,763	\$1,000	\$5,094 <sub>5</sub>	\$10,857
016929	Moler Barber College of Hairstyling	16 S 8th Street Fargo ND 58103	701-232-6773	701-232-6773	\$5,480	\$855	\$5,335 <sub>3</sub>	\$11,670
002996	North Dakota State College of Science www.ndscs.edu	800 N 6th Street Wahpeton ND 58076	701-671-2207 800-342-4325 Ext. 32207	701-671-2202 800-342-4325 Ext. 32202	\$4,181 <sub>6</sub>	\$1,000	\$5,926	\$11,107
002997	North Dakota State University www.ndsu.edu	PO Box 6050 Dept 5240 Fargo ND 58108	701-231-6200 866-924-8969	701-231-8643 800-488-6378	\$7,176	\$1,000	\$6,912	\$15,088
004846	Rasmussen College www.rasmussen.edu	1701 E Century Ave Bismarck ND 58503	701-530-9600 877-530-9600	701-530-9600 877-530-9600	\$12,600 <sub>7</sub>	\$0	\$9,552 <sub>3</sub>	\$22,152
004846	Rasmussen College www.rasmussen.edu	4012 19th Ave SW Fargo ND 58103	701-277-3889 800-817-0009	701-277-3889 800-817-0009	\$12,600 <sub>7</sub>	\$0	\$9,552 <sub>3</sub>	\$22,152
040313	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	\$13,790	\$1,415	\$10,752 <sub>3</sub>	\$25,957
014993	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	\$5,200	\$10,310
012059	Trinity Bible College www.trinitybiblecollege.edu	50 S 6th Avenue Ellendale ND 58436	888-822-2329	888-822-2329	\$13,090	\$880	\$5,150	\$19,120
009450	Turtle Mountain Community College www.tm.edu	PO Box 340 Belcourt ND 58316	701-477-7862	701-477-7862	\$2,000	\$400	\$3,664 <sub>3</sub>	\$6,064
002992	University of Mary www.umary.edu	7500 University Dr Bismarck ND 58504	701-255-7500 800-288-6279	701-255-7500	\$13,600	\$1,103	\$5,346 <sub>8</sub>	\$20,076
003005	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	\$7,092	\$800	\$6,200 <sub>8</sub>	\$14,092
014470	United Tribes Technical College www.uttcc.edu	3315 University Dr Bismarck ND 58504	701-255-3285 Ext. 1354	701-255-3285 Ext. 1334	\$3,080	\$1,200	\$2,400	\$6,680
003008	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	\$6,196 <sub>1,4</sub>	\$1,000	\$5,260	\$12,456
003007	Williston State College www.wsc.edu	PO Box 1326 Williston ND 58802	701-774-4248 888-863-9455	701-774-4210 888-863-9455	\$3,902 <sub>3</sub>	\$1,000	\$6,900 <sub>8</sub>	\$11,802

**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.

**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 19 meals, 7 day plan.
- 6 Based on 16 credits per term.
- 7 Based on 12 credits per term.
- 8 Contact campus housing for actual costs.
- 9 Based on 14 credits per term.

# It's Time to Think about Searching for a Job!

Here are some quick time-saving tips that will make your hunt go more smoothly.

## MAKE THE SWITCH →

It is time now to make the switch from student to adult. What does that mean? Check your voice mail message, edit your social networking sites and make sure they give the impression of the professional you that you would like to project.

## BE PREPARED →

You should have an up-to-date, basic resume ready at all times, along with a master copy of a general application form. You will be able to target your resume for each job you apply for by comparing the description of the job to your qualifications. Don't forget to check with your references in advance so they know to expect those phone calls and requests for recommendations. Have a master cover letter that can be targeted to each job to accompany your resume.

## 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 ND and the public library.

## BE THOROUGH →

Exhaust all possibilities when searching for the next job. In addition to Job Service, try using search engines to explore the company's website to learn as much about the company as you possibly can and don't forget to network. Many job openings are not advertised so tell everyone you know that you are looking for work. Networking is one of the most successful ways to find a job.

## SAVE TIME →

Can't find the time to get it all done? Consider hiring someone to help with your resume and/or applications. It can save you hours of time and assure a professional product. Ask for samples of their work and be aware of what the charges will be and 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 →

At times it might seem like you have been searching forever and there is little hope to finding something suitable. 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 all skill building activities and activities that grow skills!

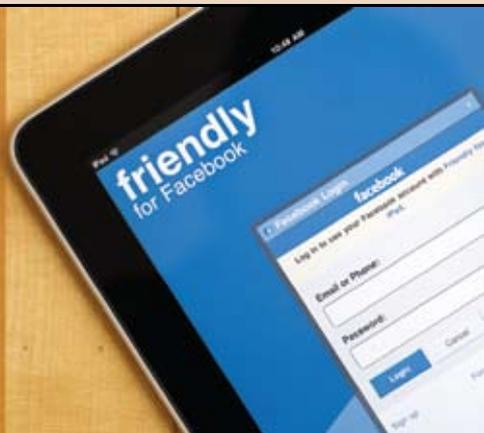
Steve Beutler, Minot High School, has created a job search tool kit that will help you with all the details for your job search. Go to [www.jobsnd.com](#) and click on "Nail That Job" in the Students column to find all of the resources you need to get started.

## Helpful links to job hunting tools: →

[www.jobsnd.com](http://www.jobsnd.com)  
[www.workforce.nd.gov](http://www.workforce.nd.gov)  
[www.careeronestop.org](http://www.careeronestop.org)  
[www.rileyguide.com](http://www.rileyguide.com)  
[www.ndyouthforward.com](http://www.ndyouthforward.com)

## BEWARE | Social Network Considerations →

What you post on a social network site is public domain and can be viewed by anyone anywhere. Your personal photo and information posts can and will be used against you by potential employers who routinely search new hire candidates. 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!



# IS SELF-EMPLOYMENT FOR YOU?

**Q: Can you make money without a job?**

**A: Yes, you can if you become an entrepreneur!**

**Q: Would you enjoy not having to depend on others for your money?**

**A: It takes work, but you can start a business, whatever age you are. Look at these two real-life North Dakota young people:**

**Could you be like 11-year-old Carly?** She figured out what chores people in her neighborhood would pay someone else to do, such as washing cars and yard work and started her business by teaming up with a friend. She is developing a whole list of skills: communicating, marketing, planning, scheduling, managing income and expenses, working as a team, and learning how to complete tasks efficiently and to the customer's satisfaction. Whatever career plans she eventually makes, the experience of running her own business gives her more than just money.

**Could you develop a business to fill a special need like 17-year-old Pete?** Peter supplies raw cow's milk to customers throughout western North Dakota. Besides buying things for himself, Peter is investing some of his profits back into expanding his business with plans to develop his own dairy.

**What goods or services could you supply for others? Besides making money, you'll learn about yourself and build many skills that will benefit you now and throughout your career.**

## Self-Employment Assessment

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

- \_\_\_\_\_ 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?

## Life Skills for the Workplace



**Did you know life skills that help people in their everyday lives also help them to be successful in the workplace? They do!**



**Employers look for employees who possess:**

- ▶ communication and interpersonal skills, including written and verbal communication
- ▶ enthusiasm and flexibility
- ▶ leadership skills
- ▶ an eagerness to work and the desire to succeed
- ▶ confidence, honesty and respect
- ▶ the ability to stay properly groomed

**In addition, there are foundation skills necessary for workplace success.**

- ▶ Basic skills that include the ability to read, write, listen and understand math and science.
- ▶ Thinking skills such as the ability to learn, reason, think creatively, make decisions and solve problems.
- ▶ Personal qualities that include responsibility and integrity as well as being a team player.

**Do you have the life skills necessary to make yourself successful in the workforce?**

# HELPFUL RESOURCES

Adult Learning  
Centers ▶

Postsecondary  
Institutions ▶

Area Career &  
Technical Centers ▶

Information  
Technology ▶

## Are You an Entrepreneur?

Visit [www.nd.gov/cte/crn/docs/EmployYourself.pdf](http://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 Ideas/  
Marketplace for Kids**

210 N 4th St, Bismarck ND 58501  
701-663-0150 or 888-384-8410  
[www.marketplaceforideas.org](http://www.marketplaceforideas.org)  
[www.marketplaceforkids.org](http://www.marketplaceforkids.org)

**Mini Society Curriculum  
for Grades 3-7**

**“Train-the-Trainer” Program**  
2718 Gateway Ave Ste 104,  
Bismarck, ND 58503  
701-328-9718  
[Kathleen.tweeten@ndsu.edu](mailto:Kathleen.tweeten@ndsu.edu)

## Postsecondary Institutions 🔍

[www.nd.gov/cte/crn/docs/EdDir.pdf](http://www.nd.gov/cte/crn/docs/EdDir.pdf)

## Area Career and Technical Centers 🔍

[www.nd.gov/cte/links/centers.html](http://www.nd.gov/cte/links/centers.html)

## Information Technology 🔍

Information Technology career videos, salary information, skill sets, and much more.

[www.discoverndit.com](http://www.discoverndit.com) ▶

## Adult Learning Centers

Search 🔍 ▶

**Belcourt Adult Learning Center**  
Turtle Mountain Community College  
701-477-7913 [www.tm.edu](http://www.tm.edu)

**Bismarck Adult Learning Center**  
Bismarck State College  
701-323-4530  
[www.bismarckschools.org/adultlearning](http://www.bismarckschools.org/adultlearning)

**Devils Lake Adult Learning Center**  
Lake Region State College  
701-662-1536

**Dickinson Adult Learning Center**  
Dickinson Public Schools  
701-456-0008  
[www.dickinson.k12.nd.us/adult\\_learning](http://www.dickinson.k12.nd.us/adult_learning)

**Fargo Adult Learning Center**  
Fargo Public Schools  
701-446-2806  
[www.fargo.k12.nd.us](http://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](http://www.northvalley.k12.nd.us)

**Grand Forks Adult Learning Center**  
Grand Forks Public Schools-Stanford  
Centre  
701-795-2785  
[www.grand-forks.k12.nd.us](http://www.grand-forks.k12.nd.us)

**Jamestown Adult Learning Center**  
James Valley Career Technology Center  
701-252-8841

**Minot Adult Learning Center**  
Minot Public Schools  
701-857-4488  
[www.minot.k12.nd.us/alc](http://www.minot.k12.nd.us/alc)

**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  
701-499-1650

**Williston Adult Learning Center**  
Williston State College  
701-572-5886  
[www.adultlearningcenter.com](http://www.adultlearningcenter.com)

**Vocational Rehabilitation/Human Services Regional Offices**Search **Vocational Rehabilitation Offices:** [www.nd.gov/dhs/dvr/about/regional-contact.html](http://www.nd.gov/dhs/dvr/about/regional-contact.html)**Human Service Centers:** [www.nd.gov/dhs/locations/regionalhsc](http://www.nd.gov/dhs/locations/regionalhsc)**Badlands Human Service Center**300 13th Ave W, Suite 1, Dickinson, ND 58601  
701-227-7500 (Voice)  
701-227-7574 TTY  
1-888-227-7525**Lake Region Human Service Center**200 Hwy 2 SW, Devils Lake, ND 58301  
701-665-2200 (Voice)  
701-665-2211 (TTY)  
1-888-607-8610**North Central Human Service Center**1015 S Broadway, Suite 18, Minot, ND 58701  
701-857-8500 (Voice)  
701-857-8666 (TTY)  
1-888-470-6968**Northeast Human Service Center**151 South 4th St, Suite 401,  
Grand Forks, ND 58201  
701-795-3000 (Voice)  
701-795-3060 (TTY)  
1-888-256-6742**Northwest Human Service Center**316 2nd Ave W, Williston, ND 58802  
701-774-4600 (Voice)  
701-774-4692 (TTY)  
1-800-231-7724**South Central Human Service Center**520 3rd St NW, Jamestown, ND 58401  
701-253-6300 (Voice)  
701-253-6414 (TTY)  
1-800-260-1310 (Toll Free)**Southeast Human Service Center**2624 9th Ave SW, Fargo, ND 58103  
701-298-4500 (Voice)  
701-298-4450 (TTY)  
1-888-342-4900**West Central Human Service Center**1237 W Divide Ave, Suite 5,  
Bismarck, ND 58401  
701-328-8888 (Voice)  
1-800-366-6888 (TTY)  
1-888-328-2662**Job Service North Dakota**[www.jobsnd.com](http://www.jobsnd.com)Search **Beulah**119 E Main  
701-873-5607 or 877-268-5437**Bismarck-Mandan**1601 E Century Ave  
701-328-5000 or 800-247-0981**Devils Lake**301 College Dr S  
701-662-9300 or 800-247-0982**Dickinson**66 Osborn Dr  
701-227-3100 or 800-247-0983**Fargo**1350 32nd St S  
701-239-7300 or 800-247-0985**Grafton**927 12th St W  
701-352-4450 or 800-321-7416**Grand Forks**1501 28th Ave S  
701-795-3700 or 800-247-0986**Jamestown**1307 12th Ave NE Ste 3  
701-253-6200 or 800-247-0988**Minot**3416 N Broadway  
701-857-7500 or 800-482-0017**New Town**204 Main St  
701-627-4390**Oakes**924 S 7th St.  
701-742-2546**Rolla**103 E Main Ave  
701-477-5631 or 877-516-0600**Valley City**325 2nd Street NW  
701-845-8860 or 800-831-6374**Wahpeton**524 2nd Ave N  
701-671-1550 or 888-671-9229**Williston**422 1st Ave W  
701-774-7900 or 800-247-0989

\*Statewide TTY 800-366-6888

**Financial Aid****North Dakota College  
Access Network**Administered by  
Bank of North Dakota  
701-328-5835 or  
800-554-2717  
[www.nd-can.com](http://www.nd-can.com)**Student Financial  
Assistance Program**State Grant Program North  
Dakota Scholars Program  
701-328-4114  
peggy.wipf@ndus.edu  
[www.ndus.edu](http://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](http://mystudentloanonline.nd.gov)**Free Application for Federal  
Student Aid (FAFSA)**  
[www.fafsa.ed.gov](http://www.fafsa.ed.gov)

# Career and Technical Education Works!

Career and technical education (CTE) connects students in a hands-on way to what they are learning, whether it's witnessing the complex chemistry behind the internal combustion engine or writing a detailed marketing plan for an in-school business.

Academics and job skills, when taught together, can focus a student's attention on career goals and provide the tools to reach those goals.

CTE courses help students take their next educational or career step, allowing them to participate in relevant, applied learning that engages students and connects them to the work experience.



## CTE Provides Skills for Today and Innovations for Tomorrow

Employers continue to express satisfaction with new hires that complete a CTE or postsecondary professional/technical program. In today's world, employers need job-ready workers with specific skills. Employers who find it difficult to fill positions say too many job candidates lack occupational skills. But employers also need workers who can learn on the job, adapt to changing situations and, whenever possible, innovate. Because career and technical education programs pair relevant, applied learning with real world work experience, CTE students are able to take their education beyond the classroom and identify what they need to know to get the job done - today and in the future.

## Greater Need for Investment

As the job market continues to grow and change, young people need to think strategically about their education and skills, and what steps to take to position themselves for higher paying, in-demand careers. Because CTE brings what's happening in industry directly into the classroom, students stay on top of current trends and changes and can transition to the workplace with skills and knowledge that add value right away.

## CTE pays off at every level

**HIGH SCHOOL LEVEL** – A ratio of one CTE class for every two academic classes was shown to minimize the risk of students dropping out.<sup>1</sup>

**COLLEGE LEVEL** – Career and technical education graduates are 10-15 percent more likely to be in the labor force, and earn 8-9 percent more than graduates of academic programs.<sup>2</sup>

<sup>1</sup> National Research Center for Career and Technical Education (NRCCTE); <sup>2</sup> Russell Sage Foundation

## Leadership Opportunities

Through involvement in the North Dakota CTE programs, a student has the opportunity to focus on leadership development, personal growth through self-awareness, community service and career awareness. The North Dakota CTE program areas and related CTSOs include:

- Agriculture Education – FFA/PAS
- Business & Office Technology – FBLA/PBL
- Career Development
- Family & Consumer Sciences - FCCLA
- Health Careers – Skills USA
- Information Technology – SkillsUSA
- Marketing Education – DECA
- Technology Education - TSA
- Trades, Industry & Technical Education – SkillsUSA



### ND Career & Technical Education

600 E Blvd Ave – Dept 270  
Bismarck, ND 58505  
Ph – 701.328.3180  
Fax – 701.328.1255  
[cte@nd.gov](mailto:cte@nd.gov)

