



# CAREER OUTLOOK



40<sup>TH</sup> EDITION | 2022-2023





**WAYDE SICK, DIRECTOR**  
 ND DEPARTMENT OF CAREER AND TECHNICAL EDUCATION



Dear Students:  
 Career exploration and planning is an important step in planning for the future. As part of your plan in preparing for your future, I encourage you to take Career and Technical Education (CTE) courses that provide a wide-range of academic and work-based learning experiences. To further your knowledge and skills, consider participating in a Career and Technical Student Organization (CTSO), a co-curricular activity for students in CTE pathways.

**ACKNOWLEDGEMENTS**

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

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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.*

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# What is

# CAREER AND TECHNICAL EDUCATION (CTE)?

Classes that specialize in skilled trades, applied sciences, modern technologies, and career preparation. ND CTE has eight program areas developed to prepare students to meet the demands of college and expectations of employers. See pages 10 to 27 for more information about CTE program areas.

## Are you interested in:

- ▶ Agriculture
- ▶ Business
- ▶ Family & Consumer Science
- ▶ Health Science
- ▶ Information Technology
- ▶ Marketing
- ▶ Technology & Engineering
- ▶ Trades and Industry

# 78%

of all high school students are enrolled in a CTE course.

*Then CTE classes are for you!*

## Did you know that...

In 2021, 96% of CTE students in North Dakota taking two or more credits in a single CTE program area graduated on time, compared to 87% of all high school students.

# 96%

# 11,000+

students participate in the seven Career and Technical Student Organizations (CTSOs).

- ▶ CTE classes are for everyone!
- ▶ CTE classes are offered in middle schools, high schools, and postsecondary schools across North Dakota.
- ▶ You can gain work experience through work-based learning opportunities.
- ▶ CTE helps you develop the skills you need to succeed in a wide range of high-wage, high-skill, high-demand careers.
- ▶ You can add value to your education by completing CTE programs of study that offer a chance to earn industry-recognized credentials (e.g., Certified Nurse Assistant).
- ▶ Some CTE classes offer college credit in high school.

# CAREER AND TECHNICAL STUDENT

## What is a CTSO?

A career and technical student organization (CTSO) is a co-curricular group for students in Career and Technical Education pathways to further their knowledge and skills by participating in activities, events, and state and national competitions.



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



**FBLA** inspires and prepares students to become community-minded business leaders in a global society through relevant career preparation and leadership experiences.

## CTSOs Enhance

• **Academic Skills** • **Workplace Skills** • **Technical Skills** • **Personal Skills**  
*Skills that prepare you for college and career!*

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



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



# ORGANIZATIONS (CTSOs)



**SkillsUSA** is a partnership of students, teachers, and industry working together preparing students for careers in trade, technical, and skilled service (including health) occupations to ensure America has a skilled workforce.



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

## Impact of CTSOs:

- Leadership Skills • Employability and Career Skills • Teamwork
- Responsibility • Communication Skills • Decision Making
- Goal Setting • Professionalism • Scholarship Opportunities
- People Skills • Sense of Belonging • Integrity



*Photo unavailable at time of publication.*

**HOSA** provides students with a unique program of leadership development, motivation, and recognition while promoting career opportunities in the healthcare industry and the delivery of quality healthcare to all people.



## FEATURE ARTICLES



19

**Preeti CHEMITI**

Sheyenne High School,  
West Fargo, ND

HOSA



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**Alyssa HAIDER**

Dickinson High School,  
Dickinson, ND

TSA



51

**Billie LENTZ**

Rolla High School,  
Rolla, ND

FFA/FCCLA



52

**Andrew MCKINNEY**

Williston High School,  
Williston, ND

Apprenticeship



# CAREER CLUSTERS INTEREST SURVEY

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

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

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

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

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

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

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

1	Agriculture, Food & Natural Resources	P. 30	
2	Architecture & Construction	P. 30	
3	Arts, A/V Technology & Communications	P. 32	
4	Business Management & Administration	P. 33	
5	Education & Training	P. 34	
6	Finance	P. 35	
7	Government & Public Administration	P. 36	
8	Health Science	P. 36	
9	Hospitality & Tourism	P. 38	
10	Human Services	P. 40	
11	Information Technology	P. 41	
12	Law, Public Safety, Corrections & Security	P. 41	
13	Manufacturing	P. 42	
14	Marketing	P. 43	
15	Science, Technology, Engineering & Mathematics	P. 44	
16	Transportation, Distribution & Logistics	P. 45	

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

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

# Discover Your **PERSONALITY** Type

Read the work activities below. Place a check by the activities you would like to do. Do not think about how much education/training is needed or how much money you will make! Count the number of checks for each shaded section and write that total in the box of each section. These are your scores for each interest area.

**Realistic** →  **TOTAL ✓**

- Build kitchen cabinets
- Lay brick or tile
- Repair household appliances
- Raise fish in a fish hatchery
- Assemble electronic parts
- Drive a truck to deliver packages to offices and homes
- Test the quality of parts before shipment
- Repair and install locks
- Set up and operate machines to make products
- Put out forest fires

**Social** →  **TOTAL ✓**

- Teach an individual an exercise routine
- Give career guidance to people
- Perform rehabilitation therapy
- Help people with personal or emotional problems
- Do volunteer work at a non-profit organization
- Teach children how to play sports
- Teach sign language to the deaf or hard of hearing
- Help conduct a group therapy session
- Take care of children at a day-care center
- Teach a high-school class

**Investigative** →  **TOTAL ✓**

- Develop a new medicine
- Study ways to reduce water pollution
- Conduct chemical experiments
- Study the movement of planets
- Examine blood samples using a microscope
- Investigate the cause of a fire
- Develop a way to better predict the weather
- Work in a biology lab
- Invent a replacement for sugar
- Do laboratory tests to identify diseases

**Artistic** →  **TOTAL ✓**

- Write books or plays
- Play a musical instrument
- Compose or arrange music
- Draw pictures
- Create special effects for movies
- Paint sets for plays
- Write scripts for movies or television shows
- Perform jazz or tap dance
- Sing in a band
- Edit movies

**Enterprising** →  **TOTAL ✓**

- Buy and sell stocks and bonds
- Manage a retail store
- Operate a beauty salon or barber shop
- Manage a department within a large company
- Start your own business
- Negotiate business contracts
- Represent a client in a lawsuit
- Market a new line of clothing
- Sell merchandise at a department store
- Manage a clothing store

**Conventional** →  **TOTAL ✓**

- Proofread records or forms
- Operate a calculator
- Keep shipping and receiving records
- Install software across computers on a large network
- Develop a spreadsheet using computer software
- Calculate the wages of employees
- Inventory supplies using a hand-held computer
- Record rent payments
- Keep inventory records
- Stamp, sort, and distribute mail for an organization

In the boxes below, write the names of the interest areas with the three highest scores. The first box is your highest or primary interest. If there are ties, choose the interest with activities that you think are the best fit for you.

1.  2.  3.

# Holland's Six PERSONALITY Types

## Realistic – “Do-er”

Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside. Sees self as practical, mechanical, and realistic.

Career Clusters that match this personality type:

- Agriculture, Food & Natural Resources
- Architecture & Construction
- Arts, A/V Technology & Communications
- Business Management & Administration
- Education & Training
- Government & Public Administration
- Health Science
- Hospitality & Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections & Security
- Manufacturing
- Marketing
- Science, Technology, Engineering & Mathematics
- Transportation, Distribution & Logistics

## Social - “Helper”

Social occupations frequently work directly with people rather than things. They enjoy training, instructing, counseling, or curing others. They are often good public speakers with helpful, empathetic personalities. These occupations value helping people, providing service to others, and solving social problems. Sees self as helpful, friendly, and trustworthy.

Career Clusters that match this personality type:

- Arts, A/V Technology & Communications
- Business Management & Administration
- Education & Training
- Government & Public Administration
- Health Science
- Hospitality & Tourism
- Human Services
- Law, Public Safety, Corrections & Security
- Manufacturing
- Marketing

## Investigative – “Thinker”

Investigative occupations frequently involve working with ideas and require an extensive amount of thinking. These occupations value science and like to study and solve math and science problems. Sees self as precise, scientific, and intellectual.

Career Clusters that match this personality type:

- Agriculture, Food & Natural Resources
- Business Management & Administration
- Government & Public Administration
- Health Science
- Human Services
- Information Technology
- Law, Public Safety, Corrections & Security
- Manufacturing
- Marketing
- Science, Technology, Engineering & Mathematics

## Artistic - “Creator”

Artistic occupations frequently involve working with forms, designs and patterns. They often require self-expression, and the work can be done without following a clear set of rules. They value the creative arts like drama, music, art, dance, and works of creative writers. Possess artistic ability and sees self as expressive, original, and independent.

Career Clusters that match this personality type:

- Architecture & Construction
- Arts, A/V Technology & Communications
- Education & Training
- Hospitality & Tourism
- Human Services
- Marketing

## Enterprising – “Persuader”

Enterprising occupations frequently involve starting and carrying out projects. These occupations value success in politics, leadership, or business and like leading people, selling things or ideas, and making decisions. Sometimes they require risk taking and often deal with business. Sees self as energetic, ambitious, and sociable.

Career Clusters that match this personality type:

- Architecture & Construction
- Arts, A/V Technology & Communications
- Business Management & Administration
- Finance
- Government & Public Administration
- Health Science
- Hospitality & Tourism
- Human Services
- Law, Public Safety, Corrections & Security
- Manufacturing
- Marketing
- Science, Technology, Engineering & Mathematics
- Transportation, Distribution & Logistics

## Conventional – “Organizer”

Conventional occupations frequently involve following set procedure and routines and include working with numbers, records, data, details, or machines in a set orderly way. Usually there is a clear line of authority to follow. These occupations value success in business and sees self as orderly, and good at following a set plan.

Career Clusters that match this personality type:

- Architecture & Construction
- Business Management & Administration
- Finance
- Government & Public Administration
- Health Science
- Hospitality & Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections & Security
- Manufacturing
- Marketing
- Science, Technology, Engineering & Mathematics
- Transportation, Distribution & Logistics

According to John Holland's theory, most people are one of six personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. The characteristics of each of these are described above. Refer to pages 28-46 for occupations that match your personality type.

# ND CTE PROGRAM

Career and Technical Education (CTE) consists of eight program areas developed to provide students with the knowledge and skills they need to be prepared for college and career. Each program area includes instruction and pathways related to multiple “Career Clusters.”

## Using the Program Area Section

**Step 1. Before making a career decision, it makes sense to start with interests and matching career clusters before choosing a career pathway.**

- If you haven't already, take the **Career Clusters Interest Survey** on pages 6-7. The results of this assessment can help you identify Career Cluster(s) that match YOU and is a great resource for getting started with career exploration and planning your high school courses. Use your top cluster(s) to plan your high school courses!

**Step 2. Understand “career clusters” and “career pathways.”**

- **What is a Career Cluster?** A grouping of careers that have a lot in common. Knowing your top cluster(s) can help you figure out careers based on your likes and dislikes.
- **How is a career pathway different from a career cluster?** Career pathways are groups of careers that are paired together based on tasks and duties performed on the job. Each career cluster has two to nine pathways. It's another way of grouping careers within a larger group, so you have less work to do!

**Step 3. Now, find a program area that includes your top cluster.** You may have more than one cluster that interests you, so doing research on more than one will increase your chances of finding the perfect career!

- The Career Clusters chart shown on the opposite page will help you identify the Program Areas that align with the Career Clusters that match your interests.

**Step 4. Next, find a career pathway under that career cluster.** Look at the Career Clusters and Pathways listed under the program area that interests you. Each pathway has several unique careers, so knowing your interests will help you choose a pathway.

- What courses are part of the career pathway?
- Which career pathway(s) best prepare you for the occupations that match your interests?

**Step 5. Consider joining a Career & Technical Student Organization (CTSO) that aligns with the program area(s) that interests you.**

- CTSOs put students in contact with others who share their career interests and develop citizenship, technical, leadership, and teamwork skills essential for students who are preparing for the workforce and further education. The experience is fun and can lead to lifetime relationships with future professional colleagues.

# AREA SECTION

Career Cluster Survey Result	Program Area	CTSO
Agriculture, Food & Natural Resources	<ul style="list-style-type: none"> <li>• Agriculture Education</li> <li>• Trade, Industry &amp; Technical Education</li> </ul>	• FFA
Architecture & Construction	<ul style="list-style-type: none"> <li>• Trade, Industry &amp; Technical Education</li> </ul>	• SkillsUSA
Arts, A/V Technology & Communications	<ul style="list-style-type: none"> <li>• Family and Consumer Sciences Education (FACS)</li> <li>• Trade, Industry &amp; Technical Education</li> </ul>	• TSA
Business Management & Administration	<ul style="list-style-type: none"> <li>• Business Education</li> </ul>	• FBLA
Education & Training	<ul style="list-style-type: none"> <li>• Family and Consumer Sciences Education (FACS)</li> </ul>	• FCCLA
Finance	<ul style="list-style-type: none"> <li>• Business Education</li> </ul>	• FBLA
Government & Public Administration	<ul style="list-style-type: none"> <li>• Agriculture Education</li> <li>• Trade, Industry &amp; Technical Education</li> <li>• Health Science</li> <li>• Finance</li> </ul>	<ul style="list-style-type: none"> <li>• FBLA</li> <li>• HOSA</li> <li>• SkillsUSA</li> </ul>
Health Science	<ul style="list-style-type: none"> <li>• Health Science Education</li> <li>• Technology &amp; Engineering Education</li> </ul>	• HOSA
Hospitality & Tourism	<ul style="list-style-type: none"> <li>• Family and Consumer Sciences Education (FACS)</li> <li>• Marketing</li> <li>• Trade, Industry &amp; Technical Education</li> </ul>	<ul style="list-style-type: none"> <li>• DECA</li> <li>• FCCLA</li> </ul>
Human Services	<ul style="list-style-type: none"> <li>• Family and Consumer Sciences Education (FACS)</li> </ul>	• FCCLA
Information Technology	<ul style="list-style-type: none"> <li>• Information Technology Education</li> <li>• Technology &amp; Engineering Education</li> </ul>	• TSA
Law, Public, Safety, Corrections & Security	<ul style="list-style-type: none"> <li>• Health Sciences Education</li> </ul>	<ul style="list-style-type: none"> <li>• HOSA</li> <li>• SkillsUSA</li> </ul>
Manufacturing	<ul style="list-style-type: none"> <li>• Technology &amp; Engineering Education</li> <li>• Trade, Industry &amp; Technical Education</li> </ul>	<ul style="list-style-type: none"> <li>• SkillsUSA</li> <li>• TSA</li> </ul>
Marketing	<ul style="list-style-type: none"> <li>• Marketing Education</li> </ul>	• DECA
Science, Technology, Engineering & Mathematics	<ul style="list-style-type: none"> <li>• Technology &amp; Engineering Education</li> </ul>	<ul style="list-style-type: none"> <li>• SkillsUSA</li> <li>• TSA</li> </ul>
Transportation, Distribution & Logistics	<ul style="list-style-type: none"> <li>• Trade, Industry &amp; Technical Education</li> </ul>	• SkillsUSA

To learn more about colleges, careers, and the workforce, go to:

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

**RUReady.ND.gov** – a web-based career exploration and planning platform. Public high school student accounts are auto created and can be accessed through the student’s PowerSchool account. Tribal and private schools can create an account.

**INSIGHTS.ND.GOV**  
Provided by SLDS

**Insights.nd.gov** is the state’s official source for information about public education across North Dakota. You can find more in-depth information on ND CTE Program Areas career pathways, ND public colleges and institutions, degree and program offerings, and ND occupations.

# AGRICULTURAL



*Agricultural education prepares students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber, and natural resource systems. Through agricultural education, students are provided opportunities for leadership development, personal growth, and career success.*



## Are you interested in Agricultural Education?

### Consider starting with Agricultural Education Elective Options:

- Introduction to Agriculture • Agriscience Technology I • Foundations of Agriculture
- Agriscience Technology II • Agriculture III • Agriscience Technology III • Agriculture IV • CASE – Intro to AFNR

## Agriculture, Food & Natural Resources Career Cluster

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 or resources.

Agribusiness Systems Pathway	Power, Structural & Technical Systems Pathway	Natural Resources Pathway	Environmental Services Systems Pathway
<p>The coordination of activities that contribute to the marketing, financing and development of agriculture. It is a high-tech industry using innovation to increase efficiency and profitability.</p> <ul style="list-style-type: none"> <li>• Ag Commodity Sales Agents</li> <li>• Farm Product Buyers and Purchasing Agents</li> <li>• Financial Managers, Branch or Department</li> <li>• Agricultural Sales Representatives</li> <li>• Ag Loan Officer</li> </ul>	<p>The focus is on the knowledge of engineering, hydraulics, pneumatics, electronics, power, structures and controls. Workers design agricultural structures as well as machinery and equipment.</p> <ul style="list-style-type: none"> <li>• Agricultural Engineers</li> <li>• Agricultural Equipment Operators</li> <li>• Farm Equipment Mechanics and Service Technicians</li> <li>• Parts Managers</li> <li>• Precision Ag/GPS Specialist</li> </ul>	<p>Systems people working in this pathway develop, maintain, manage and protect the natural environment. This includes forest and rangelands, minerals, water and wildlife habitats.</p> <ul style="list-style-type: none"> <li>• Fish and Game Wardens</li> <li>• Forest and Conservation Workers</li> <li>• Geological Data Technicians</li> <li>• Soil and Water Conservationists</li> </ul>	<p>Water and air pollution control, recycling, waste disposal and public health issues are concerns. Workers analyze scientific data, research environmental projects and develop quality control procedures.</p> <ul style="list-style-type: none"> <li>• Environmental Compliance Inspectors</li> <li>• Environmental Engineering Technicians</li> <li>• Pest Control Workers</li> <li>• Water and Wastewater Treatment Plant and Systems Operators</li> </ul>
Career Pathway Classes	Career Pathway Classes	Career Pathway Classes	Career Pathway Classes
<ul style="list-style-type: none"> <li>• Agricultural Sales &amp; Service</li> <li>• Agricultural Business Management</li> <li>• World Agricultural Science and Technology</li> <li>• Community Development</li> <li>• Supervised Agricultural Experience</li> <li>• Cooperative Work Experience</li> <li>• Individual Agricultural Studies</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural Mechanics Technology I</li> <li>• Agricultural Mechanics Technology II</li> <li>• Agricultural Mechanics Power Systems</li> <li>• Agricultural Welding &amp; Fabrication</li> <li>• Advanced Ag Welding &amp; Fabrication</li> <li>• Individual Agricultural Studies</li> <li>• Supervised Agricultural Experience</li> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Botany/Horticulture Science I</li> <li>• Botany/Horticulture Science II</li> <li>• Natural/Environmental Resources</li> <li>• World Agriculture Science and Technology</li> <li>• Individual Agricultural Studies</li> <li>• Community Development</li> <li>• Supervised Agricultural Experience</li> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Botany/Horticulture Science</li> <li>• Agricultural Mechanics Technology</li> <li>• Natural/Environmental Resources</li> <li>• World Agricultural Science and Technology</li> <li>• CASE Environmental Issues</li> <li>• Individual Agricultural Studies</li> </ul>

# EDUCATION

*Agricultural education instruction is delivered through three major components:*

1. *Classroom/laboratory instruction (contextual learning)*
2. *Supervised Agricultural Experience (SAE) programs (work-based learning)*
3. *Student leadership organizations (National FFA Organization, and National Professional Agricultural Student Organization, National Young Farmer Educational Association).*

## Agriculture, Food & Natural Resources Career Cluster

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 or resources.

Food Products & Processing Systems Pathway	Plant Systems Pathway	Animal Systems Pathway
<p>The discovery of new food sources and the processing, packaging and food storage based on industry and government regulations.</p> <ul style="list-style-type: none"> <li>• Agricultural and Food Science Technicians</li> <li>• Agricultural Scientists</li> <li>• Food Scientists and Technologists</li> <li>• Agricultural Products Graders and Sorters</li> <li>• Meat Scientist</li> </ul>	<p>Helping producers of crops feed a growing population while conserving natural resources and maintaining the environment.</p> <ul style="list-style-type: none"> <li>• Crop, Nursery and Greenhouse Farmworkers</li> <li>• Foresters</li> <li>• Lawn Service Managers</li> <li>• Soil and Plant Scientists</li> <li>• Agronomist</li> <li>• Custom Applicator</li> <li>• Agronomy Sales/Manager</li> </ul>	<p>People in this pathway develop more efficient ways of producing and processing meat, poultry, eggs and dairy products. They study genetics, nutrition, reproduction, and the development of farm animals.</p> <ul style="list-style-type: none"> <li>• Animal Scientists</li> <li>• Supervisors of Animal Care Workers</li> <li>• Veterinarians</li> <li>• Zoologists and Wildlife Biologists</li> <li>• Meat Cutter</li> <li>• Animal Nutritionist</li> </ul>
Career Pathway Classes	Career Pathway Classes	Career Pathway Classes
<ul style="list-style-type: none"> <li>• Agriculture Processing</li> <li>• Individual Agricultural Studies</li> <li>• Supervised Agricultural Experience</li> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• CASE – Principles of Agricultural Science-Plant</li> <li>• Agronomy Science</li> <li>• Botany/Horticulture Science I</li> <li>• Botany/Horticulture Science II</li> <li>• World Agriculture Science and Technology</li> <li>• Individual Agricultural Studies</li> <li>• Supervised Agricultural Experience</li> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• CASE – Principles of Agricultural Science-Animal</li> <li>• Livestock Production</li> <li>• Equine Science</li> <li>• Small Animal Care</li> <li>• Veterinary Science</li> <li>• Agriculture Processing</li> <li>• World Agriculture Science and Technology</li> <li>• Individual Agricultural Studies</li> <li>• Supervised Agricultural Experience</li> <li>• Cooperative Work Experience</li> </ul>

Find more at [RUReady.ND.gov](http://RUReady.ND.gov) and [Insights.ND.gov/College](http://Insights.ND.gov/College)

# BUSINESS



*Assists students in applying business concepts and advancing technologies to their personal lives, other academic areas, and future careers in order to become competitive and productive citizens in a global society.*



**Are you interested in Business Education?**

**Consider starting with Business Education Elective Options:**

- Business Fundamentals/Principles of Marketing • Business Communication • Business Law
- Business Computer Applications • Accounting • Accounting II • Financial Literacy/Principles of Finance
- Spreadsheets • Business Finance • Economics (CTE)

## Business Management & Administration Career Cluster

The planning, organizing, directing, and evaluating of business functions essential to efficient and productive business operations.

Administrative Support Pathway	Business Information Management Pathway	General Management Pathway
<p>Business operations are facilitated through a variety of administrative and clerical duties including information and communication management, data processing and project tracking.</p> <ul style="list-style-type: none"> <li>• Administrative Assistants</li> <li>• Computer Operators</li> <li>• Court Reporters</li> <li>• Office and Administrative Support Workers</li> <li>• Receptionists and Information Clerks</li> <li>• Office Manager</li> <li>• Customer Service Assistant Payroll Clerk</li> <li>• Medical Transcriptionist</li> <li>• Legal Secretary</li> <li>• Data Entry Specialist</li> </ul>	<p>Business Information Management is an umbrella term covering careers that provide a bridge between business processes/initiatives and Information Technology.</p> <ul style="list-style-type: none"> <li>• Business Intelligence Analysts</li> <li>• Computer Systems Managers</li> <li>• Database Administrators</li> <li>• Document Management Specialists</li> <li>• Information Technology Project Managers</li> <li>• Information Systems Manager</li> <li>• Controller</li> <li>• Chief Financial Officer</li> <li>• Chief Technology Officer</li> <li>• Budget Analyst</li> <li>• Auditor</li> <li>• Information Technology Director</li> </ul>	<p>The planning, organizing, directing and evaluation of all or part of a business organization through the allocation and use of financial, human and material resources.</p> <ul style="list-style-type: none"> <li>• Advertising and Promotions Managers</li> <li>• General and Operations Managers</li> <li>• Public Relations Managers</li> <li>• Purchasing Managers</li> <li>• Storage and Distribution Managers</li> <li>• Small Business Owner</li> <li>• Facilities Manager</li> <li>• Human Resources Manager</li> <li>• Chief Executive Officer</li> <li>• Entrepreneur</li> <li>• First Line Supervisor</li> </ul>
Career Pathway Classes	Career Pathway Classes	Career Pathway Classes
<ul style="list-style-type: none"> <li>• Word Processing</li> <li>• Desktop Publishing</li> <li>• Multimedia I</li> <li>• Multimedia II</li> <li>• Communication Technologies</li> <li>• Web Design</li> <li>• Database</li> <li>• Business Technology &amp; Procedures</li> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Management I</li> <li>• Management II</li> <li>• Entrepreneurship</li> <li>• Global Management</li> <li>• Operations Management</li> <li>• Database</li> <li>• Spreadsheet</li> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Management I</li> <li>• Management II</li> <li>• Entrepreneurship</li> <li>• Global Management</li> <li>• Operations Management</li> <li>• Cooperative Work Experience</li> </ul>

# EDUCATION

## Business Management & Administration Career Cluster

The planning, organizing, directing, and evaluating of business functions essential to efficient and productive business operations.

Human Resources Management Pathway	Operations Management Pathway
<p>The staffing activities that involve planning, recruitment, selection, orientation, training, performance appraisal, compensation and safety of employees.</p> <ul style="list-style-type: none"> <li>• Compensation and Benefits Manager</li> <li>• Compliance Managers</li> <li>• Human Resources Managers</li> <li>• Labor Relations Specialists</li> <li>• Training and Development Managers</li> <li>• Human Resources Manager</li> <li>• Industrial Relations Director</li> <li>• Corporate Trainer</li> <li>• Personnel Recruiter</li> <li>• Occupational Analyst</li> </ul>	<p>The planning, organizing, coordinating and controlling of the resources needed to produce/provide a business's goods and/or services.</p> <ul style="list-style-type: none"> <li>• Business Continuity Planners</li> <li>• Business Intelligence Analysts</li> <li>• Business Operations Specialists</li> <li>• Customer Service Supervisor</li> <li>• General and Operations Managers</li> <li>• Operations Research Analysts</li> <li>• Sales Manager</li> <li>• Industrial Production Manager</li> <li>• Research &amp; Development Manager</li> <li>• Training &amp; Development Manager</li> <li>• E-Commerce Analyst</li> </ul>
Career Pathway Classes	Career Pathway Classes
<ul style="list-style-type: none"> <li>• Management I</li> <li>• Management II</li> <li>• Entrepreneurship</li> <li>• Global Management</li> <li>• Operations Management</li> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Management I</li> <li>• Management II</li> <li>• Entrepreneurship</li> <li>• Global Management</li> <li>• Operations Management</li> <li>• Cooperative Work Experience</li> </ul>

## Finance Career Cluster

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

Accounting Pathway
<p>Accountants summarize, analyze and communicate a business's financial information for use in management decision-making.</p> <ul style="list-style-type: none"> <li>• Accountants and Auditors</li> <li>• Billing, Cost and Rate Clerks</li> <li>• Bookkeeping, Accounting and Auditing Clerks</li> <li>• Payroll and Timekeeping Clerks</li> <li>• Treasurers, Controllers and Chief Financial Officers</li> </ul>
Career Pathway Classes
<ul style="list-style-type: none"> <li>• Accounting III</li> <li>• Accounting IV</li> <li>• Forensic Accounting</li> <li>• Entrepreneurial Accounting</li> <li>• Cooperative Work Experience</li> </ul>

Find more at [RUPrepare.ND.gov](http://RUPrepare.ND.gov) and [Insights.ND.gov/College](http://Insights.ND.gov/College)

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

**INSIGHTS.ND.GOV**  
Provided by SLDS

# FAMILY & CONSUMER



*Family & Consumer Sciences Education empowers individuals and families across the life span to manage the challenges of living and working in a diverse, global society. Our unique focus is on families, work, and their interrelationships.*

## Are you interested in Family & Consumer Sciences Education?

### Consider starting with Family & Consumer Sciences Education Elective Options:

- Child Development • Consumer & Resource Management
- Family & Consumer Sciences I • Family & Consumer Sciences II
- Family & Consumer Sciences III • Family Living • Independent Living
- Individual & Family Health • Individual Family & Consumer Sciences Studies
- Nutrition & Fitness • Nutrition & Food Prep I • Nutrition and Food Prep II • Parenting



<h2>Human Services Career Cluster</h2> <p>Preparing individuals for employment that relates to families and human needs.</p>	
Family & Community Services Pathway	Early Childhood Development & Services Pathway
<p>Employees help individuals cope with circumstances of daily living, counsel troubled individuals, train or retrain the unemployed, care for the elderly and the physically and mentally disabled.</p> <ul style="list-style-type: none"> <li>• City and Regional Planning Aides</li> <li>• Community Service Managers</li> <li>• Dietitians and Nutritionists</li> <li>• Eligibility Interviewers, Government Programs</li> <li>• Emergency Management Directors</li> <li>• Social and Community Service Managers</li> </ul>	<p>Early childhood development workers provide services in childcare centers, nursery schools, preschools, public schools, private households and before- and after-school programs.</p> <ul style="list-style-type: none"> <li>• Childcare Center/Program Education Administrators</li> <li>• Childcare Workers</li> <li>• Child Welfare Directors</li> <li>• Nannies</li> <li>• Preschool Teachers</li> <li>• Teacher Assistants</li> </ul>
Career Pathway Classes	Career Pathway Classes
<ul style="list-style-type: none"> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Nutrition &amp; Food Prep I</li> <li>• Nutrition &amp; Fitness</li> <li>• Early Childhood Care &amp; Education Services</li> <li>• Occupational Exploration</li> <li>• Cooperative Work Experience</li> </ul>

<h2>Hospitality &amp; Tourism Career Cluster</h2> <p>The management, marketing and operations of restaurants, lodging and travel related services.</p>
Restaurants & Food/Beverage Services Pathway
<p>A variety of tasks are performed to maintain operations and promote guest services in eating and drinking establishments.</p> <ul style="list-style-type: none"> <li>• Bakers</li> <li>• Baristas</li> <li>• Food Concession Counter Attendants</li> <li>• Food Preparation Workers</li> <li>• Food Service Managers</li> <li>• Restaurant Hosts/Hostesses</li> <li>• Waiters and Waitresses</li> </ul>
Career Pathway Classes
<ul style="list-style-type: none"> <li>• Nutrition and Food Prep II</li> <li>• Cultures &amp; Cuisine</li> <li>• Food Science &amp; Technology</li> <li>• Food Service/Culinary Arts</li> <li>• Occupational Exploration</li> <li>• Cooperative Work Experience</li> </ul>

# SCIENCES EDUCATION

## Arts, A/V Technology & Communications Cluster

Designing, producing, exhibiting, performing, writing, and publishing multimedia content.

### Visual Arts Pathway

Visual artists create art to communicate ideas, thoughts or feelings. They use a variety of methods – painting, sculpting, illustrating – and an assortment of materials, including oils, watercolors, acrylics, pastels, pencils, pen and ink, photography, plaster, clay and computers.

- Audio-Visual and Multimedia Collections Specialists
- Commercial and Industrial Designers
- Fine Artists, including Painters, Sculptors and Illustrators
- Graphic Designers
- Museum Technicians and Conservators

### Career Pathway Classes

- Clothing & Textiles I
- Clothing & Textiles II
- Fashion & Textile Trends
- Current Topics in Textiles & Apparel
- Housing & Living Environments
- Clothing & Textile Services
- Occupational Exploration
- Cooperative Work Experience

## Education & Training Career Cluster

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

### Teaching/Training Pathway

Teachers and trainers must be knowledgeable in their subject area and can communicate, motivate learners, and understand educational needs. Teachers must be able to recognize and respond to individual differences and employ different teaching/training methods.

- Adult Basic and Secondary Education and Literacy Teachers and Instructors
- Career and Technical Education Teachers
- Coaches and Scouts
- Elementary School Teachers
- Fitness Trainers and Aerobics Instructors
- Instructional Aides
- Secondary School Teachers
- Special Education Teachers

### Career Pathway Classes

- Teaching Profession
- Education Methodology
- Child Development
- Parenting
- Early Childhood Care & Education Services
- Occupational Exploration
- Cooperative Work Experience

Find more at [RUReady.ND.gov](http://RUReady.ND.gov) and [Insights.ND.gov/College](http://Insights.ND.gov/College)

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# HEALTH SCIENCES EDUCATION



A statewide program within the North Dakota Department of Career and Technical Education that is committed to providing career awareness, work readiness skills, and occupational preparation in the many areas of healthcare. The health science career cluster is an educational area dedicated to teaching students how to be health care professionals. The Health Science Career Cluster has multiple health science pathways.

Are you interested in Health Science Education?

Consider starting with Health Science Education Elective Options:



- CTE Health Careers Cluster • Medical Terminology • Health Sciences I/II

## Health Science Career Cluster

Planning, managing and providing therapeutic and diagnostic services.

Diagnostic Services Pathway	Health Informatics Pathway	Therapeutic Services Pathway	Biotechnology Research & Development Pathway
<p>Tests and evaluations are used to aid in the detection, diagnosis and treatment of diseases, injuries, or other physical conditions.</p> <ul style="list-style-type: none"> <li>• Diagnostic Medical Sonographers</li> <li>• Healthcare Support Workers</li> <li>• Medical and Clinical Laboratory Technologists</li> <li>• Nuclear Medicine Technologists</li> <li>• Radiologic Technicians</li> </ul>	<p>This includes health care administrators who manage health care agencies as well as those individuals who are responsible for managing all of the patient data and information related to health care procedures.</p> <ul style="list-style-type: none"> <li>• Computer and Information Systems Managers</li> <li>• Epidemiologists</li> <li>• Health Educators</li> <li>• Medical Records and Health Information Technicians</li> </ul>	<p>Health professionals in this pathway work directly with patients; they may provide care, treatment, counseling and health education information.</p> <ul style="list-style-type: none"> <li>• Certified Nurse Assistant</li> <li>• Dentists</li> <li>• EMT/Paramedic</li> <li>• Occupational Therapists</li> <li>• Pharmacists</li> <li>• Physician</li> <li>• Registered Nurse</li> <li>• Speech-Language Pathologists</li> <li>• Surgical Technologists</li> </ul>	<p>Scientists may study diseases to discover new treatments or invent medical devices through bioscience research and development.</p> <ul style="list-style-type: none"> <li>• Bioinformatics Scientists</li> <li>• Biologists</li> <li>• Biomedical Engineers</li> <li>• Medical Equipment Preparers</li> <li>• Medical Scientists, except Epidemiologists</li> </ul>
Career Pathway Classes	Career Pathway Classes	Career Pathway Classes	Career Pathway Classes
<ul style="list-style-type: none"> <li>• Prevention/Care of Athletic Injuries</li> <li>• Health Education Supervised Occupational Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Medical Records</li> <li>• Health Education Supervised Occupational Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Nurse Assistant Foundations</li> <li>• Nurse Assistant</li> <li>• Emergency Medical Services Foundations</li> <li>• Emergency Medical Services</li> <li>• Advanced EMS</li> <li>• Health Education Supervised Occupational Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Biomedical Technology</li> <li>• PLTW Principles of Biomedical Science</li> <li>• PLTW Human Body Systems</li> <li>• PLTW Medical Interventions</li> <li>• Health Education Supervised Occupational Experience</li> </ul>

Find more at [RUReady.ND.gov](http://RUReady.ND.gov) and [Insights.ND.gov/College](http://Insights.ND.gov/College)





# Preeti CHEMITI

Sheyenne High School,  
West Fargo, ND



I graduated from Sheyenne High School in West Fargo, ND, where I was involved in ND HOSA for all four years of high school at the school level and the state level.

- ◆ State: Secretary – sophomore year, Vice President – junior year, President-senior year
- ◆ Sheyenne High School: Vice President – junior year, President – senior year

One of my favorite memories from HOSA was attending the 2016 International Leadership Conference after my freshman year of high school. I competed in Prepared Speaking and received second place! It was an indescribable experience to be recognized onstage and know the work I invested had paid off. It was the first time a HOSA member from North Dakota had placed in the top 10 at a national competition, which made the experience more memorable.

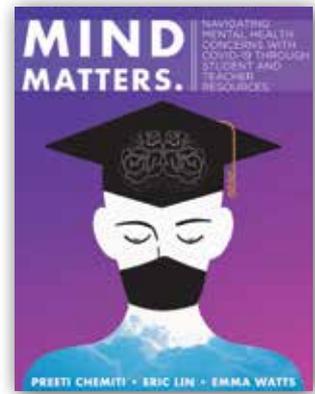
HOSA helped me become a much more confident and poised individual. Moreover, it was critical for allowing me to explore career options at a young age. Getting hands-on experience was invaluable for me, and connecting with adults in the fields I was interested in was very important as I tried to plan for my career. I am thankful for the phenomenal help of high school advisors, including Mrs. Strand-Rysgaard,

who encouraged me to try out for opportunities.

I have a personal philosophy of pursuing my interests and passions, even if they seem to be distinct from one another. So, I participated in several work-based learning experiences in high school and college.

- ◆ In high school, a semester-long capstone project at NDSU's School of Pharmacy where I predominantly conducted research on drug delivery systems.
- ◆ In college, I was a political data intern for the non-profit and non-partisan organization, *We Vote*, and I interned with the U.S. Department of State in the Bureau of Legislative Affairs.
- ◆ In the summer of 2022, I completed two separate opportunities:
  - Working as a judicial intern for the U.S. District Court in the Eastern District of New York.
  - A Critical Language Scholarship in Jaipur, India, through the U.S. Department of State. I greatly enjoyed learning abroad!

In the summer of 2020, I received a grant from Princeton University that I put towards authoring *Mind Matters*, a comprehensive mental health guidebook written by and for students during the



pandemic. Since the book's publication in August 2020, it has received more than 6,000 downloads nationally! It's been an incredibly fulfilling experience.

During my time in college, I have explored international relations, health policy, and law – all of which I love! I firmly believe this intersectional approach to my education will prepare me well for my future career. I am fortunate to have well-rounded exposure to a myriad of subjects and can thus search for more diverse career opportunities down the line. My biggest piece of advice is that if you have multiple interests, you can pursue them! Many careers bridge skills and knowledge from a variety of disciplines.

As you are actively preparing for your postsecondary plans, take a deep breath! Take a moment to reflect on everything you've learned thus far, and how you might want to apply that knowledge in the future. It's perfectly okay to not have everything planned out immediately.

# INFORMATION TECHN



*Information Technology Education prepares students for future employment and/or continuing education opportunities in the growing field of Information Technology, which includes work in computer hardware, software, electronics, semiconductors, internet, telecom equipment, e-commerce, and computer services.*

**Are you interested in Information Technology?  
Consider starting with Information Technology  
Education Elective Options:**



- Intro to IT • Introduction to Cybersecurity • Computer Science Applications

## Information Technology Career Cluster

The design, development, support, and management of hardware, software, multimedia, and systems integration services.

Network Systems Pathway	Information Support & Services Pathway
<p>Network analysis, planning and implementation, design, installation, maintenance and management of network systems are included in this pathway. Individuals with expertise in network systems are in high demand for a variety of positions.</p> <ul style="list-style-type: none"> <li>• Computer and Information Systems Managers</li> <li>• Computer Network Architects</li> <li>• Computer Network Support Specialists</li> <li>• Computer Security Specialists</li> <li>• Network and Computer Systems Administrators</li> <li>• Network Systems and Data Communications Analysts</li> <li>• Software Developers, Systems Software</li> </ul>	<p>The implementation of computer systems and software, provision of technical assistance, creation of technical documentation and management of information systems is critical to the success of most 21st century organizations.</p> <ul style="list-style-type: none"> <li>• Business Intelligence Analysts</li> <li>• Computer Support Specialists</li> <li>• Computer Systems Analysts</li> <li>• Database Administrators</li> <li>• Document Management Specialists</li> <li>• Information Security Analysts</li> <li>• Information Technology</li> </ul>
Career Pathway Classes	Career Pathway Classes
<ul style="list-style-type: none"> <li>• Internet of Things Fundamentals</li> <li>• Computer Hardware and Operating Systems (A+)</li> <li>• IT Essentials 2</li> <li>• Introduction to Networking</li> <li>• CCNA Introduction to Networks</li> <li>• CCNA Routing &amp; Switching Essentials</li> <li>• CCNA Scaling Networks</li> <li>• CCNA Connecting Networks</li> <li>• Essentials of Desktop Operating Systems – Linux</li> <li>• Essentials of Network Operating Systems</li> <li>• IT Internship</li> <li>• Cooperative Work Experience</li> <li>• Governor’s School: Information Technology</li> </ul>	<ul style="list-style-type: none"> <li>• Internet of Things Fundamentals</li> <li>• Computer Hardware and Operating Systems (A+)</li> <li>• IT Essentials 2</li> <li>• Introduction to Networking</li> <li>• CCNA Introduction to Networks</li> <li>• Essentials of Desktop Operating Systems</li> <li>• Essentials of Desktop Operating Systems – Linux</li> <li>• Geographic Info Systems (GIS)</li> <li>• IT Internship</li> <li>• Cooperative Work Experience</li> <li>• Governor’s School: Information Technology</li> </ul>

**Find more at [RUReady.ND.gov](http://RUReady.ND.gov) and [Insights.ND.gov/College](http://Insights.ND.gov/College)**

# TECHNOLOGY EDUCATION

## Information Technology Career Cluster

The design, development, support, and management of hardware, software, multimedia, and systems integration services.

Web and Digital Communications Pathway	Programming & Software Development Pathway
<p>Organizations use digital media for creating, designing and producing interactive multimedia products and services. This includes development of digitally generated or computer-enhanced media used in business, training, entertainment, communications and marketing.</p> <ul style="list-style-type: none"> <li>• Computer Operators</li> <li>• Graphic Designers</li> <li>• Multimedia Artists and Animators</li> <li>• Online Merchants</li> <li>• Search Marketing Strategists</li> <li>• Web Administrators</li> <li>• Web Developers</li> </ul>	<p>Knowledge of computer operating systems, programming languages and software development is required to design and develop computer systems and software. People with expertise in programming and software development work to develop tomorrow's products for businesses and consumers.</p> <ul style="list-style-type: none"> <li>• Computer and Information Systems Managers</li> <li>• Computer Programmers</li> <li>• Computer Systems Analysts</li> <li>• Software Developers, Applications</li> <li>• Software Developers, Systems Software</li> <li>• Software Quality Assurance Engineers and Testers</li> <li>• Video Game Designers</li> </ul>
Career Pathway Classes	Career Pathway Classes
<ul style="list-style-type: none"> <li>• Computer Software Application</li> <li>• Mobile Applications Development</li> <li>• Computer Gaming and Design</li> <li>• Computer Gaming and Design 2</li> <li>• Introduction to Web Design</li> <li>• Geographic Info Systems (GIS)</li> <li>• IT Internship</li> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Intro to Programming Languages</li> <li>• Programming Essentials</li> <li>• CS Programming</li> <li>• Programming Essentials: Python</li> <li>• Programming Essentials: C++</li> <li>• Fundamentals of JAVA Programming</li> <li>• Advanced JAVA Programming</li> <li>• Advanced CS Programming</li> <li>• Mobile Applications Development</li> <li>• Computer Gaming and Design</li> <li>• Computer Gaming and Design 2</li> <li>• Introduction to Web Design</li> <li>• Data Modeling &amp; SQL</li> <li>• CTE AP CS Principles</li> <li>• AP Computer Science Principles</li> <li>• CTE AP CS A</li> <li>• AP Computer Science A</li> <li>• PLTW Cybersecurity</li> <li>• PLTW Computer Science Essentials</li> <li>• PLTW Computer Science Principles</li> <li>• IT Internship</li> <li>• Cooperative Work Experience</li> <li>• Governor's School: Information Technology</li> </ul>

# MARKETING EDUCATION



*The mission of Marketing Education is to prepare students in marketing, finance, hospitality, and management to understand and apply marketing, management, and entrepreneurial principles; to make rational economic decisions; and to exhibit social responsibility in a global economy.*

## Are you interested in Marketing Education?

### Consider starting with Marketing Education Elective Options:

- Principles of Marketing/Business Fundamentals
- Principles of Sports & Entertainment Marketing • Marketing I
- Social Media Marketing • Principles of Finance/Financial Literacy
- Principles of Entrepreneurship



## Marketing Career Cluster

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

Professional Sales/Merchandising/Marketing Communication Pathway	Marketing Management Pathway
<p>These workers are involved in the transfer of goods and services in the economy, both to businesses and to individual consumers.</p> <ul style="list-style-type: none"> <li>• Demonstrators and Product Promoters</li> <li>• Real Estate Brokers</li> <li>• Retail Salespersons</li> <li>• Telemarketers</li> <li>• Wholesale and Retail Buyers</li> </ul>	<p>Formulating policies and directing the operations of businesses and corporations, nonprofit institutions and other organizations.</p> <ul style="list-style-type: none"> <li>• Customer Service Representatives</li> <li>• Marketing Development Managers</li> <li>• Marketing Managers</li> <li>• Sales Managers</li> <li>• Research Marketing Strategists</li> </ul>
Career Pathway Classes	Career Pathway Classes
<ul style="list-style-type: none"> <li>• Marketing I &amp; II</li> <li>• Management/Management I &amp; II</li> <li>• Sports &amp; Entertainment Marketing</li> <li>• School Based Enterprise</li> <li>• Cooperative Work Experience</li> <li>• Social Media Marketing</li> </ul>	<ul style="list-style-type: none"> <li>• Marketing I &amp; II</li> <li>• Hospitality Marketing</li> <li>• Business Finance</li> <li>• Entrepreneurship</li> <li>• School Based Enterprise</li> <li>• Cooperative Work Experience</li> </ul>

Find more at [RUReady.ND.gov](http://RUReady.ND.gov) and [Insights.ND.gov/College](http://Insights.ND.gov/College)



# ENTREPRENEURSHIP

– *Is it for you?*

**Entrepreneurs own and operate their own businesses. Do you have the personality, characteristics, or skills necessary to own and run a small business?**

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

Yes No

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

## Your Entrepreneurial Quotient

Give yourself one point for each “yes” answer.

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

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

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

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

### BONUSES

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

### CHALLENGES

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

**Where can you get information & assistance on entrepreneurship?**

Center for Technology & Business  
[ctbnd.com](http://ctbnd.com)

Jamestown Regional  
Entrepreneur Center  
[jrecenter.com](http://jrecenter.com)

ND Department of Commerce,  
Economic Development & Finance  
[commerce.nd.gov/economic-development-finance](http://commerce.nd.gov/economic-development-finance)

NDSU Research & Technology Park  
[ndsuresearchpark.com](http://ndsuresearchpark.com)

ND Department of  
Veterans Affairs  
[veterans.nd.gov/small-business-resources](http://veterans.nd.gov/small-business-resources)

UND Center for Innovation  
[und.edu/innovation](http://und.edu/innovation)

# TECHNOLOGY & ENGINEERING



*Supports the STEM fields of Science, Technology, Engineering and Mathematics and stresses design, critical thinking skills, problem-solving abilities and knowledge of content, tools and processes that will help young students prepare for their future careers.*

**Are you interested in Technology & Engineering?  
Consider starting with Technology & Engineering  
Education Elective Options:**



• Invention & Innovation • Technological Systems

## Manufacturing Career Cluster

Processing materials into intermediate or final products and related professional and technical support activities.

### Manufacturing Production Process Development Pathway

Employees are responsible for product design and working with customers to ensure the product meets or exceeds customer expectations. They also monitor the manufacturing process and the materials used to manufacture the product.

- Biofuels Production Managers
- Commercial and Industrial Designers
- Electromechanical Equipment Assemblers
- Manufacturing Production Technicians
- Power Plant Operators

### Career Pathway Classes

- Applying Technology
- Construction Technology
- Manufacturing Technology
- Communication Technology
- Design/Drafting
- 3D Modeling & Design
- Energy & Transportation Technology
- Robotics Engineering
- Cooperative Work Experience

## Information Technology Career Cluster

The design, development, support and management of hardware, software, multimedia and systems integration services.

### Programming and Software Development Pathway

Knowledge of computer operating systems, programming languages and software development is required to design and develop computer systems and software. People with expertise in programming and software development work to develop tomorrow's products for businesses and consumers.

- Computer and Information Systems Managers
- Computer Programmers
- Computer Systems Analysts
- Software Developers, Applications
- Software Developers, Systems Software
- Software Quality Assurance Engineers and Testers
- Video Game Designers

### Career Pathway Classes

- PLTW Cybersecurity
- PLTW Computer Science Essentials
- PLTW Computer Science Principles
- Cooperative Work Experience

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# EDUCATION

## Science, Technology, Engineering & Mathematics Career Cluster

Providing scientific research and technical services, including laboratory testing services, research, and development.

### Engineering & Technology Pathway

For a future in this pathway, students should study and apply principles from advanced mathematics, life sciences, physical science, earth and space science, and technology.

- Aerospace Engineers
- Agricultural Engineers
- Architectural Drafters
- Chemical Engineers
- Civil Drafters
- Computer Hardware Engineers
- Electrical Drafters
- Electrical Engineers
- Electronic Drafters
- Materials Engineers
- Mechanical Engineers
- Mining and Geological Engineers
- Mining Safety Engineers
- Petroleum Engineers
- Product Safety Engineers
- Surveying and Mapping Technicians

### Career Pathway Classes

- Foundations of Technology
- Technology & Society
- Advanced Design Applications
- Advanced Technological Applications
- Technological Design
- Robotics Engineering
- Engineering Design
- PLTW Introduction to Engineering Design
- PLTW Digital Electronics
- PLTW Principles of Engineering
- PLTW Civil Engineering and Architecture
- PLTW Environmental Sustainability
- STEM Seminar
- PLTW Engineering Essentials
- PLTW Engineering Design and Development
- Cooperative Work Experience

## Health Science Career Cluster

Planning, managing, and providing therapeutic and diagnostic services.

### Biotechnology Research & Development Pathway

Scientists may study diseases to discover new treatments or invent medical devices through bioscience research and development.

- Bioinformatics Scientists
- Biologists
- Biomedical Engineers
- Medical Equipment Preparers
- Medical Scientists, except Epidemiologists

### Career Pathway Classes

- Biomedical Technology
- PLTW Principles of Biomedical Science
- PLTW Human Body Systems
- PLTW Medical Interventions
- Cooperative Work Experience

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

**INSIGHTS.ND.GOV**  
Provided by SLDS

*Trade, Industry, and Technical Education strives to teach and model industry standards in the lab and classroom so that job skill training can be enhanced.*

## Are you interested in Trade, Industry & Technical Education?

### Consider starting with Trade, Industry & Technical Education Elective Options:

- Building Trades I • Building Trades II • Electrical Technology • Facilities Maintenance I
- Facilities Maintenance II • HVAC - Heating, Ventilation, Air Conditioning
- Residential Plumbing • Sheet Metal Technology • Welding Technology I • Welding Technology II



### Transportation, Distribution & Logistics Career Cluster

The movement of people, materials and goods by road, pipeline, air, rail, and water.

Transportation Operations Pathway	Facility and Mobile Equipment Maintenance Pathway
<p>These are the people that drive or pilot the vehicles that transport people and freight. Equally important are the support people who ensure that any cargo transport is safe, secure and on time.</p> <ul style="list-style-type: none"> <li>• Airline Pilots, Copilots and Flight Engineers</li> <li>• Railroad Brake, Signal and Switch Operators</li> <li>• Ship and Boat Captains</li> <li>• Subway and Streetcar Operators</li> <li>• Tractor-Trailer Truck Drivers</li> </ul>	<p>The people in this pathway keep the equipment and machinery running while looking for more efficient, safe and cost-effective ways to do so.</p> <ul style="list-style-type: none"> <li>• Aircraft Mechanics and Service Technicians</li> <li>• Automotive Specialty Technicians</li> <li>• Diesel Engine Specialists</li> <li>• Electronic Equipment Installers and Repairers</li> <li>• Rail-Track Laying and Maintenance Equipment Operators</li> </ul>
Career Pathway Classes	Career Pathway Classes
<ul style="list-style-type: none"> <li>• Aviation Technology I</li> <li>• Aviation Technology II</li> <li>• Commercial Driver License</li> <li>• Unmanned Aircraft Systems</li> <li>• T&amp;I Capstone</li> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Auto Collision Tech I</li> <li>• Auto Collision Tech II</li> <li>• Foundations of Automotive</li> <li>• Auto Tech I</li> <li>• Automotive Technology Summer Academy</li> <li>• Auto Tech II</li> <li>• Auto General Service Tech I</li> <li>• Auto General Service Tech II</li> <li>• Parts &amp; Merchandise Management</li> <li>• Diesel Tech</li> <li>• Diesel Technology II</li> <li>• Recreational Small Engine Technology I</li> <li>• Recreational Small Engine Technology</li> <li>• T&amp;I Capstone</li> <li>• Cooperative Work Experience</li> </ul>

### Manufacturing Career Cluster

Processing materials into intermediate or final products and related professional and technical support activities.

Production Pathway	Manufacturing Production Process Development Pathway
<p>People with careers in production work with machines, making or assembling electronic parts, constructing or assembling modular housing, performing welding jobs, or printing various materials.</p> <ul style="list-style-type: none"> <li>• Electrical and Electronic Inspectors and Testers</li> <li>• Industrial Engineering Technicians</li> <li>• Metal Fabricators, Structural Metal Products</li> <li>• Power Distributors and Dispatchers</li> <li>• Welding Machine Operators and Tenders</li> </ul>	<p>Development Employees are responsible for product design and working with customers to ensure the product meets or exceeds customer expectations. They also monitor the manufacturing process and the materials used to manufacture the product.</p> <ul style="list-style-type: none"> <li>• Biofuels Production Managers</li> <li>• Commercial and Industrial Designers</li> <li>• Electromechanical Equipment Assemblers</li> <li>• Manufacturing Production Technicians</li> <li>• Power Plant Operators</li> </ul>
Career Pathway Classes	
<ul style="list-style-type: none"> <li>• Welding Technology I</li> <li>• Welding Technology II</li> <li>• Virtual Center Welding Technology Summer Academy</li> <li>• Machine Tooling Technology</li> <li>• Automated Manufacturing</li> <li>• T&amp;I Capstone</li> <li>• Cooperative Work Experience</li> <li>• Manufacturing Cluster</li> </ul>	<ul style="list-style-type: none"> <li>• Electronics Technology I</li> <li>• Electronics Technology II</li> <li>• Electronics Technology III</li> <li>• T&amp;I Capstone</li> <li>• Cooperative Work Experience</li> <li>• Manufacturing Cluster</li> </ul>

Find more at [RUReady.ND.gov](http://RUReady.ND.gov) and [Insights.ND.gov/College](http://Insights.ND.gov/College)

# TECHNICAL EDUCATION

## Architecture & Construction Career Cluster

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

Construction Pathway	Maintenance/Operations Pathway	Design/Pre-Construction Pathway
<p>Workers build and remodel houses, apartments, industrial buildings, warehouses, office buildings, churches, schools and recreational facilities.</p> <ul style="list-style-type: none"> <li>• Carpenters</li> <li>• Cement Masons and Concrete Finishers</li> <li>• Construction and Building Inspectors</li> <li>• Construction Managers</li> <li>• Cost Estimators</li> <li>• Crane and Tower Operators</li> <li>• Glaziers</li> <li>• Plumbers, Pipefitters and Steamfitters</li> <li>• Sheet Metal Workers</li> <li>• Structural Iron and Steel Workers</li> </ul>	<p>Employees in maintenance/operations determine the optimal placement of machines in a plant, install machinery and maintain the smooth operation of refineries, power plants, chemical plants and mills.</p> <ul style="list-style-type: none"> <li>• Control and Valve Installers and Repairers</li> <li>• Electric Meter Installers and Repairers</li> <li>• General Maintenance and Repair Workers</li> <li>• Geothermal Technicians</li> <li>• Heating, Air Conditioning &amp; Refrigeration Mechanics</li> <li>• Home Appliance Repairers</li> <li>• Installation, Maintenance and Repair Workers</li> <li>• Landscaping and Groundskeeping Workers</li> <li>• Stationary Engineers and Boiler Operators</li> <li>• Valve and Regulator Repairers</li> </ul>	<p>Employees in design/pre-construction create our future! They turn a concept into a set of plans. Their plans guide other construction professionals as they continue the building process.</p> <ul style="list-style-type: none"> <li>• Architects</li> <li>• Architectural and Civil Drafters</li> <li>• Cartographers and Photogrammetrists</li> <li>• Civil Engineers</li> <li>• Commercial and Industrial Designers</li> <li>• Interior Designers</li> <li>• Materials Engineers</li> <li>• Mechanical Drafters</li> <li>• Surveying and Mapping Technicians</li> <li>• Surveyors</li> </ul>
Career Pathway Classes	Career Pathway Classes	Career Pathway Classes
<ul style="list-style-type: none"> <li>• Foundations of Building Trades</li> <li>• Building Trades I</li> <li>• Building Trades Summer Academy</li> <li>• Building Trades II</li> <li>• Residential Plumbing</li> <li>• HVAC</li> <li>• Electrical Technology</li> <li>• T&amp;I Capstone</li> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Facilities Maintenance I</li> <li>• Facilities Maintenance II</li> <li>• Residential Plumbing</li> <li>• Sheet Metal Technology</li> <li>• HVAC</li> <li>• T&amp;I Capstone</li> <li>• Cooperative Work Experience</li> </ul>	<ul style="list-style-type: none"> <li>• Drafting Technology I</li> <li>• Drafting Technology II</li> <li>• PLTW Introduction to Engineering Design (IED)</li> <li>• T&amp;I Capstone</li> <li>• Cooperative Work Experience</li> </ul>

## Arts, AV Technology & Communications Career Cluster

Designing, producing, exhibiting, performing, writing, and publishing multimedia content.

### Visual Arts Pathway

Visual artists create art to communicate ideas, thoughts, or feelings. They use a variety of methods – painting, sculpting, illustrating – and an assortment of materials, including oils, watercolors, acrylics, pastels, pencils, pen and ink, photography, plaster, clay, and computers.

- Audio-Visual and Multimedia Collections Specialists
- Commercial and Industrial Designers
- Fine Artists, including Painters, Sculptors and Illustrators
- Graphic Designers
- Museum Technicians and Conservators

### Career Pathway Classes

- Commercial Art I
- Commercial Art II
- Photography
- Graphic Communications I
- Graphic Communications II
- Audio/Visual Production
- T&I Capstone
- Cooperative Work Experience

## Hospitality & Tourism Career Cluster

The management, marketing, and operations of restaurants, lodging, and travel related services.

### Restaurants & Food/Beverage Services Pathway

A variety of tasks are performed to maintain operations and promote guest services in eating and drinking establishments.

- Bakers
- Baristas
- Food Concession Counter Attendants
- Food Preparation Workers
- Food Service Managers
- Restaurant Hosts/Hostesses
- Waiters and Waitresses

### Career Pathway Classes

- Culinary Arts I
- Culinary Arts II
- T&I Capstone
- Cooperative Work Experience

## Agriculture, Food & Natural Resources Career Cluster

The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources.

### Natural Resources Systems Pathway

Systems People working in this pathway develop, maintain, manage, and protect the natural environment. This includes forest and rangelands, minerals, water, and wildlife habitats.

- Fish and Game Wardens
- Forest and Conservation Workers
- Geological Data Technicians
- Soil and Water Conservationists

### Career Pathway Classes

- Exploration of Oil Industry
- Petroleum Industry Skills
- T&I Capstone
- Cooperative Work Experience

# HOW TO USE THE OCCUPATIONAL SECTION

<b>1</b> Occupational Title & Description	<b>2</b> Career Cluster Pathway <b>3</b> Holland Type	<b>4</b> Related Occupations	<b>5</b> Number Employed in ND - 2021 <b>6</b> ND Average (Mean) Wage - 2021	<b>7</b> Occupational Trait(s)
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Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree				
<b>Agricultural Equipment Operators</b> Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops. May perform tasks, such as crop baling or hay bucking.	Power, Structural & Technical Systems  Realistic	Tractor Operator; Hay Baler; Combine Operator	300 \$42,780	
<b>Animal Caretaker</b> Feed, water, groom, bathe, exercise, or otherwise provide care to promote and maintain the well-being of pets.	Animal Systems  Realistic	Animal Shelter Worker; Dog Groomer; Kennel Worker; Zookeeper	590 \$28,650	<b>HD</b>

## 1 Occupational Title/Description

Most commonly used title for the occupation and a description that provides a general idea of the tasks associated with this occupation.

## 2 Career Cluster Pathway

CTE classes fall into one of 16 "career clusters." A career cluster is a group of jobs and industries that are related by skills or products. Within each cluster, there are career pathways that correspond to **a collection of courses and training opportunities to prepare students for a chosen career.**

\*When making a career decision, start with interests and matching careers first before choosing a cluster or pathway.

## 3 Holland Type and Related Occupations

**Artistic (Creator):** Artistic occupations frequently involve working with forms, designs, and patterns. They often require self-expression, and the work can be done without following a clear set of rules.

**Conventional (Organizer):** Conventional occupations frequently involve following set procedure and routines. These occupations can include working with data and details more than ideas. Usually there is a clear line of authority to follow.

**Enterprising (Persuader):** Enterprising occupations frequently involve starting and carrying out projects. These occupations can involve leading people and making decisions. Sometimes they require risk taking and often deal with business.

**Investigative (Thinker):** Investigative occupations frequently involve working with ideas and require an extensive amount of thinking. These occupations can involve searching for the facts and figuring out problems mentally.

**Realistic (Do-er):** Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside and do not involve a lot of paperwork or working closely with others.

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

## 4 Related Occupations

Jobs that have similar work environments and skills

## 5 Number Employed in North Dakota – 2021

## 6 North Dakota Average (Mean) Wage – 2021

Estimated total wages of an occupation divided by its employment. Indicates the estimated number of persons employed in this occupation in North Dakota in 2021.

## 7 Occupational Trait(s)

**Top 100** - North Dakota Occupational Demand Rankings reveal the greatest opportunities for job seekers in North Dakota’s labor market. Occupational demand rankings are determined by an occupation’s demand score, which is calculated using inputs related to current demand, short-term demand, and long-term demand.

**Bright Outlook** - ‘Bright Outlook’ occupations are those with a 2020 base-year employment estimate of 100 or greater and a projected numeric change of at least 50 or greater or a projected growth rate of at least 20 percent or greater. The ‘Bright Outlook’ designation does not take occupational wage levels into account, only projected employment growth or growth rates.

**High Wage** - North Dakota average annual salary of at least \$65,000.

**High Skill** - Occupations need a considerable amount of work-related skill, knowledge, or experience.

**E** **Energy** - Energy Occupations in North Dakota.

**HD** **High Demand** - High demand highlights a group of diverse occupations adding the largest number of new jobs over the projections period, 2020-2030.

**Military** - Occupation exists in the military.

**Career Clusters** The occupational and related information in the Career Outlook is broken into sixteen Career Clusters, listed below. You are encouraged to use the Career Clusters Interest Survey on pages 6 and 7 or in RUREady.ND.gov to help identify the cluster or clusters most closely related to your personal preferences and interests.\*

Career Cluster	Page	Career Cluster	Page
<b>Agriculture, Food &amp; Natural Resources</b>	<b>P. 30</b>	<b>Hospitality &amp; Tourism</b>	<b>P. 38</b>
<b>Architecture &amp; Construction</b>	<b>P. 30</b>	<b>Human Services</b>	<b>P. 40</b>
<b>Arts, A/V Technology &amp; Communications</b>	<b>P. 32</b>	<b>Information Technology</b>	<b>P. 41</b>
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Occupation information and Bright Outlook designation are from the 2020-2030 North Dakota Long-Term Employment Projections.

North Dakota Average (Mean) Wage – 2021/Number Employed in North Dakota in 2021 were updated using North Dakota Employment and Wages by Occupation 2022 edition.

Occupations designated as High Skill, High Wage, and/or High Demand were taken from the Careers in North Dakota 2022 edition.

Top 100 was taken from the North Dakota Occupational Demand Rankings 2022 edition.

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# OCCUPATIONAL SECTION DIRECTORY

Accountants and Auditors.....35	Electrical, Electronic and Electromechanical Assemblers.....42	Maintenance and Repair Workers, General.....43	Respiratory Therapists .....37
Agricultural Equipment Operators .....30	Electricians.....31	Maintenance Workers, Machinery.....43	Retail Salespersons .....44
Agricultural Inspectors.....36	Electronics Engineer.....45	Management Analysts.....33	Riggers .....31
Amusement and Recreation Attendants...38	Elementary School Teachers.....34	Manicurists and Pedicurist.....40	Rotary Drill Operators, Oil and Gas.....31
Animal Caretaker.....30	Eligibility Interviewers, Government Programs.....36	Market Research Analysts and Marketing Specialists.....44	Roustabouts, Oil and Gas.....31
Animal Trainers.....38	Emergency Management Directors.....36	Marketing Managers.....44	Sales Managers .....44
Architects.....32	Emergency Medical Technicians.....36	Marriage and Family Therapists.....40	Sales Representatives of Services.....44
Architectural and Civil Drafters.....30	Environmental Engineers.....30	Massage Therapists.....40	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products.....44
Architectural and Engineering Managers..47	Environmental Scientists and Specialists, Including Health.....45	Mechanical Drafters.....43	Sales Representatives, Wholesale and Manufacturing.....44
Athletic Trainers.....37	Exercise Trainers and Group Fitness Instructors.....40	Mechanical Engineer.....45	Secondary School Teachers.....34
Automotive Service Technicians and Mechanics.....45	Farm Equipment Mechanics and Service Technicians.....30	Mechanical Engineering Technologists and Technicians.....43	Securities, Commodities and Financial Services Sales Agents.....35
Bakers.....38	Farmworkers and Laborers, Crop, Nursery and Greenhouse.....30	Medical Assistants.....37	Security Guards.....42
Bartenders.....38	Fast Food and Counter Workers.....39	Assistants.....37	Self-Enrichment Teachers.....34
Broadcast Technicians.....32	Financial and Investment Analyst.....35	Middle School Teachers.....34	Service Unit Operators, Oil and Gas.....31
Budget Analysts.....35	Financial Examiners.....36	Millwrights.....31	Sheet Metal Workers.....31
Bus and Truck Mechanics/Diesel Engine Specialists.....45	Financial Managers.....35	Mobile Heavy Equipment Mechanics.....46	Skincare Specialists.....40
Bus Drivers, School.....45	Firefighters.....41	Multiple Machine Tool Setters, Operators and Tenders, Metal and Plastic.....43	Social and Human Service Assistants.....40
Bus Drivers, Transit and Intercity.....45	Fish and Game Wardens.....42	Network and Computer Systems Administrators.....41	Software Developers and Software Quality Assurance Analysts and Testers.....41
Calibration and Engineering Technologist & Technicians.....42	Food Preparation Workers.....39	Nurse Practitioners.....38	Soil and Plant Scientists.....30
Career/Technical Education Teachers, Secondary School.....34	Food Scientists and Technologists.....30	Nursing Assistants.....37	Special Education Teachers, Secondary School.....34
Cargo and Freight Agents.....45	Food Servers, Nonrestaurant.....39	Occupational Health and Safety Specialists.....36	Speech-Language Pathologists.....38
Carpenters.....30	Food Service Managers.....39	Occupational Therapists.....38	Statisticians.....45
Cashiers.....43	Fundraisers.....33	Occupational Therapy Assistants.....37	Stockers and Order Fillers.....33
Cement Mason & Concrete Finishers.....30	Gambling Dealers.....39	Office Clerks, General.....33	Structural Iron & Steel Workers.....31
Child, Family and School Social Workers...40	General and Operations Managers.....33	Operating Engineers and Other Construction Equipment Operators.....31	Substance Abuse, Behavioral Disorder and Mental Health Counselors.....40
Childcare Workers.....40	Graphic Designers.....32	Operations Research Analysts.....41	Substitute Teacher, Short-Term.....34
Chiropractors.....37	Hairdressers, Hairstylists and Cosmetologists.....40	Ophthalmologists.....38	Supervisor of Firefighting and Prevention Workers.....42
Civil Engineering Technologists and Technicians.....30	Health Specialties Teachers, Postsecondary.....34	Painters, Construction & Maintenance.....31	Supervisors of Construction Trades Workers and Extraction Workers.....32
Civil Engineers.....32	Heating, Air Conditioning and Refrigeration Mechanics and Installers.....31	Paralegals and Legal Assistants.....41	Supervisors of Food Preparation and Serving Workers.....39
Cleaners of Vehicles and Equipment.....45	Heavy and Tractor-Trailer Drivers.....46	Paramedic.....37	Supervisors of Housekeeping and Janitorial Workers.....39
Clinical and Counseling Psychologists.....40	Highway Maintenance Workers.....31	Parts Salespersons.....44	Supervisors of Mechanics, Installers and Repairers.....43
Clinical Laboratory Technologists and Technicians.....37	Hosts and Hostesses, Restaurant, Lounge and Coffee Shop.....39	Personal Financial Advisors.....35	Supervisors of Personal Service and Entertainment and Recreation Workers...40
Coaches and Scouts.....34	Hotel, Motel and Resort Desk Clerks.....39	Personal Service Managers.....33	Supervisors of Production and Operating Workers.....43
Commercial Pilots.....46	Human Resources Manager.....33	Pest Control Workers.....30	Supervisors of Retail Sales Workers.....44
Computer and Information Systems Managers.....33	Human Resources Specialists.....33	Pesticide Handlers, Sprayers and Applicators, Vegetation.....30	Supervisors of Transportation and Material-Moving Workers.....46
Computer Network Architects.....41	Industrial Engineering Technologists and Technicians.....42	Petroleum Engineers.....45	Surgical Technologists.....37
Computer Network Support Specialists.....41	Industrial Engineers.....45	Petroleum Pump System Operators, Refinery Operators, & Gaugers.....43	Surveyors.....32
Computer Occupations, All Other.....41	Industrial Machinery Mechanics.....42	Pharmacists.....38	Tank Car, Truck and Ship Loaders.....46
Computer User Support Specialists.....41	Industrial Production Managers.....33	Pharmacy Technicians.....37	Tax Examiners and Collectors and Revenue Agents.....36
Conservation Scientists.....44	Industrial Truck and Tractor Operators.....46	Phlebotomists.....37	Tax Preparers.....35
Construction and Building Inspectors.....36	Information Security Analysts.....41	Photographer.....32	Teaching Assistants.....34
Construction Laborers.....30	Inspectors, Testers, Sorters, Samplers and Weighers.....43	Physical Therapist Assistants.....37	Technical Writers.....32
Construction Managers.....32	Insulation Workers-Mechanical and Floor.....31	Physical Therapists.....38	Telecommunications Equipment Installers and Repairers.....32
Cooks, Institution and Cafeteria.....38	Insurance Claims and Policy Processing Clerks.....35	Physician Assistants.....38	Telecommunications Line Installers and Repairers.....32
Cooks, Restaurant.....39	Insurance Sales Agents.....35	Plumbers, Pipefitters and Steamfitters.....31	Title Examiners, Abstractors and Searchers.....42
Cost Estimators.....32	Interior Designers.....32	Police and Sheriff's Patrol Officers.....42	Training and Development Specialists.....33
Counter and Rental Clerks.....43	Interpreters and Translators.....34	Power Plant Operators.....43	Transportation, Storage and Distribution Managers.....46
Crane and Tower Operators.....31	Janitors and Cleaners.....39	Preschool Teachers.....34	Ushers, Lobby Attendant, Ticket Taker.....39
Credit Analysts.....35	Kindergarten Teachers.....34	Probation Officers and Correctional Treatment Specialists.....42	Veterinarians.....38
Credit Authorizers, Checkers and Clerks...35	Laborers and Freight, Stock and Material Movers Handlers.....46	Producers and Directors.....32	Veterinary Technologists and Technicians..37
Customer Service Representatives.....33	Landscaping and Groundskeeping Workers.....31	Production, Planning and Expediting Clerks.....43	Waiters and Waitresses.....39
Dental Assistants.....36	Lawyers.....42	Project Management Specialist.....33	Web and Digital Interface Designers.....41
Dental Hygienists.....36	Licensed Practical and Licensed Vocational Nurses.....36	Property, Real Estate and Community Association Managers.....44	Welders, Cutters, Solderers and Brazers.....43
Dentists.....37	Light Truck Drivers.....46	Public Relations Specialists.....44	Wellhead Pumps.....46
Derrick Operators, Oil and Gas.....31	Loan Interviewers and Clerks.....35	Public Safety Telecommunicators.....42	Wind Turbine Service Technicians.....43
Detectives and Criminal Investigators.....41	Loan Officers.....35	Pump Operators.....46	Writers and Authors.....32
Diagnostic Medical Sonographers, Ultrasound Technologist/Technician.....36	Lodging Managers.....39	Radiologic Technologists and Technicians.....37	
Dining Room and Cafeteria Attendants and Bartender Helpers.....39	Logisticians.....46	Real Estate Sales Agents.....44	
Dishwashers.....39	Maid and Housekeeping Cleaners.....39	Receptionists and Information Clerks.....33	
Dispatchers.....45		Registered Nurses.....37	
Driver/Sales Workers.....44		Residential Advisors.....40	
Education Administrators, Kindergarten through Secondary.....34			
Educational, Guidance and Career Counselors and Advisors.....34			
Electrical and Electronic Engineering Technologists and Technicians.....42			
Electrical Engineers.....45			

Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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# AGRICULTURE, FOOD & NATURAL RESOURCES

## Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree

<b>Agricultural Equipment Operators</b> Drive and control farm equipment to till soil and to plant, cultivate, and harvest crops. May perform tasks, such as crop baling or hay bucking.	Power, Structural & Technical Systems Realistic	Tractor Operator; Hay Baler; Combine Operator	300 \$42,780	
<b>Animal Caretaker</b> Feed, water, groom, bathe, exercise, or otherwise provide care to promote and maintain the well-being of pets.	Animal Systems Realistic	Animal Shelter Worker; Dog Groomer; Kennel Worker; Zookeeper	590 \$28,650	<b>HD</b>
<b>Farm Equipment Mechanics and Service Technicians</b> Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.	Power, Structural & Technical Systems Realistic	Combine Mechanic; Irrigation Equipment Mechanic	860 \$57,620	<b>HD</b>
<b>Farmworkers and Laborers, Crop, Nursery, and Greenhouse</b> Manually plant, cultivate, and harvest vegetables, fruits, and field crops.	Plant Systems Realistic	Greenhouse Transplanter; Pecan Gatherer; Pepper Picker	3,090 \$36,640	
<b>Pest Control Workers</b> Apply or release chemical solutions or toxic gases and set traps to kill or remove pests and vermin that infest buildings and surrounding areas.	Environmental Service Systems Realistic	Exterminator; Fumigator; Rodent Exterminator	50 \$36,050	
<b>Pesticide Handlers, Sprayers, and Applicators, Vegetation</b> Mix or apply pesticides, herbicides, fungicides, or insecticides on trees, shrubs, lawns, or crops. Usually requires specific training and state or federal certification.	Plant Systems Realistic	Fruit Sprayer; Weed Sprayer	420 \$42,540	<b>HD</b>
<b>Refuse &amp; Recyclable Materials Collectors</b> Collect and dump refuse or recyclable materials from containers into truck. May drive truck.	Environmental Service Systems Realistic	Garbage Collector; Recyclable Materials Collector; Trash Collector	430 \$44,100	<b>HD</b>

## Postsecondary Programs – Bachelor’s Degree or Higher

<b>Environmental Engineers</b> Research, design, plan, or perform engineering duties in the prevention, control, and remediation of environmental hazards using various engineering disciplines.	Environmental Service Systems Investigative	Pollution Control Engineer; Soil Engineer; Water Treatment Engineer	90 \$98,320	
<b>Food Scientists and Technologists</b> Use science to study the principles underlying the processing and deterioration of foods. Determine best ways to process, package, preserve, store, and distribute food.	Food Products & Processing Systems Investigative	Dairy Bacteriologist; Food Safety Scientist	20 \$74,070	
<b>Soil and Plant Scientists</b> Conduct research in production, yield, and management of crops and agricultural plants or trees, shrubs, and nursery stock.	Plant Systems Investigative	Arboreal Scientist; Horticulturist; Plant Physiologist	260 \$64,650	



# ARCHITECTURE & CONSTRUCTION

## Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree

<b>Architectural and Civil Drafters</b> Prepare detailed drawings of architectural and structural features of buildings and topographical relief maps used in civil engineering projects, such as highways, bridges, and public works.	Design/Pre-Construction Artistic	Building Drafter; Civil Computer-Aided Design Technician	300 \$55,090	<b>HD</b>
<b>Carpenters</b> Construct, erect, install, or repair structures and fixtures made of wood, such as building frames, stud walls and rafters, wood stairways, window/door frames, and hardwood floors.	Construction Realistic	Building Carpenter; Wood Stair Builder; Wood Floor Layer	2,590 \$49,210	<b>HD</b>
<b>Cement Mason &amp; Concrete Finishers</b> Smooth and finish surfaces of poured concrete, such as sidewalks, roads, or curbs using a variety of hand and power tools.	Construction Realistic	Cement Patcher; Concrete Floor Installer; Concrete Swimming Pool Installer	1,120 \$47,330	<b>HD</b>
<b>Civil Engineering Technologists and Technicians</b> Apply theory and principles of civil engineering in planning, designing, and overseeing construction and maintenance of structures and facilities.	Design/Pre-Construction Realistic	Geotechnical Engineering Technician; Highway Engineering Technician	410 \$62,030	
<b>Construction Laborers</b> Physical labor at construction sites, operating hand and power tools of all types, clean and prepare sites, dig trenches, set braces for excavations, erect scaffolding, and clean up.	Construction Realistic	Air Hammer Operator; Construction Craft Laborer; Construction Trench Digger	3,910 \$44,920	<b>HD</b>

Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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## ARCHITECTURE & CONSTRUCTION – CONTINUED

<b>Crane and Tower Operators</b> Operate mechanical boom and cable or tower and cable equipment to lift and move materials, machines, or products in many directions.	Construction Realistic	Boom Crane Operator; Cherry Picker Operator; Coal Tower Operator	300 \$81,790	 
<b>Derrick Operators, Oil and Gas</b> Rig derrick equipment and operate pumps to circulate mud through drill hole.	Construction Realistic	Rotary Derrick Operator; Well Service Derrick Worker	320 \$62,130	 HD
<b>Electricians</b> Install, maintain and repair electrical wiring, equipment and fixtures. Ensure that work is in accordance with relevant codes.	Construction Realistic	Solar Photovoltaic Electrician	2,780 \$67,750	  E  HD 
<b>Heating, Air Conditioning, and Refrigeration Mechanics and Installers</b> Install or repair heating, central air conditioning or refrigeration systems, including oil burners, hot-air furnace and heating stoves.	Maintenance/Operations Realistic	Plumbers; Sheet Metal Workers	1,140 \$63,820	  HD 
<b>Highway Maintenance Workers</b> Maintain highways, municipal and rural roads, airport runways, and rights-of-way, patching pavement, repairing guard rails, highway markers, snow fences, mow along roads, and plow snow.	Maintenance/Operations Realistic	Road Patcher; Road Sign Installer	1,070 \$49,360	 HD
<b>Insulation Workers-Mechanical and Floor</b> Apply insulating materials to pipes or ductwork, or other mechanical systems and structures to help control and maintain temperature.	Construction Realistic	Boiler Coverer; Pipe Coverer; Pipe Insulator	180 \$41,590	 HD
<b>Landscaping and Groundskeeping Workers</b> Landscape or maintain grounds using hand or power tools or equipment. Tasks include sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, and sprinkler installation.	Maintenance/Operations Realistic	Greenskeeper; Hedge Trimmer	2,210 \$36,880	  HD
<b>Millwrights</b> Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings.	Maintenance/Operations Realistic	Machine Assembler; Machinery Dismantler; Maintenance Millwright	249 \$60,320	 HD
<b>Operating Engineers and Other Construction Equipment Operators</b> Operate power construction equipment to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement.	Construction Realistic	Construction Bulldozer Operator; Road Grader; Steam Shovel Operator	3,410 \$58,890	  E HD 
<b>Painters, Construction &amp; Maintenance</b> Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns.	Construction Realistic	Bridge Painter; House Painter; Traffic Line Painter	500 \$41,440	 HD
<b>Plumbers, Pipefitters and Steamfitters</b> Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases, may install heating/cooling equipment and mechanical control systems.	Construction Realistic	Fire Sprinkler Installer; Sprinkler Fitter	1,200 \$58,820	 HD 
<b>Riggers</b> Set up or repair rigging for construction projects, manufacturing plants, logging yards, ships and shipyards, or for the entertainment industry.	Construction Realistic	Acrobatic Rigger; Crane Rigger; Yard Rigger	350 \$56,140	 HD
<b>Rotary Drill Operators, Oil and Gas</b> Set up or operate a variety of drills to remove underground oil and gas, or remove core samples for testing during oil and gas exploration.	Construction Realistic	Oil Well Cable Tool Operator	300 \$75,380	 E HD
<b>Roustabouts, Oil and Gas</b> Assemble or repair oil field equipment using hand and power tools. Perform other tasks as needed.	Construction Realistic	Oil Field Roustabout; Oil Rig Roughneck	1,840 \$53,040	  HD
<b>Service Unit Operators, Oil and Gas</b> Operate equipment to increase oil flow from producing wells or to remove stuck pipe, casing, tools, or other obstructions from drilling wells.	Construction Realistic	Well Servicing Rig Operator	2,450 \$57,120	 E HD
<b>Sheet Metal Workers</b> Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings.	Construction Realistic	HVAC Sheet Metal Installer; Sheet Metal Former; Tinsmith	310 \$59,460	 HD
<b>Structural Iron &amp; Steel Workers</b> Raise, place, and unite iron or steel girders, columns, and other structural members to form completed structures or structural frameworks.	Construction Realistic	Bridge Ironworker; Precast Concrete Ironworker; Wind Turbine Erector	170 \$58,750	

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**E Energy** – Energy occupations in North Dakota.

 **Military** – Occupation exists in the military.

Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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## ARCHITECTURE & CONSTRUCTION – CONTINUED

<b>Supervisors of Construction Trades Workers and Extraction Workers</b> Directly supervise and coordinate activities of construction or extraction workers.	Construction Enterprising	Quarry Boss; Rig Supervisor	3,230 \$81,560	
<b>Postsecondary Programs – Bachelor's Degree or Higher</b>				
<b>Architects, except landscape and naval</b> Plan and design structures, such as private residences, office buildings, theaters, factories, and other structural property.	Design/Pre-Construction Artistic	Architectural Designer; Structural Architect	200 \$83,160	
<b>Civil Engineers</b> Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities.	Design/Pre-Construction Realistic	Bridge Engineer; Highway Engineer	1,240 \$84,690	
<b>Construction Managers</b> Plan, organize, direct, and coordinate personnel activities. Oversee building, maintenance and repair of structures, facilities, and systems such as houses, buildings, bridges, roads, etc.	Construction Enterprising	Construction Superintendent; General Contractor	850 \$106,100	
<b>Cost Estimators</b> Prepare cost estimates for product manufacturing, construction projects or services to aid management in bidding or determining price of product or service.	Design/Pre-Construction Conventional	Construction Job Cost Estimator; Crating and Moving Estimator; Production Cost Estimator	700 \$69,150	
<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.	Design/Pre-Construction Artistic	Home Lighting Advisor; Kitchen Designer	110 \$47,810	
<b>Surveyors</b> Make exact measurements and determine property boundaries. Provide data relevant to shape, contour, gravitation, location, elevation, or dimension of land or land features.	Design/Pre-Construction Realistic	Land Surveyor; Mineral Surveyor	240 \$71,890	



## ARTS, A/V TECHNOLOGY & COMMUNICATIONS

### Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree

<b>Broadcast Technicians</b> Set up, operate, and maintain the electronic equipment used to acquire, edit, and transmit audio and video for radio or television programs.	Journalism and Broadcasting Realistic	Broadcast Engineer	100 \$46,320	
<b>Photographer</b> Photograph people, landscapes, merchandise, or other subjects. Uses lighting equipment to enhance a subject's appearance or editing software to produce finished images and prints.	Journalism and Broadcasting Artistic	Aerial Photographer; Medical Photographer; Portrait Photographer	70 \$50,770	
<b>Telecommunications Equipment Installers and Repairers</b> Service or repair telephone, cable television, Internet, and other communications equipment. May install communications equipment or communications wiring in buildings.	Telecommunications Realistic	Fiber Optic Installer; Private Branch Exchange (PBX) Installer and Repairer	600 \$64,810	
<b>Telecommunications Line Installers and Repairers</b> Install and repair telecommunications cable, including fiber optics.	Telecommunications Realistic	Cable Television Installer; FIOS Line Installer	200 \$61,160	

### Postsecondary Programs – Bachelor's Degree or Higher

<b>Graphic Designers</b> Design or create graphics to meet a client's specific commercial or promotional needs, such as packaging, displays or logos.	Visual Arts Artistic	Catalogue Illustrator	530 \$44,130	
<b>Producers and Directors</b> Produce or direct stage, television, radio, video, or motion picture productions. Responsible for decisions such as script, choice of actors or guests, set design and choreography.	Performing Arts Enterprising	Casting Director; Independent Film Maker	130 \$55,340	
<b>Technical Writers</b> Write technical materials, such as equipment manuals, appendices, or operating and maintenance instructions. May assist in layout work.	Journalism and Broadcasting Artistic	Documentation Writer; Medical Writer; Specifications Writer	40 \$74,660	
<b>Writers and Authors</b> Originate and prepare written material, such as scripts, stories, advertisements, and other material.	Journalism and Broadcasting Enterprising	Advertising Copy Writer; Playwright; Television Writer	228 \$57,890	

Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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# BUSINESS MANAGEMENT & ADMINISTRATION

## Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree

<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.	Administrative Support Enterprising	Customer Complaint Clerk; Warranty Clerk	5,650 \$41,440	
<b>Office Clerks, General</b> Clerical duties may be assigned based on the office procedures of the business, including answering telephones, bookkeeping, typing or word processing, office machine operation, and filing.	Administrative Support Enterprising	Administrative Clerk; Office Assistant; Real Estate Clerk	11,080 \$44,060	<b>HD</b>
<b>Receptionists and Information Clerks</b> Answer inquiries and provide information to the general public, customers, and visitors regarding activities conducted at establishment and location of offices and employees.	Administrative Support Conventional	Appointment Clerk; Front Desk Receptionist	1,870 \$31,720	<b>HD</b>
<b>Stockers and Order Fillers</b> Receive, store, and issue merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves or customers’ orders.	Administrative Support Realistic	Night Stocker; Store Stocker; Warehouse Stocker	4,540 \$32,850	<b>HD</b>

## Postsecondary Programs – Bachelor’s Degree or Higher

<b>Computer and Information Systems Managers</b> Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.	Business Information Management Enterprising	Chief Technology Officer; Infor. Tech. Systems or Mgmt. Infor. Systems Director	390 \$122,960	<b>HD</b>
<b>Fundraisers</b> Organize activities to raise funds or otherwise solicit and gather monetary donations or other gifts for an organization. May design and produce promotional materials.	Operations Management Enterprising	Campaign Fundraiser; Donor Relations Officer; Fundraising Officer	230 \$64,520	
<b>General and Operations Managers</b> Plan, direct, or coordinate the operations of public or private sector organizations by formulating policies, managing daily operations, and planning the use of materials and human resources.	General Management Enterprising	General Superintendent; Television Station Manager	9,660 \$97,470	<b>HD</b>
<b>Human Resources Manager</b> Plan, direct, or coordinate human resources activities and staff of an organization. Excludes managers who primarily focus on compensation and benefits and training and development.	Human Resources Management Enterprising	Job Analysis Manager; Labor Relations Director; Personnel Manager; Position Description Manager	190 \$127,260	<b>HD</b>
<b>Human Resources Specialists</b> Perform activities in the human resource area. Includes employment specialists who screen, recruit, interview, and place workers.	Human Resources Management Enterprising	Personnel Recruiter; Staffing Coordinator	1,320 \$65,400	<b>HD</b>
<b>Industrial Production Managers</b> Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.	Operations Management Enterprising	Manufacturing Director; Plant Manager; Production Control Manager	330 \$117,390	<b>HD</b>
<b>Management Analysts</b> Conduct organizational studies and evaluations, design systems and procedures to assist management in operating more efficiently and effectively.	Operations Management Investigative	Business Management Analyst; Business Process Consultant	560 \$86,610	<b>HD</b>
<b>Personal Service Managers</b> Plans, directs, or coordinates entertainment and recreational activities and operations of a recreational facility, including cruise ships and parks.	General Management Enterprising	Entertainment/Recreation Manager	1,067 \$118,450	<b>HD</b>
<b>Project Management Specialist</b> Analyzes and coordinates the schedule, timeline, procurement, staffing, and budget of a product or service on a per project basis. Leads and guides the work of technical staff.	General Management Conventional	Business Operations Specialist	3,116 \$83,320	
<b>Training and Development Specialists</b> Design and conduct training and development programs to improve individual and organizational performance. May analyze training needs.	Human Resources Management Social	Computer Training Specialist; Workforce Development Specialist	640 \$63,330	<b>HD</b>



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**Military** – Occupation exists in the military.

Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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# EDUCATION & TRAINING

## Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree

<b>Coaches and Scouts</b> Instruct or coach groups or individuals in the fundamentals of sports for the primary purpose of competition.	Teaching/Training Realistic	Baseball Scout; Boxing Coach; Football Coach	1,010 \$41,350	
<b>Interpreters and Translators</b> Interpret oral or sign language, or translate written text from one language into another.	Professional Support Services Artistic	American Sign Language, Court, or Diplomatic Interpreter	140 \$39,400	
<b>Preschool Teachers, Except Special Education</b> Instruct preschool-aged children in activities designed to promote social, physical, and intellectual growth needed for primary school.	Teaching/Training Social	Head Start Teacher; Nursery School Teacher; Pre-Kindergarten Teacher	650 \$34,640	
<b>Self-Enrichment Teachers</b> Teach or instruct individuals or groups for the primary purpose of self-enrichment or recreation, rather than for an occupational objective, educational attainment, competition, or fitness.	Teaching/Training Social	Art Teacher; Dance Instructor; Dance Teacher; Driving Instructor; Flight Instructor; Martial Arts Instructor; Music Instructor; Piano Teacher; Teacher	210 \$39,770	
<b>Teaching Assistants, Except Postsecondary</b> Assist a preschool, elementary, middle, or secondary school teacher with instructional duties. Serve in a position for which a teacher has primary responsibility for the design and implementation of educational programs and services.	Teaching/Training Social	Educational Assistant; Instructional Assistant; Paraeducator; Paraprofessional; Teacher Aide; Teacher Assistant	5,070 \$34,390	

## Postsecondary Programs – Bachelor’s Degree or Higher

<b>Career/Technical Education Teachers, Secondary School</b> Teach occupational, career and technical, or vocational subjects at the secondary school level in public or private schools.	Teaching/Training Social	Auto Repair Teacher; Vocational Education Teacher	500 \$60,440	
<b>Education Administrators, Kindergarten through Secondary</b> Plan, direct, or coordinate the academic, administrative, or auxiliary activities of public or private elementary or secondary level schools.	Admin & Administration Support Enterprising	Curriculum Administrator	830 \$99,700	
<b>Educational, Guidance, and Career Counselors and Advisors</b> Advise and assist students and provide educational and vocational guidance services.	Professional Support Services Social	Admissions, Career, Guidance, or Student Services Counselor	630 \$59,080	
<b>Elementary School Teachers, Except Special Education</b> Teach students basic academic, social, and other formative skills in public or private schools at the elementary level.	Teaching/Training Social	Elementary Band Director; 4th Grade Math Teacher	4,460 \$55,940	
<b>Health Specialties Teachers, Postsecondary</b> Teach courses in health specialties, in fields such as dentistry, laboratory technology, medicine, pharmacy, public health, therapy, and veterinary medicine.	Teaching/Training Social	Nutrition, Pharmacology, or Public Health Professor	440 \$100,480	
<b>Kindergarten Teachers, Except Special Education</b> Teach elemental natural and social science, personal hygiene, music, art, and literature to kindergarten students. Promote physical, mental, and social development.	Teaching/Training Social	Bilingual Kindergarten Teacher	490 \$55,480	
<b>Middle School Teachers, Except Special and Career/Technical Education</b> Teach one or more subjects to students at the middle, intermediate, or junior high school level.	Teaching/Training Social	Intermediate School, Junior High, and Middle School Teachers	1,260 \$59,750	
<b>Secondary School Teachers, Except Special and Career/Technical Education</b> Teach students in one or more subjects, such as English, mathematics, or social studies at the secondary level in public or private schools.	Teaching/Training Social	High School English Teacher, French Teacher or History Teacher	3,110 \$56,090	
<b>Special Education Teachers, Secondary School</b> Teach academic, social, and life skills to secondary school students with learning, emotional, or physical disabilities.	Teaching/Training Social	High School Special Education Resource Teacher	390 \$59,340	
<b>Substitute Teacher, Short-Term</b> Teach students on a short-term basis as a temporary replacement for a regular classroom teacher, typically using the regular teacher’s lesson plan.	Teaching/Training Social	Elementary School Substitute Teacher; English Substitute Teacher	420 \$41,070	

Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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# FINANCE

## Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree

<b>Credit Authorizers, Checkers, and Clerks</b> Authorize credit charges against customers’ accounts. Investigate history and credit standing of individuals or business establishments applying for credit.	Banking Services Conventional	Charge Authorizer; Commercial Credit Reviewer; Credit Rating Checker	120 \$51,720	
<b>Insurance Claims and Policy Processing Clerks</b> Process new insurance policies, updates and modifications to existing policies, and claims forms.	Insurance Conventional	Insurance Policy Issue Clerk; Underwriting Clerk	860 \$45,330	
<b>Insurance Sales Agents</b> Sell life, property, casualty, health, automotive, or other types of insurance. May refer clients to independent brokers, work as an independent broker, or be employed by an insurance company.	Insurance Enterprising	Life Insurance Salesperson; Pension Agent	1,640 \$71,820	 
<b>Loan Interviewers and Clerks</b> Interview loan applicants; investigate applicants’ backgrounds and verify references; and forward findings, reports, and documents to appraisal department.	Banking Services Conventional	Loan Processor; Mortgage Loan Closer	750 \$47,830	  

## Postsecondary Programs – Bachelor’s Degree or Higher

<b>Accountants and Auditors</b> Examine, analyze, and interpret accounting records to prepare financial statements, give advice, or audit and evaluate statements prepared by others.	Accounting Conventional	Certified Public Accountant; Field Auditor; Internal Auditor	4,590 \$67,880	    
<b>Budget Analysts</b> Examine budget estimates for completeness, accuracy, and conformance with procedures and regulations. Analyze budgeting and accounting reports.	Business Finance Conventional	Budget Examiner; Cost Analyst	70 \$68,580	 
<b>Credit Analysts</b> Analyze credit data and financial statements of individuals or firms to determine the degree of risk involved in extending credit or lending money.	Banking Services Conventional	Credit Assessment Analyst; Credit Risk Analyst	220 \$74,790	 
<b>Financial and Investment Analysts</b> Conduct quantitative analyses of information involving investment programs or financial data of public or private institutions, including valuation of businesses.	Securities & Investments Social	Corporate Financial Analyst; Corporate Securities Research Analyst; Institutional Commodity Analyst; Organizational Investment Analyst	200 \$76,450	 
<b>Financial Managers</b> Plan, direct, or coordinate accounting, investing, banking, insurance, securities, and other financial activities of a branch, office, or department of an establishment.	Business Finance Conventional	Comptroller; Financial Director	1,430 \$132,190	    
<b>Loan Officers</b> Evaluate, authorize, or recommend approval of commercial, real estate, or credit loans. Advise borrowers on financial status and payment methods.	Banking Services Conventional	Commercial Lender; Loan Reviewer; Real Estate Loan Officer	1,350 \$79,500	   
<b>Personal Financial Advisors</b> Advise clients on financial plans using knowledge of tax and investment strategies, securities, insurance, pension plans, and real estate.	Securities & Investments Enterprising	Estate Planner; Individual Pension or Personal Investment Advisor	540 \$86,770	   
<b>Securities, Commodities, and Financial Services Sales Agents</b> Buy and sell stocks and bonds based on customers’ orders. Give advice and furnish client with information regarding possible purchases, market conditions, and prospects.	Securities & Investments Enterprising	Investment Banker; Securities Trader	650 \$92,010	   
<b>Tax Preparers</b> Prepare tax returns for individuals or small businesses.	Business Finance Conventional	Tax Advisor; Licensed Tax Consultant	150 \$50,460	



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# GOVERNMENT & PUBLIC ADMINISTRATION

## Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree

<b>Construction and Building Inspectors</b> Inspect structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations.	Regulation Realistic	Electrical Inspector; Elevator Inspector; Highway Inspector	150 \$67,540	
<b>Eligibility Interviewers, Government Programs</b> Determine eligibility of persons applying to receive assistance from government programs and agency resources.	Public Management & Administration Social	Unemployment Benefits Claims Taker	340 \$46,960	

## Postsecondary Programs – Bachelor’s Degree or Higher

<b>Agricultural Inspectors</b> Inspect agricultural commodities, processing equipment, and facilities, and fish and logging operations, to ensure compliance with regulations and laws governing health, quality, and safety.	Regulation Realistic	Grain Sampler; Milk Tester	90 \$48,610	
<b>Emergency Management Directors</b> Plan and direct disaster response or crisis management activities, provide disaster preparedness training.	Public Management & Administration Social	Disaster Response Director	70 \$66,280	  
<b>Financial Examiners</b> Enforce or ensure compliance with laws and regulations governing financial and securities institutions and financial and real estate transactions. May examine, verify, or authenticate records.	Governance Enterprising	Bank Examiner	190 \$82,110	  HD
<b>Occupational Health and Safety Specialists</b> Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury.	Regulation Investigative	Environmental Health Sanitarian; Health and Safety Inspector; Industrial Hygienist	570 \$84,040	  HD
<b>Tax Examiners and Collectors, and Revenue Agents</b> Determine tax liability or collect taxes from individuals or business firms according to prescribed laws and regulations.	Revenue and Taxation Conventional	Internal Revenue Service Agent	70 \$62,540	 



# HEALTH SCIENCE

## Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree

<b>Dental Assistants</b> Dental equipment prep/sterilization, patient prep, assisting the dentist, schedule appointments, maintain medical records, billing, and coding information for insurance.	Therapeutic Services Social	Certified Dental Assistant; Orthodontic Assistant	780 \$47,780	HD
<b>Dental Hygienists</b> Clean teeth, examine patients for signs of oral diseases such as gingivitis, provide preventative dental care, educate patients on ways to improve and maintain good oral health.	Therapeutic Services Social	Oral Hygienist; Dental Assistant	850 \$69,440	   HD
<b>Diagnostic Medical Sonographers, Ultrasound Technologist/Technician</b> Produce ultrasonic recordings of internal organs for use by physicians.	Diagnostic Services Investigative	Ultrasound Technologist/ Technician	250 \$69,950	   HD
<b>Emergency Medical Technicians</b> Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities.	Therapeutic Services Social	EMT	640 \$34,150	   HD
<b>Licensed Practical and Licensed Vocational Nurses</b> Care for ill, injured, or convalescing patients or persons with disabilities in hospitals, nursing homes, clinics, private homes, group homes, etc.	Therapeutic Services Social	LPN; LVN; Pediatric Licensed Practical Nurse	2,680 \$50,130	 HD



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## HEALTH SCIENCE – CONTINUED

<b>Medical Assistants</b> Administrative/clinical duties, schedule appointments, maintain medical records, billing/coding for insurance, medical history, prep patients for exam.	Therapeutic Services Social	Chiropractic Assistant; Morgue Attendant	490 \$37,440	  HD 
<b>Medical Secretaries and Administrative Assistants</b> Perform secretarial duties in hospital or clinic setting that may include scheduling appointments, billing patients, and compiling and recording medical charts.	Health Informatics Conventional	Dental Secretary; Psychiatric Secretary	1,090 \$39,480	  HD 
<b>Nursing Assistants</b> Provide or assist with basic care or support of patients in a health or nursing facility under the direction of onsite licensed nursing staff.	Therapeutic Services Social	Certified Nurse Aide; Certified Nursing Assistant; Nursing Care Attendant; Home Health and Personal Aides	7,790 \$36,070	  HD 
<b>Occupational Therapy Assistants</b> Assist occupational therapists. May assist in development of treatment plans, carry out routine functions, direct activity programs, and document treatment progress.	Therapeutic Services Social	Certified Occupational Therapy Assistant; Licensed Occupational Therapy Assistant	100 \$56,130	 
<b>Paramedic</b> Administer basic or advanced emergency medical care and assess injuries and illnesses, including IVs, EKGs and administering advanced life support.	Therapeutic Services Social	Flight Paramedic	240 \$47,010	  HD 
<b>Pharmacy Technicians</b> Assist licensed pharmacists dispense prescription medication to customers or health professionals.	Therapeutic Services Conventional	Pharmacist; Pharmacy Assistant	790 \$41,760	  HD 
<b>Phlebotomists</b> Draw blood for tests, transfusions, donations, or research. May explain the procedure to patients and assist in the recovery of patients with adverse reactions.	Support Services Conventional	Phlebotomy Technician; Venipuncturist	482 \$36,760	  HD
<b>Physical Therapist Assistants</b> Assist physical therapists, may assist in the development of treatment plans, carry out routine functions, document the progress of treatment, and modify specific treatments.	Therapeutic Services Social	Licensed Physical Therapist Assistant; Physiotherapy Assistant	130 \$52,240	 HD 
<b>Radiologic Technologists and Technicians</b> Take X-rays and CAT scans or administer non-radioactive materials into patient's blood stream for diagnostic purposes. May also operate computed topography or magnetic resonance.	Diagnostic Services Realistic	Computed Tomography (CT) Scanner Operator; X-ray Technician	890 \$59,220	   HD 
<b>Registered Nurses</b> Assess patient health problems and needs, develop and implement nursing care plans and maintain medical records. Administer nursing care to ill, injured, or disabled patients.	Therapeutic Services Social	Coronary Care Unit Nurse; Psychiatric Nurse	11,810 \$71,200	    HD 
<b>Respiratory Therapists</b> Assess, treat, and care for patients with breathing disorders. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment.	Therapeutic Services Social	Inhalation Therapist; Oxygen Therapist; Registered Respiratory Therapist	330 \$62,230	  HD 
<b>Surgical Technologists</b> Assist in operations, under supervision of surgeons, registered nurses or other surgical personnel.	Therapeutic Services Realistic	Operating Room (OR) Tech; Surgical Scrub Technologist	380 \$51,470	 
<b>Veterinary Technologists and Technicians</b> Perform medical tests in a laboratory environment for use in the treatment and diagnosis of diseases in animals.	Diagnostic Services Realistic	Vet. Lab Technician; Vet. Surgery Technologist; Vet. X-ray Operator	310 \$37,170	  HD

### Postsecondary Programs – Bachelor's Degree or Higher

<b>Athletic Trainers</b> Evaluate and treat musculoskeletal injuries or illnesses. Provide preventive, therapeutic, emergency, and rehabilitative care.	Therapeutic Services Social	Physical Fitness Trainer; Fitness Technician	140 \$50,170	 
<b>Chiropractors</b> Assess, treat, and care for patients by manipulation of spine and musculoskeletal system. May provide spinal adjustment or address sacral or pelvic misalignment.	Therapeutic Services Social	Chiropractic Physician	408 \$91,080	  HD
<b>Clinical Laboratory Technologists and Technicians</b> Perform routine or complex medical laboratory tests for diagnosis, treatment, and prevention of disease. Medical and Clinical Laboratory Technologists may train or supervise staff.	Diagnostic Services Investigative	Blood Bank Lab or Cytogenetic Technologist; Histology, Pathology, Serology Technician	1,300 \$55,580	  HD 
<b>Dentists</b> Diagnose and treat problems with a patient's teeth, gums, and related parts of the mouth. Advice on taking care of teeth, gums and diet choices that affect oral health.	Therapeutic Services Investigative	Maxillofacial Surgeon; Dental Hygienist	250 \$161,080	  

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## HEALTH SCIENCE – CONTINUED

<b>Nurse Practitioners</b> Diagnose and treat acute, episodic, or chronic illness. May order, perform, or interpret diagnostic tests such as lab work and x-rays or prescribe medication.	Therapeutic Services Social	Cardiology Nurse; Family Practice Nurse; Gerontology Nurse Practitioner	630 \$112,720	
<b>Occupational Therapists</b> Assess, plan, organize and participate in rehabilitative programs that help restore vocational, homemaking and daily living skills, as well as general independence, to disabled persons.	Therapeutic Services Social	Physical Therapists	420 \$71,340	
<b>Ophthalmologists</b> Diagnoses and performs surgery to treat and help prevent disorders and diseases of the eye. May also provide vision services for treatment including glasses and contacts.	Therapeutic Services Investigative	Cornea and External Disease Physician; Viteroretinal Disease Physician	20 \$212,990	
<b>Pharmacists</b> Dispense drugs prescribed by physicians and other health practitioners, provide information and advisement to patients about medications use.	Therapeutic Services Investigative	Apothecary; Hospital Pharmacist	1,100 \$115,480	
<b>Physical Therapists</b> Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength and decrease or prevent deformity of patients.	Therapeutic Services Social	Geriatric Physical Therapist; Physiotherapist	720 \$81,480	
<b>Physician Assistants</b> Provide healthcare services typically performed by a physician, under the supervision of a physician. Conduct complete physicals, provide treatment and counsel patients.	Therapeutic Services Social	Physician Assistant; Nurse Practitioner	280 \$122,470	
<b>Speech-Language Pathologists</b> Assess and treat persons with speech, language, voice, and fluency disorders.	Therapeutic Services Social	Public School Speech Therapist; Speech Clinician	520 \$68,420	
<b>Veterinarians</b> Diagnose, treat, or research diseases and injuries of animals. Includes veterinarians who conduct research and development, inspect livestock, or care for pets and companion animals.	Therapeutic Services Investigative	Veterinary Medicine Scientist	280 \$98,990	



## HOSPITALITY & TOURISM

### Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree

<b>Amusement and Recreation Attendants</b> Perform variety of attending duties at amusement or recreation facility.	Recreation, Amusements & Attractions Enterprising	Arcade Attendant; Golf Caddy; Ski Lift Operator	860 \$24,720	
<b>Animal Trainers</b> Train animals for riding, harness, security, performance, or obedience, or for assisting persons with disabilities.	Recreation, Amusements & Attractions Realistic	Guide Dog Trainer; Horse Breaker; Marine Mammal Trainer	160 \$34,640	
<b>Bakers</b> Mix and bake ingredients to produce breads, rolls, cookies, cakes, pies, pastries, or other baked goods.	Restaurant & Food/Beverage Services Realistic	Bagel Maker; Pastry Finisher	720 \$34,690	
<b>Bartenders</b> Mix and serve drinks to patrons, directly or through waitstaff.	Restaurant & Food/Beverage Services Enterprising	Barkeep; Mixologist; Taproom Attendant	3,730 \$26,630	
<b>Cooks, Institution and Cafeteria</b> Prepare and cook large quantities of food for institutions, such as schools, hospitals, or cafeterias.	Restaurant & Food/Beverage Services Realistic	Camp Cook; Galley Cook; Mess Cook; School Cook	2,070 \$34,690	



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## HOSPITALITY & TOURISM – CONTINUED

<b>Cooks, Restaurant</b> Prepare, season, and cook dishes such as soups, meats, vegetables, or desserts in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.	Restaurant & Food/Beverage Services Realistic	Banquet Cook; Line Cook; Saucier	2,900 \$31,230	
<b>Dining Room and Cafeteria Attendants and Bartender Helpers</b> Facilitate food service. Clean tables; set tables; replenish supply of clean linens, silverware, glassware, and dishes; supply service bar with food; and serve items to patrons.	Restaurant & Food/Beverage Services Social	Bar Back; Busser; Lunchroom Attendant	580 \$27,740	
<b>Dishwashers</b> Clean dishes, kitchen, food preparation equipment, or utensils.	Restaurant & Food/Beverage Services Realistic	Dish Room Worker; Silverware Cleaner	720 \$27,600	
<b>Fast Food and Counter Workers</b> Perform duties such as taking orders and serving food and beverages.	Restaurant & Food/Beverage Services Realistic	Barista; Cafeteria Server; Snack Bar Attendant	11,260 \$26,520	
<b>Food Preparation Workers</b> Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea.	Restaurant & Food/Beverage Services Realistic	Fruit and Vegetable Parer; Salad Maker; Sandwich Maker	1,192 \$29,860	
<b>Food Servers, Nonrestaurant</b> Serve food to individuals outside of a restaurant environment, such as in hotel rooms, hospital rooms, residential care facilities, or cars.	Restaurant & Food/Beverage Services Social	Boat Hop; Hospital Food Service Worker; Room Service Food Server	1,370 \$30,790	
<b>Food Service Managers</b> Plan, direct, or coordinate activities of an organization or department that serves food and beverages.	Restaurant & Food/Beverage Services Enterprising	Banquet Director; Food Service Director	540 \$56,820	
<b>Gambling Dealers</b> Operate games of chance by dispensing the appropriate number of cards or blocks to players, or operating other gambling equipment. Distribute winnings or collect players' money or chips.	Recreation, Amusements & Attractions Conventional	Blackjack Dealer; Craps Dealer; Poker Dealer; Roulette Dealer	970 \$28,820	
<b>Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop</b> Welcome patrons, seat them at table or in lounge, and help ensure quality of facilities and service.	Restaurant & Food/Beverage Services Enterprising	Dining Room Host; Maitre D'	790 \$25,480	
<b>Hotel, Motel, and Resort Desk Clerks</b> Accommodate hotel, motel, and resort patrons by assigning rooms to guests, keeping records of guests' accounts, making reservations, and collecting payments.	Lodging Conventional	Hotel Front Desk Clerk; Hotel Registration Clerk	1,590 \$29,920	
<b>Janitors and Cleaners, Except Maids and Housekeeping Cleaners</b> Keep buildings in clean and orderly condition. Perform cleaning duties.	Lodging Realistic	Industrial Plant Custodian; School Custodian; Window Washer	6,800 \$33,870	
<b>Lodging Managers</b> Plan, direct, or coordinate activities of an organization or department that provides lodging and other accommodations.	Lodging Enterprising	Bed and Breakfast Innkeeper; Hotel Manager; Innkeeper	160 \$59,760	
<b>Maids and Housekeeping Cleaners</b> Perform any combination of cleaning duties to maintain private households or commercial establishments, such as hotels and hospitals.	Lodging Realistic	Chambermaid; House Cleaner; Housekeeping Staff	2,760 \$29,700	
<b>Recreation Workers</b> Organize and promote activities, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies, based on interests of individuals or groups.	Recreation, Amusements & Attractions Social	Activities Aide; Camp Counselor; Playground Worker	680 \$31,940	
<b>Supervisors of Food Preparation and Serving Workers</b> Directly supervise and coordinate activities of workers engaged in preparing and serving food.	Restaurant & Food/Beverage Services Enterprising	Banquet Supervisor; Bar Manager; Kitchen Supervisor	2,330 \$42,660	
<b>Supervisors of Housekeeping and Janitorial Workers</b> Directly supervise and coordinate work activities of cleaning personnel in hotels, hospitals, offices, and other establishments.	Lodging Enterprising	Building Cleaning Supervisor; Cleaning Staff Supervisor; Custodial Supervisor	330 \$49,560	
<b>Ushers, Lobby Attendant, Ticket Taker</b> Assist patrons at entertainment events by performing duties, such as collecting admission tickets, assisting in finding seats, searching for lost articles, etc.	Recreation, Amusements & Attractions Social	Theater Usher; Ticket Collector	290 \$25,050	
<b>Waiters and Waitresses</b> Take orders and serve food and beverages to patrons at tables in dining establishment.	Restaurant & Food/Beverage Services Social	Flight Attendants; Hosts and Hostesses	4,390 \$29,320	

Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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# HUMAN SERVICES

## Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree

<b>Childcare Workers</b> Attend to children at schools, businesses, private households, and childcare institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play.	Early Childhood Development & Services Social	Au Pair; Daycare Provider; Nanny	3,730 \$25,410	HD
<b>Exercise Trainers and Group Fitness Instructors</b> Instruct or coach groups or individuals in exercise activities. Demonstrate techniques and form, observe participants, and explain to them corrective measures necessary to improve their skills.	Personal Care Services Social	Personal Trainer; Yoga Instructor	820 \$39,880	HD
<b>Hairdressers, Hairstylists, and Cosmetologists</b> Provide beauty services, such as shampooing, cutting, coloring, and styling hair, massaging and treating scalp, application of makeup, dress wigs, hair removal, and nail/skin care services.	Personal Care Services Artistic	Beautician; Wig Stylist	1,010 \$35,630	HD
<b>Manicurists and Pedicurist</b> Clean and shape customers’ fingernails and toenails. May polish or decorate nails.	Personal Care Services Realistic	Fingernail Sculptor; Nail Technician	212 \$29,210	
<b>Massage Therapists</b> Perform therapeutic massages of soft tissues and joints. May assist in the assessment of range of motion and muscle strength, or propose client therapy plans.	Personal Care Services Social	Deep Tissue Massage Therapist; Swedish Masseuse	269 \$61,280	HD
<b>Residential Advisors</b> Coordinate activities in residential facilities in secondary and college dormitories, group homes, or similar establishments.	Personal Care Services Social	Dormitory Counselor; House Parent; Residence Life Coordinator	420 \$38,360	HD
<b>Skincare Specialists</b> Provide skincare treatments to face and body to enhance an individual’s appearance. Includes electrologists and laser hair removal specialists.	Personal Care Services Enterprising	Facialist; Medical Esthetician	207 \$41,900	
<b>Social and Human Service Assistants</b> Assist clients in identifying and obtaining available benefits, social and community services. May assist social workers with developing, organizing, and conducting programs.	Family & Community Services Conventional	Case Work Aide; Family Service Assistant; Human Services Worker	1,550 \$47,140	HD
<b>Supervisors of Personal Service and Entertainment and Recreation Workers, Except Gambling Services</b> Directly supervise and coordinate activities of entertainment and recreation related workers.	Personal Care Services Enterprising	Arcade Supervisor; Caddy Master; Recreation Attendant Supervisor	808 \$47,220	

## Postsecondary Programs – Bachelor’s Degree or Higher

<b>Child, Family, and School Social Workers</b> Help improve the social and psychological functioning of children and families, arrange adoptions, find foster homes, and address concerns such as teenage pregnancy, misbehavior, and truancy.	Family & Community Services Social	Certified Social Worker; Child Abuse Worker; Foster Care worker	790 \$59,390	HD
<b>Clinical and Counseling Psychologists</b> Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems, using individual, child, family, and group therapies.	Counseling & Mental Health Services Investigative	Child Psychologist; School Psychologist	180 \$112,160	
<b>Marriage and Family Therapists</b> Diagnose and treat mental and emotional disorders, whether cognitive, affective, or behavioral, within the context of marriage and family systems.	Counseling & Mental Health Services Social	Child and Family Counselor; Marriage Counselor	80 \$50,980	
<b>Substance Abuse, Behavioral Disorder, and Mental Health Counselors</b> Counsel and advise individuals, families, or groups with substance abuse problems, behavioral disorders, or a broad range of mental health issues to promote optimum mental and emotional health.	Counseling & Mental Health Services Social	Addiction, Alcohol and Drug or Chemical Dependency Counselor; Licensed Clinical Mental Health (LCMHC) or Licensed Mental Health Counselor (LMHC)	570 \$59,880	HD



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# INFORMATION TECHNOLOGY

## Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree

<b>Computer Network Support Specialists</b> Analyze, test, troubleshoot, and evaluate existing network systems, such as local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system.	Network Systems Realistic	Network Diagnostic Support Technician; Network Support Technician; Network Technician	850 \$62,760	 HD
<b>Computer User Support Specialists</b> Provide technical assistance to computer users, i.e. use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.	Information Support & Services Realistic	End-User Support Specialist; Help Desk Technician; IT support Specialist	1,660 \$54,180	 TOP 100 HD
<b>Web and Digital Interface Designers</b> Design digital user interfaces or websites. Develop and test layouts, interfaces, functionality, and navigation menus to ensure compatibility and usability across browsers or devices.	Web & Digital Communications Conventional	Digital Designer; Graphic Web Designer; Web Content Specialist	80 \$68,550	

## Postsecondary Programs – Bachelor’s Degree or Higher

<b>Computer Network Architects</b> Design and implement computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other networks.	Network Systems Investigative	Computer Network Engineer; Network Designer; Network Developer	120 \$106,620	
<b>Computer Occupations, All Other</b> All computer occupations not listed separately, i.e., Web Administrators; GIS Technologists and Technicians; Document Mgmt Specialists; Penetration Testers; Information Security Engineers; Digital Forensics Analysts; Blockchain Engineers; Computer Systems	Information Support & Services Realistic	Computer Console Operator; Computer Laboratory Technician; Data Center Operator	580 \$73,870	 TOP 100 HD
<b>Information Security Analysts</b> Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information.	Network Systems Conventional	Computer Security Specialist; Internet Security Specialist	130 \$83,830	
<b>Network and Computer Systems Administrators</b> Install, configure, and maintain an organization's local area network (LAN), wide area network (WAN), data communications network, operating systems, and physical and virtual servers.	Network Systems Investigative	Network Analyst; Network Coordinator; Wide Area Network Administrator	490 \$82,720	
<b>Operations Research Analysts</b> Formulate and apply mathematical modeling to develop and interpret information that assists management with decision making, policy formulation, or other managerial functions.	Operations Management Investigative	Operations Analyst; Procedure Analyst; Process Analyst	160 \$82,940	
<b>Software Developers and Software Quality Assurance Analysts and Testers</b> Develops and executes software test plans to identify software problems and their causes.	Programming & Software Development Investigative	Computer Applications Engineer; Computer Systems Engineer; Mobile Applications Developer	1,645 \$83,460	 TOP 100 HD



# LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY

## Postsecondary Programs – High School Diploma, Certificate, or Associate’s Degree

<b>Detectives and Criminal Investigators</b> Conduct investigations related to suspected violations of federal, state, or local laws to prevent or solve crimes.	Law Enforcement Services Enterprising	Deputy United States Marshal; Homicide Detective; Narcotics Investigator	420 \$77,550	
<b>Firefighters</b> Control and extinguish fires or respond to emergency situations, including fire prevention, emergency medical service, hazardous material response, search and rescue, and disaster assistance.	Emergency & Fire Management Services Realistic	Engine Pump Operator; Forest Firefighter; Smoke Jumper	660 \$52,010	 TOP 100 HD
<b>Paralegals and Legal Assistants</b> Assist lawyers by investigating facts, preparing legal documents, or researching legal precedent. Conduct research to support a legal proceeding, to formulate a defense, or to initiate legal action.	Legal Services Conventional	Legal Aide	630 \$49,950	 HD

Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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## LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY – CONTINUED

<b>Police and Sheriff's Patrol Officers</b> Perform duties to protect life and property by enforcing local, tribal, State, or Federal laws and ordinances.	Law Enforcement Services Realistic	Border Patrol Officer; Motorcycle Police; Park Police; State Trooper	1,850 \$64,470	HD
<b>Public Safety Telecommunicators</b> Operate radio, telephone, or computer equipment at emergency response centers. Relay information to law enforcement and emergency response personnel.	Emergency & Fire Management Services Conventional	Emergency Operator; 911 Operator; Police Radio Dispatcher	210 \$51,540	
<b>Security Guards</b> Guard, patrol, or monitor premises to prevent theft, violence, or infractions of rules. May operate x-ray and metal detector equipment.	Security & Protective Services Realistic	Bank Guard; Bodyguard; Bouncer	1,260 \$34,580	HD
<b>Supervisor of Firefighting and Prevention Workers</b> Directly supervise and coordinate activities of workers engaged in firefighting and fire prevention and control.	Emergency & Fire Management Services Enterprising	Fire Lt.; Municipal Fire Fighting and Prev. Supervisor; Supervising Fire Marshal	120 \$86,980	
<b>Title Examiners, Abstractors, and Searchers</b> Search real estate records, examine titles, or summarize pertinent legal or insurance documents or details for a variety of purposes.	Legal Services Conventional	Escrow Officer; Lien Searcher; Title Officer	250 \$61,900	HD

### Postsecondary Programs – Bachelor's Degree or Higher

<b>Fish and Game Wardens</b> Patrol assigned area to prevent fish and game law violations. Investigate reports of damage to crops or property by wildlife. Compile biological data.	Law Enforcement Services Realistic	Conservation Enforcement or Wildlife Officer; Wildlife and Game Protector	70 \$70,890	
<b>Lawyers</b> Represent clients in criminal and civil litigation and other legal proceedings, draw up legal documents, or manage or advise clients on legal transactions.	Legal Services Enterprising	Attorney; Corporate Counsel; Public Defender	1,150 \$107,190	HD
<b>Probation Officers and Correctional Treatment Specialists</b> Assist in rehabilitation of law offenders in custody, on probation or parole. Make recommendations for actions involving the rehabilitation plan and treatment of offender.	Correction Services Social	Juvenile Probation Officer; Parole Agent; Parole Officer	210 \$64,630	



## MANUFACTURING

### Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree

<b>Calibration and Engineering Technologist &amp; Technicians</b> Executes or adapts procedures and techniques for calibrating measurement devices. Determines measurement standard suitability for calibrating measurement devices.	Manufacturing Production Process Development Realistic	Robotics Technician, Automotive Engineering Technician, Medical Equipment Repairers	459 \$73,750	HD
<b>Electrical and Electronic Engineering Technologists and Technicians</b> Apply electrical and electronic theory, under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery.	Manufacturing Production Process Development Realistic	Electrical Design Technician; Lighting Engineering Technician; Semiconductor Development Technician	120 \$74,840	
<b>Electrical, Electronic, and Electromechanical Assemblers</b> Assemble or modify electrical, electronic, or electromechanical equipment or devices.	Production Social	Circuit Board Assembler; Electric Motor Controls Assembler	400 \$38,210	HD
<b>Industrial Engineering Technologists and Technicians</b> Apply engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff.	Manufacturing Production Process Development Investigative	Motion Study or Time Study Technician; Production Control Technologist	50 \$64,400	
<b>Industrial Machinery Mechanics</b> Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.	Maintenance, Installation & Repair Realistic	Foundry Equipment and Hydroelectric Machinery Mechanics	1,930 \$64,290	HD



**Bright Outlook** – Occupation has a very high number of annual openings and/or is a fast-growing occupation in North Dakota.



**Top 100** – North Dakota Occupational Demand Rankings reveal the greatest opportunities for job seekers in North Dakota's labor market.



**High Wage** – North Dakota average annual salary of at least \$65,000.



**High Demand** – High demand highlights a group of diverse occupations adding the largest number of new jobs over the projections period, 2020-2030.



**Energy** – Energy occupations in North Dakota.  
**Military** – Occupation exists in the military.

Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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## MANUFACTURING – CONTINUED

<b>Inspectors, Testers, Sorters, Samplers, and Weighers</b> Inspect, test, sort, sample, or weigh non-agricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications.	Quality Assurance Conventional	Parts Quality Inspector; Petroleum Sampler	1,710 \$69,010	
<b>Maintenance and Repair Workers, General</b> Keep machines, mechanical equipment, or the structure of an establishment in repair.	Maintenance, Installation & Repair Realistic	Building Maintenance Mechanic	3,620 \$42,330	<b>HD</b>
<b>Maintenance Workers, Machinery</b> Lubricate machinery, change parts, or perform other routine machinery maintenance.	Maintenance, Installation & Repair Realistic	Crane Oiler	214 \$64,160	
<b>Mechanical Drafters</b> Prepare detailed working diagrams of machinery and mechanical devices, including dimensions, fastening methods, and other engineering information.	Manufacturing Production Process Development Realistic	Aeronautical Drafter; Automotive Design Drafter	80 \$60,100	
<b>Mechanical Engineering Technologists and Technicians</b> Apply theory and principles of mechanical engineering to modify, develop, test, or calibrate machinery and equipment under direction of engineering staff or physical scientists.	Manufacturing Production Process Development Realistic	Gyroscope Engineering; Heat Transfer; Optomechanical Technician	80 \$78,760	
<b>Multiple Machine Tool Setters, Operators and Tenders, Metal and Plastic</b> Set up, operate, or tend more than one type of cutting or forming machine tool or robot.	Production Realistic	Multi-Operation Forming Machine Setter	610 \$50,340	<b>HD</b>
<b>Petroleum Pump System Operators, Refinery Operators, &amp; Gaugers</b> Operate or control petroleum refining or processing units. Specialize in controlling manifold and pumping systems, gauging or testing oil in storage tanks, or regulating the flow into pipelines.	Production Realistic	Hydrotreater Operator; Oil Pipeline Operator; Oil Refiner	490 \$88,020	<b>HD</b>
<b>Power Plant Operators</b> Control, operate, or maintain machinery to generate electric power. Includes auxiliary equipment operators.	Production Realistic	Hydroelectric Plant Operator	440 \$91,240	<b>E</b>
<b>Production, Planning, and Expediting Clerks</b> Coordinate and expedite the flow of work and materials within or between departments of an establishment according to production schedule.	Quality Assurance Conventional	Expeditor; Material Control Clerk; Production Scheduler	380 \$56,450	<b>HD</b>
<b>Supervisors of Mechanics, Installers, and Repairers</b> Directly supervise and coordinate the activities of mechanics, installers, and repairers. May also advise customers on recommended services.	Maintenance, Installation & Repair Enterprising	Automobile Body Repair; Fleet Maintenance; Railroad Car Repair Supervisor	1,590 \$82,410	<b>E</b> <b>HD</b>
<b>Supervisors of Production and Operating Workers</b> Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine operators, assemblers, fabricators, and plant operators.	Production Enterprising	Assembly Line Supervisor; Machinist Supervisor	1,370 \$76,720	 <b>HD</b>
<b>Welders, Cutters, Solderers, and Brazers</b> Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.	Production Realistic	Arc Welder; Cutting Torch Operator	2,680 \$57,550	 <b>HD</b>
<b>Wind Turbine Service Technicians</b> Inspect, diagnose, adjust, or repair wind turbines. Perform maintenance on wind turbine equipment including resolving electrical, mechanical, and hydraulic malfunctions.	Maintenance, Installation & Repair Realistic	Wind Energy Technician	370 \$54,020	<b>E</b> <b>HD</b>



## MARKETING

### Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree

<b>Cashiers</b> Receive and disburse money in establishments other than financial institutions using electronic scanners, cash registers, or related equipment.	Professional Sales Conventional	Cash Register Operator; Toll Collector	9,380 \$28,360	
<b>Counter and Rental Clerks</b> Receive orders, generally in person, for repairs, rentals, and services. May describe available options, compute cost, and accept payment.	Professional Sales Conventional	Automotive Service Writer; Car Rental Agent; Dry Cleaning Counter Clerk	870 \$36,210	<b>HD</b>

Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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## MARKETING – CONTINUED

<b>Driver/Sales Workers</b> Drive truck or other vehicle over established routes or within an established territory and sell or deliver goods, such as food products.	Professional Sales Realistic	Newspaper Delivery Driver; Pizza Delivery Driver; Route Salesperson	2,420 \$46,760	  HD
<b>Parts Salespersons</b> Sell spare and replacement parts and equipment in repair shop or parts store.	Professional Sales Enterprising	Auto Parts Salesperson; Electronic Parts Salesperson	1,630 \$43,930	 HD
<b>Property, Real Estate, and Community Association Managers</b> Plan, direct, or coordinate the selling, buying, leasing, or governance activities of commercial, industrial, or residential properties.	Marketing Management Enterprising	Apartment, Building Rental, or Leasing Property Manager	830 \$46,750	
<b>Real Estate Sales Agents</b> Perform duties, such as study property listings, interview prospective clients, accompany clients to property site, discuss conditions of sale, and draw up real estate contracts.	Professional Sales Enterprising	Apartment Rental Agent	230 \$63,330	  HD
<b>Retail Salespersons</b> Sell merchandise, such as furniture, motor vehicles, appliances, or apparel to consumers.	Professional Sales Enterprising	Car Salesperson; Apparel Salesperson	10,910 \$35,080	  HD 
<b>Sales Representatives of Services</b> Sell services to individuals or businesses. May describe options or resolve client problems.	Professional Sales Enterprising	Business Services Sales Representative; Membership Solicitor	1,440 \$68,290	HD
<b>Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products</b> Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.	Professional Sales Conventional	Hotel Supplies Salesperson; Pulpwood Dealer; Wholesale Diamond Broker	4,100 \$69,570	  HD
<b>Supervisors of Retail Sales Workers</b> Supervise and coordinate activities of retail sales workers in an establishment or department. Duties include management functions, such as purchasing, budgeting, accounting, and personnel work.	Professional Sales Enterprising	Cashier Supervisor; Delicatessen Department Manager	1,960 \$51,840	  HD 

### Postsecondary Programs – Bachelor's Degree or Higher

<b>Market Research Analysts and Marketing Specialists</b> Research market conditions or gather information to determine potential sales of a product or service.	Marketing Research Investigative	Research Specialist; Marketing Consultant; Marketing Forecaster	1,260 \$61,000	   HD
<b>Marketing Managers</b> Plan, direct, or coordinate marketing policies and programs. Develop pricing strategies to maximize the firm's profits while ensuring the customer satisfaction.	Marketing Management Enterprising	Internet Marketing Manager; Marketing Administrator; Marketing Director	180 \$132,800	 
<b>Public Relations Specialists</b> Engage in promoting or creating an intended public image for individuals, groups, or organizations. May write or select material for release to various communications media.	Marketing Communications Enterprising	Press Secretary; Publicity Writer	470 \$66,930	  HD 
<b>Sales Managers</b> Coordinate sales distribution, establish sales territories, quotas, and goals; establish training programs for sales representatives, and analyze sales statistics.	Marketing Management Enterprising	District Sales Manager; Export Manager	390 \$127,160	 
<b>Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products</b> Sell goods for wholesalers or manufacturers for engineering, chemistry, and electronics, at least two years of postsecondary education.	Professional Sales Conventional	Pharmaceutical or Surgical Instruments Sales Rep; Wholesale Ultrasonic Equip. Salesperson	410 \$101,420	  HD



## SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS

### Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree

<b>Architectural and Engineering Managers</b> Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields.	Engineering & Technology Enterprising	Engineering Design Manager; Mechanical Engineering Director	220 \$143,830	  HD 
<b>Conservation Scientists</b> Manage, improve, and protect natural resources to maximize their use without damaging the environment.	Science & Mathematics Investigative	Range Ecologist; Soil Conservationist	320 \$65,960	  

Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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## SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS – CONTINUED

<b>Electrical Engineers</b> Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use.	Engineering & Technology Investigative	Electrical Systems Engineer; Power Distribution Engineer	300 \$100,650	
<b>Electronics Engineer, Except Computer</b> Research, design, develop, or test electronic components and systems for commercial, industrial, military, or scientific use.	Engineering & Technology Investigative	Circuit Design, Electronic Design Automation, or Telecommunication Engineer	70 \$95,550	
<b>Environmental Scientists and Specialists, Including Health</b> Conduct research or perform investigation for identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population.	Science & Mathematics Investigative	Hazardous Substances Scientist; Health Environmentalist; Water Pollution Scientist	200 \$63,110	
<b>Industrial Engineers</b> Design, develop, test, and evaluate integrated systems for managing industrial production processes, such as quality control, inventory control, logistics and material flow, and cost analysis.	Engineering & Technology Investigative	Efficiency Engineer; Manufacturing Engineer	320 \$88,880	
<b>Mechanical Engineer</b> Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment.	Engineering & Technology Realistic	Combustion Engineer; Engine Designer; Tool and Die Engineer	500 \$85,490	
<b>Petroleum Engineers</b> Devise methods to improve oil and gas extraction and production and determine the need for new or modified tool designs. Oversee drilling and offer technical advice.	Engineering & Technology Investigative	Natural Gas Engineer; Oil Drilling Engineer; Oil Exploration Engineer	270 \$107,280	
<b>Statisticians</b> Develop or apply mathematical or statistical theory and methods to collect, organize, interpret, and summarize numerical data.	Science & Mathematics Conventional	Biostatistician; Statistical Analyst; Time Study Statistician	60 \$73,860	



## TRANSPORTATION, DISTRIBUTION & LOGISTICS

### Postsecondary Programs – High School Diploma, Certificate, or Associate's Degree

<b>Automotive Service Technicians and Mechanics</b> Diagnose, adjust, repair, or overhaul automotive vehicles. Test vehicle components and systems.	Facility & Mobile Equipment Maintenance Realistic	Transmission Specialist; Brake Technician; Hybrid Car Mechanic	1,870 \$48,980	
<b>Bus and Truck Mechanics/Diesel Engine Specialists</b> Diagnose, adjust, repair, or overhaul buses and trucks, or maintain and repair any type of diesel engine. Includes mechanics working primarily with automobile or marine diesel engines.	Facility & Mobile Equipment Maintenance Realistic	Biodiesel Engine Specialist; Tractor Trailer Mechanic	1,320 \$57,000	
<b>Bus Drivers, School</b> Drive a school bus to transport students. Ensure adherence to safety rules. May assist students in boarding or exiting.	Transportation Operations Realistic	School Bus Operator; Special Education Bus Driver	1,570 \$49,130	
<b>Bus Drivers, Transit and Intercity</b> Transport students or special clients, such as the elderly or persons with disabilities on buses.	Transportation Operations Realistic	School Bus Operator; Special Education Bus Driver	250 \$36,970	
<b>Cargo and Freight Agents</b> Route movement of incoming/outgoing cargo and freight shipments in airline, train, and trucking terminals/shipping docks.	Sales & Service Conventional	Cargo Router; Freight Shipping Agent	200 \$44,920	
<b>Cleaners of Vehicles and Equipment</b> Wash or otherwise clean vehicles, machinery, and other equipment. Use such materials as water, cleaning agents, brushes, cloths, and hoses.	Facility & Mobile Equipment Maintenance Realistic	Aircraft Cleaner; Auto Detailer; Car Wash Attendant	1,540 \$30,490	
<b>Dispatchers, Except Police, Fire, and Ambulance</b> Schedule and dispatch workers, work crews, equipment, or service vehicles to move materials, freight, passengers, normal installation, service, or emergency repairs.	Logistics Planning & Management Services Conventional	Taxicab Dispatcher; Tow Truck Dispatcher; Train Dispatcher	690 \$51,850	



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Occupational Title & Description	Career Cluster Pathway Holland Type	Related Occupations	Number Employed in ND - 2021 ND Average (Mean) Wage - 2021	Occupational Trait(s)
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## TRANSPORTATION, DISTRIBUTION & LOGISTICS – CONTINUED

<b>Heavy and Tractor-Trailer Drivers</b> Drive a tractor-trailer combination or large truck. Requires commercial drivers' license.	Transportation Operations Realistic	Auto Carrier Driver; Cement Truck Driver; Moving Van Driver	9,730 \$54,920	  <b>HD</b>
<b>Industrial Truck and Tractor Operators</b> Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location.	Transportation Operations Realistic	Forklift Operator	1,330 \$43,740	  <b>E HD</b>
<b>Laborers and Freight, Stock and Material Movers Handlers</b> Manually move freight, stock, or other materials or perform other general labor.	Transportation Operations Realistic	Cargo Handler	6,990 \$36,740	  <b>HD</b> 
<b>Light Truck Drivers</b> Drive a light vehicle, such as a truck or van, primarily to pick up merchandise or packages from a distribution center and deliver.	Transportation Operations Realistic	Grocery Light Truck Driver; Parcel Truck Driver	2,910 \$45,690	  <b>HD</b> 
<b>Mobile Heavy Equipment Mechanics, Except Engines</b> Diagnose, adjust, repair, or overhaul mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders.	Facility & Mobile Equipment Maintenance Realistic	Bulldozer Mechanic; Construction Equipment Mechanic; Forklift Mechanic	1,580 \$63,290	 <b>HD</b>
<b>Pump Operators</b> Tend, control, or operate power-driven, stationary, or portable pumps and manifold systems to transfer gases, oil, and other liquids.	Transportation Operations Realistic	Brewery Pumper; Fluid Pump Operator	240 \$70,320	  <b>HD</b>
<b>Supervisors of Transportation and Material-Moving Workers</b> Directly supervises and coordinates the activities of helpers, laborers, or material movers.	Transportation Operations Enterprising	Merchandise Pickup/Receiving, Shipping/Receiving Materials Handler; Warehouse Worker	1,790 \$68,050	 <b>E</b> 
<b>Tank Car, Truck, and Ship Loaders</b> Load and unload chemicals and bulk solids, such as coal, sand, and grain into or from tank cars, trucks, or ships using material moving equipment.	Transportation Operations Realistic	Barge Loader; Rail Car Loader; Ship Unloader	632 \$57,000	 <b>HD</b> 
<b>Transportation, Storage, and Distribution Managers</b> Plan, direct, or coordinate transportation, storage, or distribution activities.	Logistics Planning & Management Services Enterprising	Distribution Center Manager; Traffic Safety Administrator; Warehouse Manager	180 \$104,670	  <b>HD</b> 
<b>Wellhead Pumpers</b> Operate power pumps and auxiliary equipment to produce flow of oil or gas from wells in oil field.	Transportation Operations Realistic	Oil Well Pumper	1,200 \$67,900	  <b>HD</b>
<b>Postsecondary Programs – Bachelor's Degree or Higher</b>				
<b>Commercial Pilots</b> Pilot and navigate the flight of fixed-winged aircraft on non-scheduled air carrier routes, or helicopters.	Transportation Operations Realistic	Aerial Crop Duster; Commercial Flight Instructor; Helicopter Pilot	240 \$99,860	 
<b>Logisticians</b> Analyze and coordinate the logistical functions of a firm or organization. Responsible for the entire life cycle of a product.	Logistics Planning & Management Services Enterprising	Logistics Analyst; Logistics Planner	130 \$73,170	   <b>HD</b>



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**Military** – Occupation exists in the military.

**What Is It?**

- ND Career Builders is a tool for business to grow their workforce in high-need areas.
- Partnership between the state and businesses, requiring a dollar-for-dollar private-sector match to the state funds.
- The high-need and emerging occupations list drives the program.
- Recipients qualify for **up to \$17,000**, which is funded 50% from private-sector dollars and 50% state dollars.
- Either a front-end scholarship, or back-end loan repayment, or both!

**What Careers Are Included?**

- Accounting Careers ■ Bus & Truck Mechanics  
Carpentry ■ Computer Network Support Specialists  
General & Operations Manager  
Nursing ■ Welding

And many more! Find the full list at:

<https://ndus.edu/career-builders/>

**Scholarship**

- Certificate or degree programs at the associate's level or below.
- Qualifying institutions within ND.
- Educational programs must relate to a high-need occupation.
- A 2.50 minimum GPA is required to qualify for the scholarship and to receive payment.
- Full time enrollment is required, based on the educational program's guidelines.
- Students sign a *Scholarship Award Agreement*, agreeing to repay scholarship dollars if the terms of the agreement are not met.

**Loan Repayment**

- Newly-hired individuals into high-need occupations within ND.
- Must live in ND.
- Must currently hold a balance on a student loan and have graduated from an educational program.
- Maximum loan repayment per year is \$5,667.



Contact the ND University System (NDUS) for more information.  
701-328-2906 • ndfinaid@ndus.edu



**How Do You Spend Your Money?**

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

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

<b>Total Monthly Income</b>	\$
<b>- Total Monthly Expenses</b>	- \$
<b>= Total Savings</b>	\$

Source: [www.asa.org/wp-content/uploads/2017/06/budget\\_worksheet-1.pdf](http://www.asa.org/wp-content/uploads/2017/06/budget_worksheet-1.pdf)



# Alyssa HAIDER

Dickinson High School,  
Dickinson, ND



**This spring** I graduated from Dickinson High School, in Dickinson, ND. I participated in the health occupations work experience class, where I was able to get my Certified Nursing Assistant (CNA) license while working. I've been working at a local nursing home/assisted living facility since 2020. Part of that time I worked in a COVID unit. It's a hard job, but it exposed me to the patient-care side of the medical field, and I also discovered the large amount of teamwork that goes into healthcare. I learned teamwork and problem-solving skills are very prominent skills to have while serving on a team.

Taking the CNA class was a great steppingstone for me in choosing to pursue a career in medicine. I will be attending the University of South Dakota for Neuroscience and Pre-Med this fall. I plan to attend medical school somewhere out of the Midwest, but plan to return to North Dakota after I become a doctor.

I was involved in the Technology Student Association (TSA) in high school. My TSA journey began when I was only six months old. My mom was a TSA chapter advisor, so I've been traveling to national TSA conferences with her since I was little. While growing up, I always knew I wanted to be a TSA

member. I enjoyed going on trips, watching dragsters race, and seeing the cool projects everyone was doing. TSA had always been a constant in my life, so I decided to run for a state leadership position as a seventh grader! Since then, I have served TSA in multiple roles:

- ◆ ND State 2nd Vice President (2017-2018)
- ◆ ND State Vice President (2018-2019)
- ◆ ND State President (2019-2020)
- ◆ National TSA Sergeant-at-Arms (2020-2021)
- ◆ National TSA Vice President (2021-2022)

TSA has given me a platform to grow and expand my leadership skills. It taught me how to be a problem solver and how to think critically. TSA has also taught me how to speak publicly and about the importance of taking risks and setting goals. My favorite TSA competitive event is Biotechnology Design, because finding solutions to issues our world is facing today is something that is very important to me. Competing in Biotechnology Design helped me develop my interest in the medical field and identify my future career path.

I have always enjoyed staying busy and participating in various activities. Looking back, I should have been more involved in extracurriculars, specifically CTSOs. When choosing extracurriculars, remember quality over quantity. Pick extracurriculars you're interested in and willing to dedicate your time and energy towards. Do not be afraid to step outside of your comfort zone and try something new, and be open to learning.

Outside of TSA, I am a competitive dancer, dance teacher, National Honor Society member, certified nursing assistant, student member of my school's CTE advisory board, and student council treasurer. I am also an active member of my church's youth group. My experiences and participation led to becoming a semi-finalist for the U.S. Presidential Scholarship-CTE and being named the MDU Resources Group Teen of the Week.

I strive to learn something new every day and serve others as much as I can. TSA has allowed me to build lifelong connections and has provided me with so many amazing opportunities. Although I do not know exactly where my future will take me, I am so excited about what lies ahead.



# Finding a Job & Getting Work Experience

One of the most important aspects of career planning for high school students is experience. Experience makes it easier for you to get the kinds of jobs that you will enjoy in the future, helps you prepare for a career, boosts your resume, helps with college applications, and helps you to learn about yourself.

## Here are some ways to gain experience:

- **WORK EXPERIENCE** – Is important in high school because you learn to function in a professional environment, you may find areas of career interests, and you learn job-seeking skills making it easier to get jobs in the future.
- **VOLUNTEER EXPERIENCE** – A great resource of career exposure for high school students, as well as a great thing to add to a resume. Volunteering also helps you connect to your community and make a difference.
- **RESEARCH AND LEARNING** – Do your own research on careers that interest you by going online, reading books, talking to people in those careers, and creating your own experiences.
- **REQUIRED EDUCATION** – Make sure that you understand and are prepared for the required education for your chosen career.



## JOB SEARCH SITES

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

## Here are some helpful tips on finding job opportunities, even when you're just starting out:

- **EARLY EXPERIENCES:** Babysitting, pet sitting, mowing lawns, and shoveling snow can be part of your work experience and history on your resume. The best way to find a job like this is to check with your friends, family, and neighbors, or even advertise on social media.
- **CONSIDER VOLUNTEER WORK:** Even if you don't get a paycheck, volunteering will add to your experiences and potential references for future paid jobs.
- **TARGET THE RIGHT INDUSTRIES:** Look for a job at a place that hires workers without experience. Common industries include hospitality, recreation, camps, food service, retail stores, and lawn care, etc. The peak season for jobs like this is summer. Summer jobs start hiring as early as spring, so start your job search early.
- **USE YOUR NETWORK:** The good news is that you already have a network of people who are willing to help you, family, friends, neighbors, teachers, counselors, etc.
- **FLEXIBLE SCHEDULING:** Look for a job that will allow flexible scheduling so you can balance school and work.
- **START A RESUME:** Having a resume to give to prospective employers can help you stand out from other applicants. Make sure to highlight your experiences and skills, especially your hard skills and soft skills. Both are necessary to find career success!
  - **Hard Skills:** Skills gained through education or specific training like how to use machines, software, and tools.
  - **Soft Skills:** Skills often seen as personality traits you may have spent your whole life developing like being able to manage your time, communicate with other people, or confront a difficult situation for the first time.
- **PARTICIPATE IN STUDENT WORK EXPERIENCE PROGRAMS:** You can get experience and build your network by participating in work experiences like cooperative work, internships, and apprenticeships. (*RUReady.ND.gov* – WBL Module can help – talk to your counselor or CTE teacher.)
- **USE JOB SEARCH SITES:** See left for examples of helpful sources of information.



Explore careers, build real-world skills, and kick-start your future with

# WORK-BASED LEARNING



Work-based Learning (WBL) gives you the chance to interact directly with an employer and gain real-life work experience, all while developing connections in an industry you're interested in. These opportunities may be in the workplace, at school, or through technology.

## Work-based Learning activities include:

- Internships
- Mentorships
- Apprenticeships
- Part-time or summer jobs
- Service learning
- Practicums
- Cooperative work experiences
- Career & Technical Student Organizations
- School-based enterprise, projects, or simulations

## GET STARTED THIS FALL

Starting this fall, you can explore WBL opportunities, get matched based on your skills and interests, and get connected to employers through the new Work-based Learning module in [RUReady.ND.gov](http://RUReady.ND.gov).

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

See Your School Counselor for More Information or Visit:  
[www.RUReady.ND.gov](http://www.RUReady.ND.gov)

Made possible through the partnership of NDCTE, Golden Path Solutions (whose application, Compass, is being integrated into [RUReady.ND.gov](http://RUReady.ND.gov)), and XAP ([RUReady.ND.gov](http://RUReady.ND.gov)).





# Billie LENTZ

Rolla High School,  
Rolla, ND



**Billie Lentz** graduated from Rolla High School in Rolla, ND, then attended North Dakota State University (NDSU), and recently graduated with a degree in Agriculture Economics with a minor in Business Administration. She accepted a position with John Deere in its Marketing and Customer Product Support Development Program. This position is the first of three rotations she will complete in three different locations over a two-year period. Billie will experience a different job in each location to learn more about marketing and customer support within John Deere. Her first rotation is in Raleigh, North Carolina, in Customer Connections.

Billie was very active in FFA in high school and college, as well as FCCLA in high school, and held multiple leadership roles.

- ◆ FFA – High School: Chapter President, State FFA Officer Team for 2018 – 2019 year, ran for National Office Fall of 2020. College: State FFA Officer – freshman year, ran for National FFA Office – junior year
- ◆ FCCLA – district officer and a chapter Vice President.

Billie continues the legacy her dad and grandpa built in the FFA. She says things are completely different now from when they served, but the changes have been rewarding to watch. Students can learn

about their path using the bridges that FFA built and start to pursue their passion as early as high school with a better understanding of actual application in the world.

Billie says FFA is the common denominator and the first steppingstone to achieving her goals. FFA not only helped her with the early stages of developing her professional network, but also gave her skills to run a meeting confidently and efficiently, speak in front of a large crowd, problem solve, and communicate effectively. FFA built Billie's confidence and taught her the importance of serving other and how to be a voice for the agriculture industry and rural Americans.

Billie's work-based learning experiences in high school and college have led to great opportunities. Each experience was unique and provided her different skillsets that she used to pursue her passions. In high school, she participated in an FFA Supervised Agricultural Experience (SAE), which was a community service project. Billie grew pumpkins and gourds, created fall decorations, and sold the decorations. She then donated the money to her school's backpack food program and the local food pantry. This was the start of Billie's love of helping others, involvement in agriculture, and pursuit of her interests in marketing

and business. Billie's college internship experiences were extensive, and she made the most of every opportunity! She completed a total of six internships that included positions in marketing, communications, social media, sales, export, and a large tractor marketing internship.

Billie's education provided far more than classroom knowledge. It gave her opportunities to serve her community, lead student organizations, attend conferences, and develop strong relationships on personal and professional levels. All these prepared her for a career in the agriculture industry and helped her build confidence in becoming a leader for the industry as well.

Billie's advice is to take classes that truly interest you, sign up for clubs, go to workshops that offer things you want to know more about, volunteer - this is the time to really expand your knowledge in many different areas. You never know, one of them could lead to your next passion or career path!

"Don't be afraid to step out of your comfort zone and pave your own path, she says. "It's easy to 'Think that kind of thing has never been done here before.' Go and be the person that makes it a reality!"



# APPRENTICESHIP

EARN WHILE YOU LEARN!

## Andrew McKinney

Williston High School,  
Williston, ND



### Apprenticeships are an affordable path to in-demand jobs!

Apprenticeships are registered, industry sponsored programs that provide:

- ◆ **Paid, full-time on-the-job training**
- ◆ **Hands-on learning and skills development**
- ◆ **Mentorship**
- ◆ **And a better chance of entering a high-paying occupation without student debt!**

Apprenticeship programs include job-related educational courses that are required as part of the program. The classes are provided by accredited community colleges, technical training schools, or the employer. Apprentices' work on the jobsite under supervision by journeymen for one to six years, depending on the job and industry. At the end of the apprenticeship, the apprentice earns a certification or license that allows them to work independently. Apprenticeships include trade industry occupations such as electricians and mechanics, and skilled professions, like healthcare occupations, such as CNA, dental assistant, pharmacy tech, and so many more.

There are 3 types of apprenticeships:

- ◆ **Time-based** – measured by the number of hours spent on the job and in the classroom.
- ◆ **Competency-based** – measured by the ability to demonstrate the application of relevant knowledge, skills, and abilities.
- ◆ **Hybrid** – measured through a combination of both hours spent and competencies demonstrated.

For Andrew McKinney, it's a sweet deal! Andrew just signed with Triangle Electric, Inc. (TEI), a traditional commercial and industrial wiring business in Williston, ND, to be an apprentice electrician. Andrew originally planned to pursue a career in business until his junior year when he spent some time working with his dad remodeling their entire house in Oklahoma. That experience led to his interest in becoming an electrician. Andrew was accepted at North Dakota State College of Science (NDSCS) but changed his mind after he learned about the apprenticeship program from his career counselor, Haley Jeannotte, at Williston High School.

Andrew will receive his training through the Dakotas Area Electrical Apprenticeship and Training Fund (Dakotas JATC). The journeyman's license takes 8,000 hours of on-the-job training, along with five years of classroom instruction (180 hours per year). The Dakotas JATC program operates like a nine-month school year. The apprentice attends either one full day or one evening every week depending on where they are on the ranking scale from 1st year to 5th year.

Andrew says being able to problem solve and critically think are some of the best skills you can possess to be successful. He believes it's important to take pride in your work, have a good work ethic, and show that ethic by being organized, on time, and the first to help no matter what. The next steps for Andrew after completing his journeyman's program are getting his master's license and starting his own business.

Learn more about apprenticeship at [www.commerce.nd.gov/workforce/workforce-programs/apprenticeship](http://www.commerce.nd.gov/workforce/workforce-programs/apprenticeship)



# AmeriCorps

*Are you ready to make a difference?*

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

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

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

*For more information, visit [www.americorpsnd.com](http://www.americorpsnd.com)*

# QUENTIN N. BURDICK JOB CORPS CENTER

Job Corps is the nation's oldest and most successful job training program for young adults, ages 16 through 24. Operating year-round, Job Corps offers students a chance to learn a trade, obtain a GED or HSD, and even start college. Job Corps is a structured, residential program that focuses on learning life skills and employability, in addition to education and training.



## ACADEMIC TRAINING

- Students can obtain their GED or high school diploma.

## CAREER & TECHNICAL TRAINING

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

Following completion, graduates from Burdick may also be eligible for one of Job Corps' advanced training programs. Advanced training opportunities are available for almost every trade. After graduation, Career Transitions Services is available for students for up to a year.

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

To learn more about Job Corps, check out our website at [quentinnburdick.jobcorps.gov](http://quentinnburdick.jobcorps.gov).

Find us on



# MILITARY READY OPTIONS



**AIR FORCE/SPACE FORCE**  
airforce.com • spaceforce.com  
Bismarck • 701-226-3893  
Fargo • 701-371-5084  
Grand Forks • 701-390-4524  
Minot • 701-839-4635

**MARINES**  
marines.com • 701-277-8403

**NAVY**  
navy.com • 612-305-8551

**AIR NATIONAL GUARD**  
goang.com  
800-972-8825 • 701-451-2238

**ARMY NATIONAL GUARD**  
ndarmyguard.com

**UNITED STATES  
AIR FORCE ACADEMY**  
academyadmissions.com  
Colorado Springs, CO • 800-443-9266

**UNITED STATES  
COAST GUARD ACADEMY**  
cga.edu • New London, CT • 800-883-8724

**UNITED STATES  
MERCHANT MARINE ACADEMY**  
usmma.edu • Kings Point, NY • 516-726-5800

**UNITED STATES  
MILITARY ACADEMY**  
usma.edu  
West Point, NY • 845-938-4041

**UNITED STATES  
NAVAL ACADEMY**  
usna.edu  
Annapolis, MD • 410-293-4361

**ASVAB**  
officialasvab.com





# K-12 ONLINE LEARNING: ND CENTER FOR DISTANCE EDUCATION

## Center for Distance Education (CDE)

 North Dakota's only public, accredited, fully online school. Over 350 engaging online courses in grades K-12.

CDE partners with all North Dakota public and private schools to provide opportunity and choice for all students.

CDE provides learning choice and opportunity for students looking to learn fully online or to supplement their face-to-face learning with online courses.



### CDE Online Courses:

- ▶▶ are self-paced (complete lessons at your own speed),
- ▶▶ start a course anytime (all twelve months of the year),
- ▶▶ includes all core courses, electives, career and technical courses, credit recovery, and Dual Credit courses.
- ▶▶ provide diagnostics and adaptive lessons appropriate for your strengths and weaknesses, and
- ▶▶ have ND highly qualified teachers working one on one with students as needed.
- ▶▶ often include hands on, engaging, project-based learning opportunities.

CENTER FOR DISTANCE EDUCATION • 701-298-4830 • [www.cde.nd.gov](http://www.cde.nd.gov)

# Be confident with your decisions.

Whether you decide to go straight to a career, the military or continue your education after high school, Bank of North Dakota wants you to be confident with the financial decisions you make. Learn more about career options, student loans and managing money at the link below.

[bnd.nd.gov/confident](http://bnd.nd.gov/confident)

Alliyah Carlson-Bell  
Minot, North Dakota





# WHY CHOOSE A NDUS SCHOOL?



ACCESS. INNOVATION. EXCELLENCE.

With five colleges and six universities, the North Dakota University System (NDUS) offers the education that's right for you. The NDUS will help prepare you for your career goals.

## NDUS INSTITUTIONS OFFER:

- More than 700 Quality Programs of Study
- Certificates, Two-year and Four-year Degrees, and Professional Degrees in Law, Medicine, and Pharmacy
- Regionally Competitive Cost
- Opportunities that Challenge and Encourage You to Meet Your Potential
- Single Course Options including Online, Face-to-Face, and Hybrid
- Beyond the Books - Extracurricular Organizations and Intramural Teams at 11 Colleges and Universities
- Life in a Global Community

LEARN MORE: [ndus.edu](http://ndus.edu)

## CHECKLIST for Admission to a College or University

- ✓ **Consider more** than one campus at [insights.nd.gov/College/InstitutionSearch](http://insights.nd.gov/College/InstitutionSearch).
- ✓ **Look through** course catalogues and schedule campus visits.
- ✓ **Take the ACT** – go to [www.actstudent.org](http://www.actstudent.org).
- ✓ **Remember to apply** by application deadlines for admission and the FAFSA.
- ✓ **Weigh your options**, including financial aid packages, and select a college or university.

## NORTH DAKOTA UNIVERSITY SYSTEM (NDUS) Admission Requirements

### 2-YEAR COLLEGE ADMISSION REQUIREMENTS

- **A high school graduate may be admitted to any two-year campus.** Each campus may have requirements that are in addition to the general admission requirements.
- **GED tests may be used to satisfy the high school graduation requirement.**

### 4-YEAR COLLEGE ADMISSION REQUIREMENTS

High School GPA requirement varies by institution  
High School Core Course Requirements

- **4 units of English**
- **3 units of Mathematic** (Algebra I and above)
- **3 units of Lab Science** (including at least two in biology, chemistry, physics, or physical science)
- **3 units of Social Studies** (not including consumer education, cooperative marketing, orientation to social science, or marriage/family)

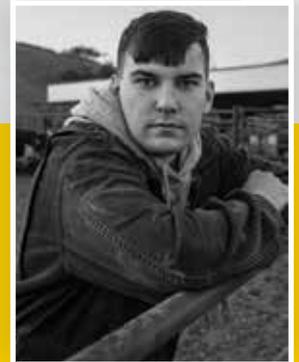
- Additional courses may be required before you can be admitted to some programs.
- Students who do not meet the admission requirements for a 4-year university are welcome to attend one of the five 2-year colleges. Upon satisfactory completion of 24 credits, the student will be eligible to transfer to a 4-year university.
- Applicants seeking admission at North Dakota State University and the University of North Dakota must complete a total of 14 core course requirements. The additional unit of coursework can be selected from the categories listed above or world language (including foreign languages, Native American Languages, or American Sign Language).



# YOUR LEGACY AWAITS!

**THE ARMY NATIONAL GUARD  
CAN HELP YOU  
BUILD A BETTER FUTURE!**

- ★ ENLISTMENT BONUSES AVAILABLE
- ★ 100% TUITION ASSISTANCE
- ★ STUDENT LOAN REPAYMENT PROGRAM
- ★ MONTGOMERY GI BILL & GI BILL KICKER FOR COLLEGE & VO-TECH STUDENTS
- ★ LEARN A VOCATIONAL SKILL
- ★ JOIN NOW & GET PAID



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**DEVILS LAKE • 701-662-4648**  
**DICKINSON • 701-260-8767**  
**FARGO • 701-451-6030**  
**GRAND FORKS • 701-795-3848**



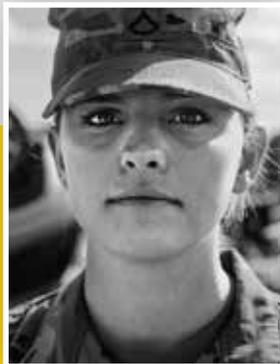
**JAMESTOWN • 701-320-0649**  
**WILLISTON • 701-770-3072**  
**MINOT • 701-857-7650**  
**VALLEY CITY • 701-845-6762**  
**WAHPETON • 701-899-2264**

BY

# THE NEXT GREATEST GENERATION IS NOW.



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YOU THRIVE ON A SENSE OF  
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 @NDARNGRECRUIT

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[NDARMYGUARD.COM](https://www.ndarmygard.com)



# MAKE AN IMPACT, BE LEGENDARY

With North Dakota State Government

## EXPLORE

At the state of North Dakota, we are driven to succeed through gratitude, humility, curiosity and courage. We know that with hard work and perseverance, we can better our state and local communities.

The state of North Dakota has diverse career opportunities for you to explore and make an impact. Here are just a few:

- **Accounting:** Accountant • Auditor • Fiscal Analyst
- **Business Operations:** Business Analyst • Business Manager • Human Resource Business Partner
- **Legal:** Attorney • Legal Assistant • Paralegal
- **Natural Resources & Environmental Services:** Agriculture Program Specialist • Environmental Scientist
- **Skilled Trades:** Electrician • Engineering Technician • Maintenance Worker
- **Mechanical:** Fleet & Equipment Technician • Systems Mechanic • Maintenance Mechanic
- **Healthcare:** Licensed Practical Nurse • Registered Nurse • Psychologist
- **Human Services:** Addiction Counselor • Human Relations Counselor • Social Worker
- **Protective Services:** Highway Patrol Officer • Criminal Investigator • Park Ranger
- **Engineering:** Environmental Engineer • Transportation Engineer • Water Resource Engineer
- **Technology:** Cybersecurity Analyst • Software Developer • Systems Admin • Enterprise Desktop Admin
- **Science:** Biologist • Chemist • Hydrologist

## CONNECT

At the state of North Dakota, our purpose is to empower people, improve lives and inspire success. Our talented workforce is committed to providing exceptional services to the citizens of North Dakota. We make a difference, whether working to keep us safe, supporting the vulnerable, educating our future leaders, serving as responsible stewards of our resources, assisting with the public policy and everything in between!

## ACHIEVE

Achieve your career goals with the state of North Dakota! The opportunities to learn and grow are endless. We offer mentoring, ongoing training and professional development courses that encourage a growth mindset and encourage leadership everywhere.

NORTH  
**Dakota**  
Be Legendary.

**Make a great life. Make a big difference.**  
Explore the careers available with state government.  
**ND.GOV/CAREERS**



recruiter@nd.gov • facebook.com/ndstatecareers • linkedin.com/company/northdakota

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

A few of our career-oriented products specific to North Dakota's labor market are available at [www.ndlmi.com](http://www.ndlmi.com). They cover nearly everything you ever wanted to know about career opportunities in North Dakota and may include employment projections, wages, core tasks, work activities, skills, knowledge, and typical education/training requirements.



**BISMARCK-MANDAN**

1601 E Century Ave  
701-328-5000

**DEVILS LAKE**

301 College Dr S  
701-662-9300

**DICKINSON**

66 Osborn Dr  
701-227-3100

**FARGO**

1350 32nd St S  
701-239-7300

**GRAND FORKS**

1501 28th Ave S  
701-795-3700

**JAMESTOWN**

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

**MINOT**

3416 N Broadway  
701-857-7500

**WAHPETON**

524 2nd Ave N  
701-671-1550

CENTRAL OFFICE - 701-328-2825

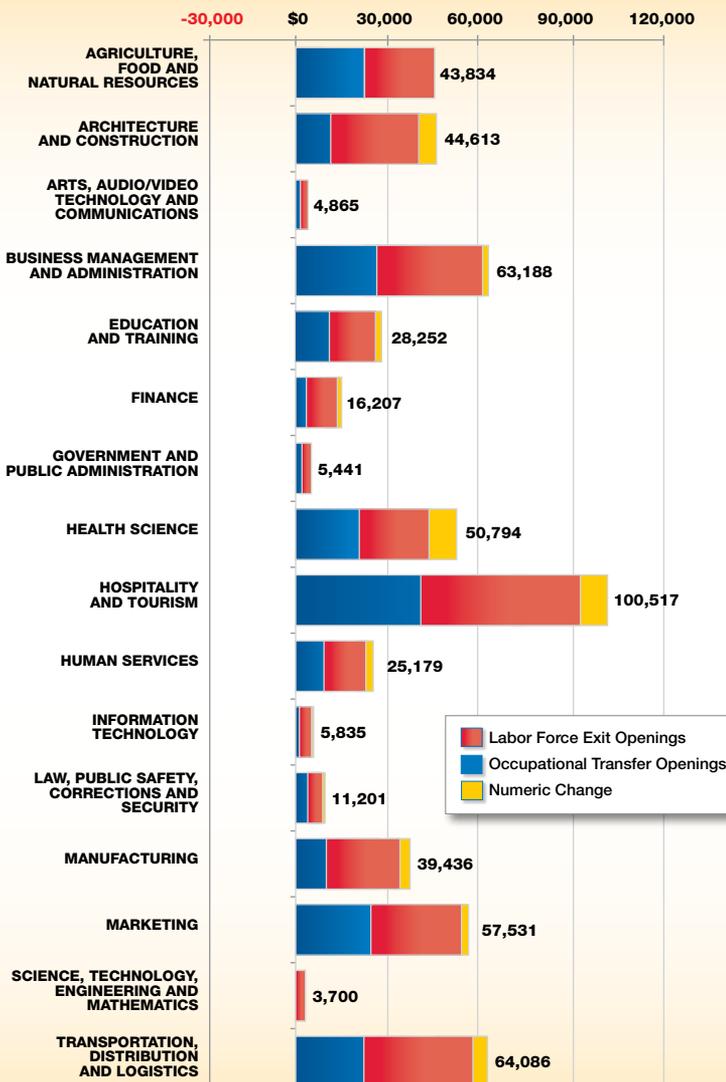
STATEWIDE TTY RELAY ND - 800-366-6888

**JOBSND.com**

**WILLISTON**

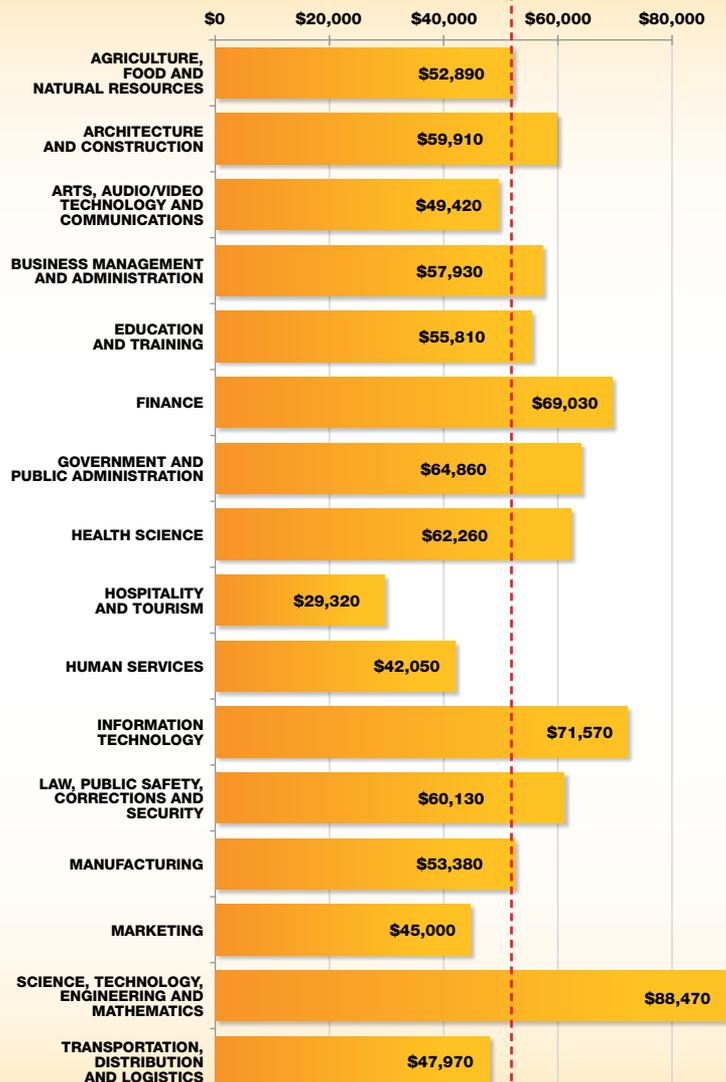
422 1st Ave W  
701-774-7900

## EMPLOYMENT PROJECTIONS 2020-2030 TOTAL OPENINGS



## AVERAGE 2020 WAGES

ND AVG  
\$52,450





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

The U.S. Census data estimates 1 in 10 individuals in North Dakota are without a high school diploma. Individuals who receive a **GED** will earn approximately \$10,000 (nationally) more annually than those who do not. This, in turn, improves an individual's economic status, spending patterns, and tax contributions. North Dakota needs every able body in the workforce – a GED can provide you the skills to make a difference and launch a new career. Earn your GED now and reap the rewards. Please visit [ged.com](http://ged.com) for more information on the GED.



## ADULT LEARNING CENTERS *provide instruction for*

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

### ADULT LEARNING CENTERS

**BISMARCK**

Bismarck Public Schools  
701-323-4530

**DEVILS LAKE**

Lake Region State College  
701-662-1568

**DICKINSON**

Dickinson Public Schools  
701-456-0008

**FARGO**

Fargo Public Schools  
701-446-2807

**GRAND FORKS**

Grand Forks Public Schools  
701-795-2777

**MINOT**

Minot Public Schools  
701-857-4488

**VALLEY CITY**

Sheyenne Valley Area CTC  
701-845-0256

**WILLISTON**

Williston State College  
701-774-4221

Visit [www.nd.gov/dpi/education-programs/adult-education-ged](http://www.nd.gov/dpi/education-programs/adult-education-ged) for more information on Adult Education in ND.



# NORTH DAKOTA VOCATIONAL REHABILITATION

Vocational Rehabilitation (VR) helps students prepare for life after high school. VR counselors work with students to develop a personalized plan to achieve their career goals. Support is provided to students both before and after graduation to meet these goals.

VR counselors collaborate with parents/guardians, teachers, and other community providers to help you prepare for work by:



- **Exploring jobs** that match your interests and skills
- **Getting work experience**
- **Improving job seeking skills** such as applications, resumes, and interviews
- **Learning about training options** including college, on-the-job training, and others



- **Connecting you directly** to local employers
- **Helping you learn and do your job well** – may include accommodations, job coaching, training, or tools and supplies for work

**There is no cost to participate. To be eligible you must have a desire to work, a disability such as a physical, medical, or mental health diagnosis, and need services that lead to employment.**



Students with disabilities may also receive Pre-Employment Transition Services (Pre-ETS) prior to applying for VR. To be eligible for Pre-ETS you must be 14 and in the 9th grade and not older than age 21. Pre-ETS include:

- Job exploration counseling
- Work-based learning opportunities
- Counseling on post-secondary educational opportunities
- Workplace readiness training
- Instruction in self-advocacy

**Scan the code below to learn more about Vocational Rehabilitation:**



Students who are residents of North Dakota may apply for the **ND Academic Scholarship**, **ND Career and Technical Education Scholarship**, or the new **North Dakota Scholarship** their senior year. Students may only receive **ONE** of the three scholarships. On April 19, 2021, Governor Doug Burgum signed Senate Bill 2289, creating the **North Dakota Scholarship**. The requirements of the new North Dakota Scholarship are aligned to **North Dakota's Choice Ready initiative**, in which the goal is for students to graduate with the essential skills to be successful in their chosen path in life and be postsecondary ready, workforce ready, and/or military ready. Senate Bill 2289 also calls for the North Dakota Scholarship to completely replace the ND Academic Scholarship and the ND CTE Scholarship after the 2023-2024 school year.

Students meeting the requirements of the ND Academic Scholarship, ND CTE Scholarship, or the North Dakota Scholarship are eligible to receive a scholarship of up to **\$6,000** to be used within six academic school years after graduation from high school. The amount of each scholarship is \$750 per semester or \$500 per quarter based on full-time enrollment in an accredited higher education institution in the state. (For purposes of eligibility, "full-time" is defined by the institution the student is attending.) The scholarship may be used at public and private universities, as well as private career schools.

The scholarship is renewable provided the student is:

- enrolled full-time in North Dakota
- maintains a 2.75 GPA while attending college
- maintains progress toward degree completion

North Dakota seniors must apply by **June 3, 2023**. Students will need to plan their high school coursework and other related activities carefully to meet all eligibility requirements within the four years of high school. Students are also encouraged to visit with their school counselor regarding the Academic, CTE, and North Dakota Scholarships.

## Common Requirements for ALL Scholarships

§ North Dakota residency.

§ Graduate from a high school in ND; from a high school in a bordering state in accordance with NDCC Chapter 15-29; from a nonpublic high school in a neighboring state while the student resides with a custodial parent in ND; or complete a program of home education supervised in accordance with NDCC Chapter 15.1-23.

§ Complete the diploma requirements.

## Eligibility Requirements and Application

For a complete listing of eligibility requirements for each scholarship program, or for an application, visit [www.nd.gov/dpi/parentscommunity/students/academic-and-cte-scholarship](http://www.nd.gov/dpi/parentscommunity/students/academic-and-cte-scholarship) or call 701-328-2244.

## Scholarship Timeline

§ Students in the classes of 2023 and 2024 may qualify for the scholarship using the Academic, CTE, or North Dakota Scholarship Requirements.

§ Starting with the Class of 2025, students may only qualify for the scholarship using the North Dakota Scholarship Requirements. The Academic and CTE Scholarships will sunset after the Class of 2024 graduates.

# scholarships



# NORTH DAKOTA POSTSECONDARY PROGRAMS & 2022-23 Estimated On-Campus Budgets FOR RESIDENT DEPENDENT STUDENTS

	School	City	Website	Phone Number	Tuition & Fees	Books & Supplies	Room & Board	Total
NDUS 2-Yr.	Bismarck State College	Bismarck	bismarckstate.edu	(701) 224-5400	\$6,186	\$1,000	\$7,742	\$14,928
	Dakota College at Bottineau	Bottineau	dakotacollege.edu	(701) 228-2277	\$5,347	\$1,000	\$8,875	\$15,222
	Lake Region State College	Devils Lake	lrsc.edu	(701) 662-1600	\$5,436	\$1,000	\$7,200	\$13,636
	North Dakota State College of Science	Wahpeton	ndscs.edu	(701) 671-2207	\$5,580	\$1,000	\$6,870	\$13,450
	Williston State College	Williston	willistonstate.edu	(701) 774-4200	\$4,483	\$3,330	\$8,139	\$15,952

NDUS 4-Yr.	Dickinson State University	Dickinson	dickinsonstate.edu	(800) 279-4295	\$9,118	\$1,200	\$7,740	\$18,058
	Mayville State University	Mayville	mayvillestate.edu	(701) 788-4893	\$6,517	\$1,000	\$6,036	\$13,553
	Minot State University	Minot	MinotStateU.edu	(701) 858-3000	\$8,508	\$1,100	\$7,180	\$16,788
	North Dakota State University	Fargo	ndsu.edu	(701) 231-8643	\$10,993	\$800	\$9,300	\$21,093
	University of North Dakota	Grand Forks	und.edu	(701) 777-1234	\$9,237	\$800	\$10,557	\$20,594
	Valley City State University	Valley City	vcsu.edu	(701) 845-7541	\$8,458	\$1,100	\$7,232	\$16,790

Private	Burdick Job Corps Center	Minot	quentinnburdick.jobcorps.gov	(701) 857-9600	See page 53 for more information.			
	Lynnes Welding Training, Inc.	Bismarck	learntoweld.com	(701) 751-4256	\$15,100	\$675	\$4,152	\$19,927 <sup>1</sup>
	Lynnes Welding Training, Inc.	Fargo	learntoweld.com	(701) 373-0658	\$17,900	\$675	N/A	\$18,575 <sup>1</sup>
	Rasmussen University	Fargo	rasmussen.edu	(800) 817-0009	Contact Rasmussen University for more information. <sup>1</sup>			
	Trinity Bible College & Graduate School	Ellendale	trinitybiblecollege.edu	(800) 523-1603	\$18,216	\$1,000	\$6,758	\$25,974
	University of Jamestown	Jamestown	uj.edu	(701) 252-3467	\$23,400	\$1,300	\$8,560	\$33,260
	University of Mary	Bismarck	umary.edu	(800) 288-6279	\$21,062	\$1,068	\$8,270	\$30,400

Tribal	Cankdeska Cikana Community College	Fort Totten	littlehoop.edu	(701) 766-2370	\$3,950	\$1,400	\$5,750	\$11,100
	Nueta Hidatsa Sahnish College	New Town	nhsc.edu	(701) 627-4738	\$3,870	\$2,250	\$5,400	\$11,520
	Sitting Bull College	Fort Yates	sittingbull.edu	(701) 854-8073	\$2,005	\$600	\$2,925	\$5,530
	Turtle Mountain Community College	Belcourt	tm.edu	(701) 477-7862	\$2,282	\$500	\$5,000	\$7,782
	United Tribes Technical College	Bismarck	uttc.edu	(701) 221-1850	\$4,482	\$1,400	\$5,100	\$10,982

Cosmetology/Barber	Hair Society Institute	Williston	hairsocietyinstitute.com	(701) 774-3043	\$16,100	\$2,000	N/A	\$18,100 <sup>1</sup>
	Josef's School of Hair, Skin & Body	Grand Forks	josefsschoolofhairdesign.com	(701) 772-2728	\$19,000	\$1,800	\$10,800	\$31,600 <sup>1</sup>
	Josef's School of Hair, Skin & Body	Fargo	josefsschoolofhairdesign.com	(701) 235-0011	\$19,000	\$1,800	\$10,800	\$31,600 <sup>1</sup>
	Moler Barber College of Hair Styling	Fargo	molerbarberfargo.com	(701) 232-6773	\$1,500	\$9,000	N/A	\$10,500 <sup>1</sup>
	Skill Cutz Barber College	Fargo	skillcutzcollege.com	(701) 532-1892	Contact Skill Cutz for more information. <sup>1</sup>			
	The Hair Academy	Bismarck	thehairacademynd.com	(701) 255-3547	\$14,120	\$1,700	\$13,824	\$29,644 <sup>1</sup>
	The Salon Professional Academy	Fargo	tspafargo.com	(701) 478-1172	\$18,450	\$2,750	\$3,234	\$24,434 <sup>1</sup>

**Note:** Totals do not include personal, recreational, or miscellaneous costs which average approximately \$3,500. Costs may be different for specialized programs. Contact the college/program for more information about all costs and what is included.  
<sup>1</sup> Housing not available.

Explore your purpose, find your path, and plan your future!

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EDUCATION & CAREER PLANNING



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The Career Outlook Magazine is a publication of the:  
**North Dakota Department of Career and Technical Education**  
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