

# **Career Pathways**

**Exploration & Planning Guide** 

Educating today's learners for tomorrow's world.



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# **West Fargo**

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Dear Students, Parents, and Community members:

# Students are often asked, "What do you want to be when you grow up?"

From kindergarten through elementary, middle school to high school, learners in West Fargo Public Schools are afforded access to academic, career-based, and extra-curricular activities to begin this journey. Academic foundations provide the knowledge and essential skills learners need to be successful across all disciplines. Extra-curricular experiences often promote teamwork, leadership and perseverance, while career-based curriculums open the door for career awareness, exploration and preparation related to specific career clusters.

Career and technical education and academic elective courses are designed to enrich learner education through a career lens including career awareness, real-world projects, industry aligned skills, technology integration, job shadowing, and post-secondary partnerships. Learner self-reflection compels students to discover interests and acknowledge aptitudes which can set the stage for beginning exploration of career pathways in high school.

The West Fargo Career Pathways booklet is a resource to inform learners and families on this quest to:

- provide awareness of the 16 Career Clusters for career discovery
- outline the coursework for West Fargo career pathways
- communicate essential information to students, parents, staff, and community stakeholders
- connect high school academic and career and technical education coursework with students to begin career exploration
- align student interests and aptitude with career pathways
- inform leaners about future viable job opportunities related to each career pathway
- provide information about North Dakota post-secondary colleges and degree programs aligned to each career pathway
- provide parents and students with tools to plan and make informed decisions
- promote requirements to be eligible for the North Dakota Academic, CTE scholarship and Choice-Ready indicators
- outline West Fargo graduation requirements and Profile of a Graduate disposition
- communicate important assessments for self-reflection and college preparation
- connect essential career support resources with students and families

West Fargo Public School's mission is "Educating today's learners for tomorrow's world!" The exploration of career pathways provides choice to engage students in their own learning and discovery in passion areas. Coursework exposes students to future career options and skills to prepare them for the next steps beyond high school. With so many career options to choose from, making the most of the high school experience is critical! The Career Pathway Guide is a resource to inform and begin intentional four-year planning to make sure all West Fargo learners graduate Choice-Ready, and ultimately, understand their options on their pathway as an adult!

# NORTH DAKOTA CHOICE READY



# **ESSENTIAL SKILLS**

Earn a North Dakota high school diploma

Complete a **9-week Career Education/Individual Counseling** (15.1-21-18), **Financial Literacy** (15.1-21-21), and pass **ND Civics Test** (15.1-21-27) and **four or more** additional indicators:

- 25 hours of Community Service
- 95% Attendance (not counting school related absences)
- Career Exploration Experience
- Two or more years in organized Co-Curricular Activities
- Two or more years in organized Extra-Curricular Activities
- Successfully complete a Capstone Project
- Successfully complete an on-line learning course
- Demonstrate competency in 21<sup>st</sup> Century Skills

Students shall then complete **two or more** of the **CHOICE READY** components below.



# **POST-SECONDARY READY**

Complete a *Four-Year Rolling Career Plan*, earn a **2.8 GPA or greater**, and complete one academic indicator set below:

ACT / SAT minimum or subsection scores

- ACT English 18
- SAT Reading/Writing 480
- ACT Reading 22
- SAT Math 530
- ACT Math 21
- ACT Science 23

### OR

Two or more additional indicators:

- Advanced Placement Course (A, B or C) (1, 2, or 3)
- Dual Credit Course (English or Math) (A, B or C) or (1, 2, or 3)
- Algebra II (A, B or C) or (1, 2, or 3)
- Advance Placement Exam (3+)
- International Baccalaureate Exam (4+)
- 3.0 GP in core course requirement for NDUS admission
- CLEM/CREAM (Eng./Math) Course (70% or greater)



# **WORKFORCE READY**

Complete a *Four-Year Rolling Career Plan*, and complete two or more additional indicators:

- Complete three CTE courses or more (A, B or C) or (1, 2, or 3)
- Complete Career Ready Practices (3.0)
- Dual Credit Course (A, B or C) or (1, 2, or 3)
- WorkKeys (Gold or Silver)
- Technical Assessment / Industry Credential
- Workplace Learning Experience (40 hours)
- Work-based Learning Experience (Perkins V) (40 hrs.)
- CLEM/CREAM (Eng./Math) Course (70% or greater) NDSA (Reading/Math) Level 3 or greater or (ACT for Accountability: English 19/Mathematics 22)



# **MILITARY READY**

- Complete a Four-Year Rolling Career Plan,
- ASVAB score of 31 or greater (as determined by branch),
- Quality Citizenship (No Expulsions/Suspensions),
   Physically Fit, and
- Complete two or more additional indicators from the Post-Secondary or Workforce options.

# West Fargo Graduation Requirements



The proper selection of courses by students is an important matter. It is vital to the students that each course should be carefully selected as an integral part of the student's four-year educational plan. Course selections are equally important to the school district for upcoming staffing commitments. Therefore, changes in student course selections after July 1 will only be made in cases of extreme hardship. All changes must have the approval of the school assistant principals or principal.

Classes	Credit
English	4
Math	3
<ul> <li>At least 1 credit in Basic Math, Pre-Algebra, or Algebra I.</li> </ul>	
<ul> <li>One unit of computer science approved by the DPI.</li> </ul>	
Science	3
<ul> <li>Physical Science (or 1 year of Physics + 1 year of Chemistry), Biology, &amp; 1 more</li> </ul>	
Physical Education	1.5
Approximately 0.5 credit per year	
Health	0.5
Social Studies (listed below)	
World Geography	0.5
Western Civilization	1
US History	1
US Government	0.5
Economics	0.5
Required Credits	15.5
Elective Credits	7.5
<ul> <li>Out of 7.5 credits of electives, 3 must be a combination of Foreign Language,</li> <li>Fine Arts, or Career &amp; Technical Education</li> </ul>	
Condito Descriped for Conduction	22.0

To qualify for graduation, a senior must have enrolled in a high school during grades 9, 10, 11 and 12 for four separate school year terms. An exception to this policy may be made for students if they have the approval of their parents and the principal. In addition, according to school board policy, students must have completed all requirements for the high school diploma in order to participate in commencement exercises.

Students shall be enrolled each year in courses that will give them at least 6 credits unless the principal has granted permission to take a reduced load. Additional courses may be taken from the list of electives each year to meet the minimum requirements.

Students must make an effort to make up any course failures through summer school or correspondence before the next fall term starts. Courses failed and not made up by the beginning of the next school year must be scheduled for that school year. Special permission must be obtained to take further courses in the same field until failures have been removed.

# North Dakota

# Academic and CTE Scholarship In planning your future, every dollar counts!



North Dakota resident students may apply for either the Academic Scholarship or Career and Technical Education Scholarship to attend any North Dakota institution of higher education. The amount of each scholarship is \$750 per semester or \$500 per quarter. Students may be eligible for up to \$6,000 within six academic school years (do not have to be consecutive years) after graduation from high school. Applications are submitted online and will be accepted from January 4 - June 4, 2021. (One Unit = One Full Credit)

# **Common Requirements for Both Scholarships**

- ND resident graduating from a ND high school, a public high school in a bordering state according to NDCC 15.1-29, or a nonpublic school in a bordering state while residing with a custodial parent in ND (NDCC 15.1-21-02.4), or (15.1-21-02.5) completes a program of home education supervised in accordance with NDCC chapter 15.1-23
- 2. Any 4 units of English
- 3. 3 units of Science: Biology (1 unit), and either Physics (1 unit) AND Chemistry (1 unit) or Physical Science (1 unit) AND any other science course (1 unit)
- 4. 3 units of Social Studies: US History (1 unit), Problems of Democracy (1 unit) *or* US Government (½ unit) AND Economics (½ unit), and any other social studies course (1 unit)
- 5. 3 units of Mathematics: Algebra II (1 unit) and any other math courses (2 units). This may include a computer science course (1 unit) approved by the Superintendent of Public Instruction.
- 6. Physical education (1 unit) **or** physical education (½ unit) AND Health (½ unit)
- 7. Earn no grade lower than a "C" on any unit required for the scholarship
- 8. Earn a cumulative GPA of a 3.0 or higher on a 4.0 scale

# **ND Academic Scholarship**

- 1. Complete: 1 unit of math for which Algebra II is a prerequisite; 2 units of the same foreign language, the same Native American language, American Sign Language, or 2 units of CTE from a coordinated plan of study or the 3 credit educational pathway approved by NDDPI
- 2. Any 5 additional units
- 3. Complete 1 unit of an AP course AND exam, **or** ½ unit of a dual credit course, **or** 1 unit of an early entrance college course from a college which has a physical presence in North Dakota
- 4. Earn a composite score of 24 or higher on an ACT

# **ND Career and Technical Education Scholarship**

- 1. Complete: 4 units of CTE in which two units must by in a coordinated plan of study **or** 2 units of CTE and the 3 credit educational pathway approved by NDDPI
- 2. Any 3 additional units
- 3. Earn a composite score of 24 or higher on an ACT **or** score of at least "5" on each of the 3 designated WorkKeys assessments

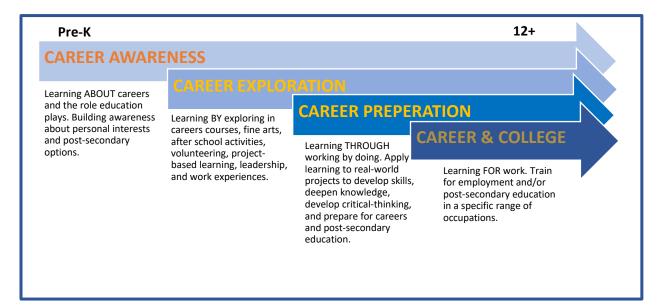
Student	Name Teal of Graduation
the six follo	ns below are Common Eligibility requirements <u>for both the Academic and CTE Scholarship Programs</u> – the student must complete all of owing requirements for either scholarship. ck the boxes below as the six common eligibility requirements are met.
	1. North Dakota resident.
	2. Graduate from a high school in North Dakota, from a public high school in a bordering state (according to provisions set forth in ND Century Code 15.1-29), from a nonpublic high school in a bordering state while the student resides with a custodial parent in ND (NDCC 15.1-21-02.6), or completes a program of home education supervised in accordance with NDCC chapter 15.1-23.
	3. Complete the diploma requirements from sections 1-7 listed on page 1 (NDCC 15.1-21-02.2)
	4. Obtain a grade of at least "C" in each unit <b>OR</b> 1/25 unit required by each respective scholarship.
	5. Obtain a cumulative grade point of at least a 3 on a 4.0 scale based on the 23 units required by ND for high school graduation, including specific scholarship course requirements. The GPA must be rounded to the nearest hundredth for eligibility purposes.
	6. Complete 1 unit of Algebra II.
	r and Technical Education Scholarship Eligibility Requirements ck the boxes below as the CTE Scholarship eligibility requirements are met. Transfer information to the first page.
In addition	on to the common eligibility requirements listed above, the student must also complete the following:  Four units of career and technical education in which two units must be from a coordinated plan of study recommended by the ND Dept of Career and Technical Education. Coordinated Plans of Study may be viewed at: <a href="http://www.nd.gov/cte/programs/career-dev/plans-of-study.html">http://www.nd.gov/cte/programs/career-dev/plans-of-study.html</a>
	List the Name of the Coordinated Plan of Study:
	One unit selected from foreign languages, Native American languages, American Sign Language, fine arts, or career and technical education
	Receive a composite score of at least 24 on an ACT, or a score of at least '5' on each of the three designated WorkKeys assessments listed below. ( <i>Deadline is the March ACT national test date from senior year.*</i> )
	List the ACT Composite Score OR  ACT Composite Score  ACT Composite Score  ACT Composite Score  Applied Math score  Graphic Literacy score  Workplace Documents score
	mic Scholarship Eligibility Requirements ck the boxes below as the Academic Scholarship eligibility requirements are met. Transfer information to the first page.
In addition	on to the common eligibility requirements listed above, the student must also complete the following:  One unit of mathematics for which Algebra II is a prerequisite
	Two units of the same foreign language; the same Native American language; American Sign Language; or career and technical education from a coordinated plan of study
	One unit selected from foreign languages; Native American languages; American Sign Language; fine arts; or career and technical education
	One unit of an advanced placement course and examination; or ½ unit of a dual credit course; or one unit of an early entrance college course from a college which has a physical presence in North Dakota
	Receive a composite score of at least 24 on an ACT (Deadline is the March ACT national test date from senior year.*)

<sup>\*</sup>Any ACT tests taken later than the deadline have no guarantee that the results will be back by the June 1 deadline. Any official results for ACT tests taken after the March deadline must be sent to NDDPI by the student.

# CAREER PATHWAYS

# What are your passions? Can you identify your strengths and skills? Where do you see yourself after high school?

The Career Pathway process allows you to explore who you are, discover interests, and select courses to help you think critically, develop creativity, communicate, collaborate, and prepare a plan for high school and your future!



# What are career pathways?

They are 16 clusters of careers sharing common interests, skills, and strengths. Each pathway outlines the courses that will help you explore content and develop skills necessary for each career cluster. Since there are many roads to success, you are not locked into one pathway. If you change your mind, you can explore another pathway.



# CAREER PLANNING

# How will you know which pathway is a good fit?

You'll take interest assessments and review your results with your School Counselor, Career Advisor, and parents. Your course selections will help you explore and prepare for your pathway. Part-time jobs, job shadowing, and volunteering in real world settings are a good way to help you gain valuable experience and insight into your future career choices.

# ■ WEST FARGO K-12 STEPS TO YOUR CAREER PATHWAY

Career Awareness	Career Exploration	Career Preparation
K Career Lessons – STEM & engineering	6 <sup>th</sup> Career Cluster Interests &	9 <sup>th</sup> Career Lessons/Ramp Up
1st Junior Achievement	Passions Careers on Wheels	R U Ready Interest Profiler Career Expo & Research Pre-ACT, College Fair
<b>2</b> <sup>nd</sup> Career Lessons – traditional and nontraditional occupations	<b>7</b> <sup>th</sup> RU Ready Work Multiple Intelligences and Career Exploration	10 <sup>th</sup> Career Lessons/Ramp Up College Fair, Career Fair PSAT, ASVAB, Pre-ACT, SAT optional
<b>3<sup>rd</sup></b> Junior Achievement PAWS - personal skills, interests and abilities		11 <sup>th</sup> Career Lessons/Ramp Up Personality Inventory PSAT, ACT, SAT optional
4 <sup>th</sup> Career Interest Inventory Select careers choices based on my personal skills, interests and abilities	8th RU Ready Career Cluster Survey Goal Setting – POS & 4-Year Plans	Mock Interviews College Fair & Career Fair
5th Career Lessons – Develop skills to locate, evaluate and interpret careers Transition to Middle School	ND State Scholarships College Resources	12 <sup>th</sup> Career Lesson/Ramp Up Senior Meetings College Application WorkKeys optional

# **Four-Year Rolling Plan**

- 1. Complete career interest assessments and view results at www.ruready.nd.gov.
- 2. Look up course descriptions in the <u>Program of Studies</u> and complete a 4-Year Plan to include required courses and career specific electives toward a Career Pathway.
- 3. Meet with School Counselor and/or Career Advisor to find the career pathway that most closely matches your interests and skills.
- 4. Follow 4-Year Plan with required courses and career specific electives to complete Career Pathway.
- 5. Consider exploring activities and courses, such as Career & Technical Education (CTE), Advanced Placement (AP), and Dual Credit (DC) college courses related to the career pathway of Choice.

# **Important Assessments for College and Career Planning**

**PreACT™** is a multiple-choice assessment that helps students prepare for the experience of taking the ACT® test and provides information regarding their future performance on the exam.

**ASVAB** is a multiple-aptitude battery that measures developed abilities and helps predict future academic and occupational success in the military and civilian careers.

**ACT**® college readiness assessment is a standardized test for high school achievement and college admissions in the United States.

**SAT** measures critical reading skills, math problem-solving skills and writing skills.

**WorkKeys®** Assessments measure foundational skills required for success in the workplace. The three WorkKeys exams are Workplace Documents, Graphic Literacy, and Applied Mathematics.



# **Agriculture, Food & Natural Resources Career Cluster**



Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER	
Agribusiness Systems	Sales Manager • Ag Lender • Ag Economist • Ag Products Buyer/Distributor • Feed-Supply Store Manager • Farm Investment Manager • Ag Commodity Broker	
Animal Systems	Wildlife Biologist ◆ Animal Nutritionist ◆ Livestock Buyer ◆ Livestock Geneticist ◆ Veterinarian ◆ USDA Inspector ◆ Aquaculturist ◆ Equine Manager	
Environmental Service Systems	Pollution Prevention Technician ● Hazardous Materials Handler ● Water Quality Manager ● Health and Safety Sanitarian ● Toxicologist	
Food Products & Processing Systems	Food Scientist • Quality Control Specialist • Biochemist-Nutritionist • Dietician • Microbiologist • Bacteriologist • Food and Fiber Engineer • Produce Buyer	
Natural Resources Systems	Park Manager • Range Technician • Ecologist • Fish & Game Officer • Forest Technician • Geology Technician • Mining Engineers • Hydrologist	
Plant Systems	Soil/Water Specialist • Botanist • Tree Surgeon • Plant Pathologist • Commodity Marketing Specialist • Golf Course Superintendent • Custom Hay/Silage Operator	
Power, Structural & Technical Systems	Remote Sensing Specialist • Equipment/Parts Manager • Welder • GPS Technician • Machinist • Heavy Equipment Maintenance Technician	



Agriculture, Food & Natural Resources Career Cluster Environmental Services Systems or Plant Systems	
Course Name	Cr
Intro to Agriculture	.5
Plant Science I	.5
Plant Science II	.5
World & International Agriculture .5	
Cooperative Work Experience Education	.5
Students must earn at least 2 credits in a CTE pathway and 2 additional CTE credits to qualify for the CTE Scholarship	

# Is this Pathway for you?

- Do you get satisfaction from helping people, animals and/or the environment?
- Are you interested in how things grow and make the best use of the earth's natural resources?
- Are you curious about how machines and systems work?
- Are you someone who likes to work with data to solve problems?
- Are you interested in science and enjoy spending time with nature?
- Do you like to be outdoors in all kind of weather?
- Are you comfortable with situations that are unpredictable and rapidly changing?
- Do you like to plan, work with budgets, and keep records?

# Other Electives to Consider for **Agriculture Pathway Preparation**

### **CTE Electives**

Computer Applications, Web Design Business and Personal Finance, Accounting I Marketing, Management/Entrepreneurship Discovering Foods, Culinary Academy Civil Engineering & Architecture Intro to Engineering Design, Principles of Engineering **Automated Manufacturing** Woods I, II

Welding I, II

# **Academic Electives**

Foreign Language AP Biology, Anatomy/Physiology **Environmental Science** Genetics, Earth Science, Field Biology



Nort	h Dakota Agriculture, Food & Natur	al Resources Related Postseconda	ry Programs
Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Agribusiness Systems	Agriculture (BSC, DCB, NDSCS) Agricultural Sales and Service (DSU) Agricultural Sales and Service (DSU) Farm/Ranch Management (BSC, DSU, NDSCS) Precision Agriculture (LRSC)	□ Agribusiness (NDSU, VCSU)     □ Agricultural and Biosystems Engineering     (NDSU)     □ Agricultural Communication (NDSU)     □ Agricultural Economics (NDSU)     □ Agricultural Education (NDSU)     □ Agricultural Studies (DSU)     □ Agricultural Systems Management (NDSU)     □ General Agriculture (NDSU)	☐ Agribusiness and Applied Economics (NDSU) ☐ Agricultural and Biosystems Engineering (NDSU) ☐ Agricultural Education (NDSU) ☐ International Agribusiness (NDSU)
Animal Systems	□ Animal Science (NDSCS)     □ Pre-Veterinary Medicine transfer (BSC,     □ DCB,TMCC)     □ Wildlife Management (DCB, NDSCS, TMCC)	☐ Animal Science (NDSU) ☐ Equine Science (NDSU) ☐ Fisheries and Wildlife Science (UND, VCSU) ☐ Vet Technology (NDSU)	Animal Science (NDSU)
Environmental Service Systems	☐ Energy Technician (SBC) ☐ Environmental Science/Technology (CCCC, DCB, NHSC, SBC, TMCC, UTTC) ☐ Water & Wastewater Treatment (BSC)	☐ Energy Management (BSC) ☐ Environmental Design (NDSU) ☐ Environmental Science (DSU, NHSC, SBC)	☐ Environmental and Conservation Science (NDSU) ☐ Environmental Science (SBC) ☐ Environmental Engineering (NDSU, UND)
Food Products & Processing Systems		Food Safety (NDSU) Food Science (NDSU)	☐ Cereal Science (NDSU) ☐ Food Safety (NDSU)
Natural Resources Systems	Land Management (DCB) Natural Resources Management (CCCC)	☐ Natural Resources Management (NDSU)	<ul> <li>□ Natural Resources Management</li> <li>(NDSU)</li> <li>□ Sustainable Energy Engineering (UND)</li> </ul>
Plant Systems	☐ Agriculture Industry and Technology- Agronomy (BSC) ☐ Crop Production Sales & Technology (NDSCS) ☐ Forestry (DCB) ☐ Horticulture (DCB) ☐ Sustainable Vegetable Production (DCB)	☐ Botany (NDSU) ☐ Crop and Weed Sciences (NDSU) ☐ Horticulture (NDSU) ☐ Range Science (NDSU) ☐ Soil Science (NDSU) ☐ Sports and Urban Turfgrass Management (NDSU)	☐ Botany (NDSU) ☐ Horticulture (NDSU) ☐ Plant Pathology (NDSU) ☐ Plant Sciences (NDSU) ☐ Range Science (NDSU) ☐ Soil Science (NDSU)
Power, Structure, & Technical Systems	□ Caterpillar Dealer Service Technician     (NDSCS)     □ Diesel Technology: Case IH, Gen. Diesel,     Komatsu (NDSCS)     □ John Deere Tech (NDSCS)     □ Nuclear Power Technology (BSC)     □ Oil Drilling/Operations (NHSC, SBC, TMCC)     □ Petroleum Engineering Technology (BSC)     □ Petroleum Production Technology (BSC,     WSC)     □ Power Plant Technology (BSC)     □ Process Plant Technology (BSC, TMCC)     □ Renewable Generation Technology (BSC)     □ Wind Energy Technician (LRSC)	☐ Energy Management (BSC)	



The National FFA Organization is a local, state, and national co-curricular student association serving high school, college and middle school students enrolled in Agriculture Education courses. The National FFA is dedicated to making a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education. Fargo students enrolled in agriculture courses in collaboration with Northern Cass or Central Cass Agriculture Education will have the opportunity to participate in the National FFA Chapter. Contact your FFA Advisor to join.



# Architecture & Construction Career Cluster



Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER	
Construction	Carpenter • Drywall Installer • Painter • Equipment and Materials Manager • Electrician • Plumber • Specialty Contractor • Project Inspector • Construction Engineer	
Design/Pre-Construction	Building Code Official • Interior Designer • Architect • Surveying and Mapping Technician • Specification Writer • Drafter • Regional and Urban Planner	
Maintenance/Operations	Code Official • Construction Engineer • Estimator • System Installer • Subcontractor • Hazardous Material Remover • Security and Fire Alarm System Manager	



# Is this Pathway for you?

- Are you curious to read and follow instructions, and/or blueprints?
- Can you picture in your mind what a finished product could look like?
- Do you like to work with your hands?
- Are you attentive when completing work that requires patience and precise results?
- Are you interested in learning how to apply math to real projects?
- Do you work best with logical, step-by-step procedures to solve technical problems?
- Do you like to create or design projects that interest others?
- Does it interest you to use tools, technology, and/or operate machines?
- Can you see yourself working as a member of a team?

Trade & Industry – Coordinated Plan of Study	
Construction	
Course Name	Cr
Building Trades I	2
Building Trades II 2	
Cooperative Work Experience ½ to 4	
Students must earn at least 2 credits in a CTE pathway and	2 additional

tudents must earn at least 2 credits in a CTE pathway and 2 additional CTE credits to qualify for the CTE Scholarship

# Other Electives to Consider for Trade & Industry Pathway Preparation

### **CTE Electives**

Woods I, II
Construction Technology
Intro to Engineering, Civil Engineering & Architecture
Computer Applications, Business and Personal Finance
Drafting & Design I, II
Fundamentals of Business
Marketing

Interior Decorating & Design
Living on Your Own

# **Academic Electives**

Arts

Consumer Math; Geometry Environmental Science, Earth Science Public Speaking





North Dakota Architecture & Construction Related Postsecondary Programs			
Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Construction	□ Building Construction Technology (NDSCS, TMCC)     □ Building Trades (SBC)     □ Carpentry (BSC, BJCC, CCCC)     □ Concrete (SBC, TMCC)     □ Construction Management/Technology (CCCC, NDSCS, NHSC)     □ Electrical Technology (NDSCS, SBC, TMCC)     □ Framing (SBC)     □ Heating Ventilation & Air Conditioning (BSC, CCCC, NDSCS, TMCC)     □ Interior Construction (SBC)     □ Land Surveying and Civil Engineering Technology (NDSCS)     □ Plumbing (NDSCS)     □ Sustainable Construction Technology (BSC)	☐ Construction Engineering (NDSU) ☐ Construction Management (NDSU)	Construction Management (NDSU)
Design/Pre-Construction	☐ Architectural Drafting and Estimating Technology (NDSCS) ☐ Land Surveying and Civil Engineering Technology (NDSCS)	☐ Architecture (NDSU) ☐ Civil Engineering (NDSU) ☐ Construction Engineering (NDSU) ☐ Landscape Architecture (NDSU)	☐ Architecture (NDSU) ☐ Civil Engineering (NDSU)
Maintenance/Operations	☐ Facilities Maintenance (BJCC) ☐ Mechanical Systems (NDSCS) ☐ Mechanical Maintenance Technology (BSC)		



SkillsUSA is a local, state, and national co-curricular association serving high school, college and middle school students who are preparing for careers in trade, technical and skilled service occupations, including health occupations. SkillsUSA empowers its members to become world-class workers, leaders and responsible American citizens the SkillsUSA Framework of personal, workplace and technical skills. Ask about your SkillsUSA Advisor and learn what it takes to become a member.



# Arts, AV Technology, & Communication Career Cluster



Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER		
Audio and Video Technology and Film Audio Systems Technician ◆ Audio-Video Designer and Engineer ◆ Technical Computer Support ◆ Videogra ◆ Special Effects and Animation Designer Technician			
Journalism and Broadcasting	Control Room Technician • Design Director • Broadcast Technician • Editor • Producer • Station Manager • Audio-Video Operator		
Performing Arts	Actor/Actress • Lighting Designer • Scenic Designer • Musician • Composer • Makeup Artist • Playwright • Digital, Video and State Production Manager		
Printing Technology  Desktop Publishing Specialist • Computer Typography • Pre-production Technician • Plate Maker  • Graphics Equipment Operator • Web Page Designer • Lithographer			
Telecommunications  Network Designer  Telecommunications Technician  Telecommunication Equipment: Cable, Line Repair  Installation  Computer Programmer and Systems Analyst			
Visual Arts  Fashion Designer   Commercial Artist   Commercial Photographer: Digital, Still, Video, Film   Illustrate  Textile Designer   Interior Designer   Computer Animator			



### **Arts, AV Technology & Communication Coordinated Plan of Study Visual Arts (Graphics)** Course Name Cr Photography I .5 Photography II .5 **Graphic Communications I** .5 **Graphic Communications II** .5 Cooperative Work Experience Students must earn at least 2 credits in a CTE pathway and 2 additional CTE credits to qualify for the CTE Scholarship

# Is this Pathway for you?

- Do ideas inspire you to create?
- Are you passionate to overcome obstacles?
- Do you find multiple ways to express your creativity?
- Do you like to communicate your ideas?
- Do you enjoy drawing, performing or writing stories?
- Do you seek opportunities to learn bout and be engaged in history or culture?
- Does the idea of working in or being a part of a community that creates excite you?
- Do you enjoy exploring new technologies?
- Are you able to communicate your ideas to diverse audiences?

# Other Electives to Consider for Arts, AV Technology, & Communication Pathway Preparation

### **CTE Electives**

Fundamentals of Business
Marketing
Management and Entrepreneurship
Interior Decorating & Design
Living on Your Own

### **Academic Electives**

Drama, Theatre Arts, Advanced Theatre Arts
Art I, II, Art Appreciation, Art Trends
Ceramics I, II, III
Drawing, Painting, and Design
Consumer Math; Geometry
Environmental Science, Earth Science
Public Speaking



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



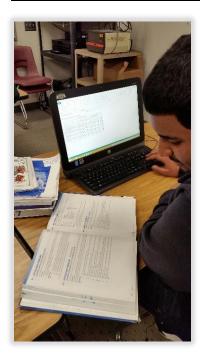
The Technology Student Association is a local, state, and national student organization created to develop skills in science, technology, engineering, and mathematics as well as business education. TSA aims to develop leadership, academic, and business management skills in the workplace among students and leaders within the community. Students currently or previously enrolled in Technology & Engineering courses join TSA and extend their learning and leadership through intra-curricular activities, and competitions. Contact your school's TSA Advisor to get involved.



# Business Management & Administration Career Cluster



Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER	
Administrative Support	Administrative Assistant • Office Manager • Customer Service Assistant • Desktop Publisher • Data Entry Specialist • Receptionist • Medical Transcriptionist • Legal Secretary	
Business Information Management	Information Systems Manager • Accounting Clerk or Supervisor • Adjuster • Chief Technology Officer • Budget Analyst • Auditor • Business Consultant	
General Management	General Manager   Business & Development Manager   Risk Manager   Public Relations Manager  Chief Executive Officer   Entrepreneur	
Human Resources Management	Human Resource Manager • Industrial Relations Director • Compensation & Benefits Manager • Corporate Trainer • Personnel Recruiter • Public Relations Manager	
Operations Management	Training & Development Manager • Sales Representative or Manager • Budget Analyst • Research & Development Manager • E-Commerce Analyst	



Business Education – Coordinated Plan of Study						
Business Management & Administration Career Cluster Finance Career Cluster						
Administrative Suppo	ort	General Manageme	ent	Accounting		
Course Name	Cr	Course Name	Cr	Course Name	Cr	
BCA Exploring Bus.	.5	BCA Exploring Bus.	.5	BCA Exploring Bus.	.5	
Computer Apps		Computer Apps		Computer Apps		
Fundamentals of	.5	Business/Personal .5		Business/Personal	.5	
Business		Finance (14095)		Finance		
Accounting I	1	Accounting I	1	Accounting I	1	
Accounting II	1	Accounting II	1	Accounting II	1	
Web Design	.5	Fund of Business	.5	Fund of Business	.5	
Adv. Web Design	.5	Business Law (14090)	.5	Business Law	.5	
(14022)						

Students must earn at least 2 credits in a CTE pathway and 2 additional CTE credits to qualify for the CTE Scholarship

# Is this Pathway for you?

- Are you someone who likes to work with data to solve problems?
- Do you like to interact with all kinds of people?
- Do you like to come up with new ideas?
- Do you like to follow directions to complete a task?
- Do you consider yourself a leader who could be part of a team?
- Are you interested in technology and its ongoing innovation?
- Have you ever dreamed of owning your own business?
- Do you enjoy using math to solve problems?
- Are you able to communicate your ideas to diverse audiences?

# Other Electives to Consider for Business Education Pathway Preparation

### **CTE Electives**

IT Essentials I, II, Intro to Coding & Gaming Family Living, Food Trends, Culinary Arts Entertainment and Sports Marketing, Marketing, Store Manager, Management/Entrepreneurship Photography I, II, Graphic Communication I & II

# **Academic Electives**

Consumer Math
Communications; Creative Writing, Yearbook
Foreign Language
Microeconomics, Publications/Media
Psychology I, II
Public Speaking, Debate
Sociology
AP Math



No	rth Dakota Business Management	& Administration Related Postsecond	dary Programs
Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Administrative Support	Administrative Assistant (BSC, DCB, LRSC, NHSC)     Bookkeeping (DCB)     Business/Office Technology (CCCC, NDSCS, SBC, UTTC)     Computer Applications (CCCC)     Computer Support Specialist (BSC, TMCC)     Office Administration (BJCC, DSU)     Reception Services (DCB)		
Business Information Management	□ Business Management (MaSU, NDSCS, RC, UTTC, WSC)     □ Computer Information Systems (BSC, DCB, NDSCS)     □ Information Processing Specialist (BSC)     □ Information Tech/Management (DCB, LRSC, NDSCS, NHSC, RC, SBC, WSC)     □ Management Information Systems (NDSCS)     □ Small Business Management (DCB)	□ Applied Business Information Technology     (MiSU)     □ Business Communication (UM)     □ Business Process Integration Management     (VCSU)     □ Computer Information Systems (MaSU, UM,	☐ Information Systems (MiSU)
General Management	□ Business Administration transfer (BSC, CCCC, DCB, LRSC, NDSCS, NHSC, SBC, TBC, TMCC) □ Business Education transfer (BSC, DCB) □ Computer Support Specialist (BSC, TMCC) □ Entrepreneurship (BSC, CCCC, NDSCS, SBC, TMCC) □ Management (BSC)	□ Applied Management (MiSU)     □ Business Administration (DSU, MaSU, NDSU, SBC, TBC, UTTC, UJ, UM, VCSU)     □ Business Education (DSU, MiSU, UM, VCSU)     □ Entrepreneurship (UND)     □ International Business (MiSU)     □ Management (MiSU, NDSU, RC, UND, VCSU)     □ Public Administration (UND)	□ Business (UM)     □ Business Administration (NDSU, UM, UND)     □ Management (MiSU)     □ Project Management (UM)     □ Public Administration (UM, UND)
Human Resources Management	☐ HR and Organizational Leadership (RC)	☐ Human Resource Management (DSU, UND, VCSU)     ☐ Human Resources and Organizational Leadership (RC)	
Operations Management		□ Business Economics (UND)     □ Business Management (RC, UM)     □ Business Systems Analysis (RC)     □ Management Communication (NDSU)     □ Operations & Supply Chain Management (UND)	



Future Business Leaders of America is a co-curricular student organization for students enrolled in Business Education courses. FBLA inspires and prepares students to become community-minded business leaders in a global society through relevant career preparation and leadership experiences. FBLA focuses on leadership development, academic competitions, high school programs, membership benefits, community services, and awards. Contact your high school FBLA Advisor to learn what it takes to become a member.



# **Health Science Career Cluster**



Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER
Biotechnology Research & Development	Research Scientist/Assistant • Microbiologist • Biostatistician • Cell Biologist • Biomedical Chemist • Geneticist • Genetics Lab Assistant • Quality Assurance Technician
Diagnostic Services	Clinical Lab Technician • Phlebotomist • Geneticist • Nutritionist • Magnetic Resonance (MR) Technologist • Radiologist • Pathologist • Exercise Physiologist
Health Informatics	Health Information Coder    Admitting Clerk   Transcriptionist   Medical Librarian   Public Health Educator   Ethicist  Medical Assistant   Epidemiologist
Support Services	Dietary Aide   Hospital Maintenance Engineer   Environmental Services Manager   Industrial Hygienist  Biomedical Engineer   Transport Technician
Therapeutic Services	Dental Assistant/Hygienist • Occupational Therapist • EMT/Paramedic • Physician • Nurse • Veterinarian • Social Worker • Massage Therapist • Physical Therapist • Pharmacist

Health Science Coordinated Plan of Study				
Therapeutic Services		Biotechnology Research		
Course Name	Cr	Course Name	Cr	
Certified Nurse Assistant	.5	*PLTW Principles of Biomedical Science (21-22)	1	
Health Science I	1	*PLTW Human Body Systems (22-23)	1	
Health Science II	1	*PLTW Medical Interventions (23-24)	1	
Prevention and Care of .5		Horace High School		
Athletic Injuries				
Medical Terminology Online .5				
(Dual Credit option)				
Supervised Occupational Experience			½ to 4	



# Is this Pathway for you?

- Do you get satisfaction from helping people, animals, and/or the environment?
- Do you enjoy dealing with a problem that isn't easily solved or doesn't have the correct answer?
- Are you comfortable with situations that are unpredictable and rapidly changing?
- Are you interested in math and science?
- Do you like listening and working with others who have differing viewpoints?
- Do you enjoy puzzles, exploring and solving problems?
- Can you respond quickly and calmly in unexpected situations?
- Do you like to volunteer and do service work that focuses on helping other people or the environment?

# Other Electives to Consider for Health Science Pathway Preparation

### **CTE Electives**

Computer Applications I
Child Development
Food Trends
Intro to Engineering Design, Principles of Engineering
Marketing
Management/Entrepreneurship

# **Academic Electives**

Communications
Foreign Language
JET
Advanced Math, Pre-Calculus, AP Calculus
Anatomy/Physiology
AP Biology, AP Chemistry, AP Physics I
Psychology I, II
Public Speaking
Sociology
STEM



	North Dakota Health S	cience Related Postsecondary Pr	ograms
Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Biotechnology Research & Development	☐ Biotechnology transfer (NDSCS) ☐ Pharmacy Technician (NDSCS, RC, TMCC)	☐ Bioinformatics (MiSU) ☐ Biotechnology (NDSU) ☐ Pharmaceutical Sciences (NDSU)	☐ Biomedical Sciences (UND) ☐ Genomics and Bioinformatics (NDSU) ☐ Pharmaceutical Sciences/Pharmacy (NDSU)
Diagnostic Services	☐ Clinical Laboratory Science transfer (NDSCS) ☐ Dialysis Technician (NDSCS) ☐ EMT – Paramedic Technician (BSC, DCB, NDSCS) ☐ Medical Laboratory Technician (BSC, TMCC) ☐ Medical Laboratory transfer (BSC) ☐ Phlebotomy Technician (BSC, TMCC)		☐ Medical Lab Science (UND)
Health Informatics	☐ Community Health Worker (SBC) ☐ Health Information     Technician/Management (DCB, NDSCS) ☐ Medical Administrative Asst. (BJCC, DCB, RC) ☐ Medical Coding/Billing (DCB, NDSCS, RC, UTTC, WSC)	☐ Community Nutrition (UND) ☐ Forensic Science (UND) ☐ Healthcare Management (RC) ☐ Health Administration (UM) ☐ Health Communication (NDSU)	☐ Health Care Administration (UM) ☐ Nurse Administrator (UM) ☐ Public Health (NDSU, UND)
Support Services	☐ Caregiver Services (DCB) ☐ Environmental Public Health (TMCC) ☐ Fitness Trainer Technician (LRSC) ☐ Social Work transfer (BSC, CCCC, NDSCS, TMCC, WSC)	☐ Corporate Fitness/Wellness (MaSU, MiSU) ☐ Exercise Science (DSU, NDSU, UJ, UM) ☐ Kinesiology (UND) ☐ Social Work (MiSU, UM, UND)	☐ Clinical Exercise Physiology (UM) ☐ Exercise Science and Nutrition (NDSU) ☐ Exercise Physiology/Kinesiology (UM, UND) ☐ Social Work (UND)
Therapeutic Services	Addictions Studies Transfer (NHSC)     Dental Assisting/Hygiene (NDSCS)     Health/Medical Assistant (CCCC, DCB)     Massage Therapy (JSHDF, JSHDGF, TSPA, WSC)     Mental Health/Addictions Technician (WSC)     Nursing transfer (BSC, CCCC, DCB, LRSC, NDSCS, SBC, WSC)     Occupational Therapy Assistant (NDSCS)     Practical Nursing (BSC, BJCC, DCB, DSU, NDSCS, NHSC, SBC, TMCC, UTTC, WSC)     Pre-Professional transfer (BSC, DCB, MaSU, NDSCS, TMCC, WSC)     Surgical Technology (BSC)	□ Addiction Studies (MiSU)     □ Athletic Training (MiSU, UM, UND)     □ Dietetics (NDSU, UND)     □ Music Therapy (UND)     □ Nursing (DSU, MaSU, MiSU, NDSU, RC, UJ, UM, UND)     □ Pre-Professional Programs (MaSU, MiSU, UM)     □ Rehabilitation and Human Services (UND)     □ Respiratory Care/Therapy (NDSU, UM)	Advanced Nursing Practice (NDSU)     Advanced Athletic Training (NDSU)     Dietetics (NDSU)     Health, Nutrition and Exercise Science (NDSU)     Gerontology (NDSU)     Nursing (NDSU, UM, UND)     Nutrition (UND)     Occupational Therapy (UM, UND)     Physical Therapy (UJ, UM, UND)     Physician Assistant (UND)     Psychological Clinical Science (NDSU)     Respiratory Therapy (UM)



HOSA is an international student organization recognized by the Health Science Education (HSE) Division of ACTE. HOSA's goal is to encourage all health science instructors and students to join and be actively involved in leadership and demonstrate these skills through local, state and national competitions. HOSA provides a unique program of leadership development, motivation, and recognition exclusively for secondary, postsecondary, adult, and collegiate students enrolled in health science education and biomedical science programs or have interests in pursuing careers in health professions. Contact your HOSA Advisor to learn more to become a member.



# **Human Services Career Cluster**



# **Family & Consumer Science**

Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER
Consumer Services	Customer Service Representative ● Financial Advisor ● Market Researcher ● Consumer Credit Counselor  ● Certified Financial Planner ● Sales Consultant
Counseling & Mental Health Services	Career Counselor   Mental Health Counselor   Psychologist   Vocational Rehabilitation Counselor  School Counselor   School Counselor   Output  Description:
Early Childhood Development & Services	Child Care Worker • Nanny • Preschool Teacher/Teacher Assistant • Child Care Center Director • Parent Educator
Family & Consumer Services	Human Services Worker • Religious Leader • Volunteer Coordinator • Social Worker • Day Care Worker • Emergency Relief Worker • Social Services Worker
Personal Care Services	Cosmetologist • Personal Trainer • Personal and Home Care Aide • Funeral Director • Massage Therapist • Exercise Physiologist • Nail Technician

	Family and Consumer Science – Coordinated Plan of Study								
Human Services Career Cluster			Hospitality & Tour Career Cluster		Arts, AV Technology & Communications Career Cluster		Education & Training Career Cluster		
Family and Early Childhood Community Services Development		Restaurant/Foo Service	d	Visual Arts	Visual Arts Teaching/Trainin		3		
Course Name	Cr	Course Name	Cr	Course Name	Cr	Course Name	Cr	Course Name	Cr
Discovering Foods	.5	Child Development	.5	Discovering Foods	.5	Fashion and Clothing	.5	Child Development	.5
Child Development	.5	Family Living	.5	International Cuisine	.5	Contemporary Sewing	.5	Intro to Teaching (optional dual credit)	.5
Food Trends	.5	Living on Your Own	.5	Food Trends	.5	Interior Decorating/Design	.5	Teaching Field Experience (optional dual credit)	.5
Family Living	.5	Early Childhood Education Block	1	Culinary Arts I	1	Living on Your Own	.5	Educating the Exceptional Student (optional dual credit)	.5
Living on Your Own	.5	Early Childhood Special Education	1	Living on Your Own	.5			Cooperative Experience	.5-1
	Students	must earn at least 2 credits	in a C	TE pathway and 2 addition	onal C	TE credits to qualify for	the CT	E Scholarship	

# Is this Pathway for you?

- Are you open-minded when helping others solve problems?
- Are you self-motivated?
- Do you enjoy working as a team?
- Are you compassionate and empathetic?
- Do you have a desire for a career in public service?
- Do you have an interest in human development and behavior?
- Do you consider yourself a leader who could be a part of a team?

# Other Electives to Consider for Family & Consumer Science Pathway Preparation

### **CTE Electives**

Accounting I, II
Computer Applications, Web Design
Business & Personal Finance
Fundamentals of Business
Health Science I, CNA
Marketing

# **Academic Electives**

Arts

Consumer Math

Communications, Creative Writing, Public Speaking

Foreign Language

Junior Educator of Tomorrow

Microeconomics

Publications/Media

Psychology I

Sociology



	North Dakota Human Servic	es Related Postsecondary Programs	
Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Consumer Services	<ul> <li>□ Business Administration transfer (BSC, CCCC, DCB, NDSCS, NHSC, SBC, TBC, TMCC)</li> <li>□ Management (BSC, DCB, RC, SBC, UTTC, WSC)</li> </ul>	<ul> <li>□ Business Administration (NDSU, UJ, SBC, TBC, UTTC, VCSU)</li> <li>□ Management (MiSU, NDSU, RC, UTTC, UM, UND, VCSU)</li> </ul>	☐ Business Administration (NDSU)
Counseling & Mental Health Services	□ Addiction Studies (NHSC)     □ Mental Health/Addictions Technician     (WSC)     □ Psychology transfer (BSC, DCB, NDSCS,     TMCC, WSC)	☐ Addiction Studies (MiSU) ☐ Applied Psychology (MaSU) ☐ Psychology (MiSU, NDSU, UJ, UM, UND, VCSU)	□ Clinical Counseling (UJ)     □ Counseling (NDSU, UM, UND)     □ Counseling Education and     Supervision (NDSU)     □ Counseling Psychology & Community     Services (UND)     □ Couple and Family Therapy (NDSU)     □ Psychology (NDSU, UND)
Early Childhood Development & Services	☐ Child Development (DCB, NHSC) ☐ Early Childhood (MaSU) ☐ Early Childhood Education transfer (BSC, CCCC, DCB, LRSC, NDSCS, NHSC, SBC, RC)	☐ Early Childhood (MaSU) ☐ Early Childhood Education (MaSU, MiSU, RC, SBC, UM, UND) ☐ Human Development & Family Science (NDSU)	☐ Early Childhood Education (UND) ☐ Developmental Science (NDSU) ☐ Human Development & Family Science (NDSU)
Family & Community Services	□ Biblical Studies (TBC)     □ Caregiver Services (DCB)     □ Community Health Worker (SBC)     □ Human Services/Eligibility Worker (BSC, NHSC, RC, SBC)     □ Religion transfer (BSC, WSC)     □ Social Work transfer (BSC, CCCC, DSU, NDSCS, TMCC, WSC)	☐ Catholic Studies (UM) ☐ Human Development & Family Science (NDSU) ☐ Human Services (RC, VCSU) ☐ Pastoral/Youth/Children's Ministry (TBC, UM) ☐ Rehabilitation and Human Services (UND) ☐ Religious/Theology/Biblical Studies (UJ, UM, UND, TBC) ☐ Social Work (MiSU, UM, UND)	☐ Gerontology (NDSU) ☐ Human Development & Family Science (NDSU) ☐ Missional Leadership (TBC) ☐ Public Health (NDSU, UND) ☐ Social Work (UND)
Personal Care Services	☐ Fitness Trainer Technician (LRSC) ☐ Barbering and Cosmetology (MBC) ☐ Cosmetology (HAHD, JSHDF, JSHDGF, JSHDW, JZT, THA, TSPA) ☐ Esthetician/Skin Care (JSHDGF, JSHDW, THA, TSPA) ☐ Massage Therapy (JSHDGF, JSHDW, TSPA, WSC) ☐ Nail Technology (JSHDW, JZT, THA, TSPA)	☐ Athletic/Fitness Training (MiSU, UM, UND) ☐ Exercise Science (DSU, NDSU, UJ, UM) ☐ Sport Management (NDSU)	☐ Advanced Athletic Training (NDSU) ☐ Clinical Exercise Physiology (UM) ☐ Exercise Science and Nutrition (NDSU)



FCCLA is a national Career and Technical Student Organization that provides personal growth, leadership development, and career preparation opportunities for students in Family and Consumer Sciences education. Our Mission is to promote personal growth and leadership development through Family and Consumer Sciences education. Focusing on the multiple roles of family member, wage earner and community leader, members develop skills for life through: character development, creative and critical thinking, interpersonal communication, practical knowledge, and career preparation. Ask who your FCCLA advisor is to learn more about becoming a member.



# Information Technology Career Cluster



Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER
Information Support & Services	Database Administrator ● Account Manager ● Help Desk Specialist ● Information Systems Architect  ● Systems Analyst ● Instructional Designer ● Testing Engineer
Network Systems	User Support Specialist   Network Administrator   Network Engineer   Information Technology Engineer  Network Security Analyst   Telecommunications Network Technician
Programming & Software Development	Computer Engineer   Software Applications Specialist  Game Developer  Software Applications Tester  Project Lead  Software Design Engineer
Web & Digital Communications	Multimedia Specialist • Web Designer • Web Site Developer • Animator • Blog Developer  • Streaming Media Specialist



Information Technology - Coordinated Plan of Study					
In	format	ion Technology Career Cluster			
Network Systems	5	Computer Programing			
Course Name	Cr	Course Name	Cr		
IT Essentials I/II	1	Intro to Coding and Gaming	.5		
*Intro to Networking	.5	Programming with Python	.5		
& Cybersecurity		Computer Programming Java I	.5		
CISCO I – South HS	.5	Mobile App Development & Security	.5		
CISCO II, III, IV - NDSCS	.5	AP Computer Programming Java II	.5		
*South High School Help Desk Cooperative Work Experience .5-4					
Students must earn at least 2 credits in a CTE pathway and 2 additional CTE credits to					

qualify for the CTE Scholarship

# Is this Pathway for you?

- Do you enjoy working with computers?
- Are you curious to learn reasoning and logic to solve complex problems?
- Are you comfortable with situations that are unpredictable and rapidly changing?
- Are you interested in how procedures make machines work?
- Do you like to read technical materials and diagrams and solve technical problems?
- Are you patient when problem-solving to find a solution?
- Do you enjoy working as a team or independently?
- Play video games and figure out how they work.

# Other Electives to Consider for Information Technology Pathway Preparation

### **CTE Electives**

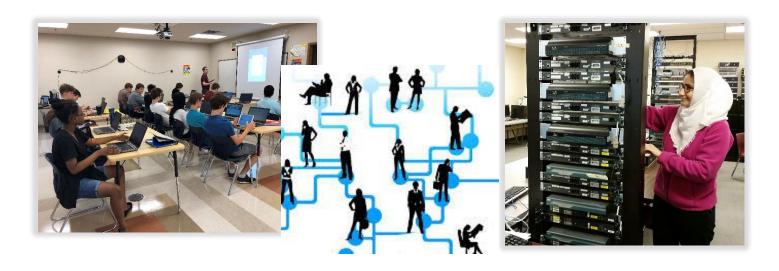
Accounting I, II
Aviation I, II

Business & Personal Finance, Business Law
Computer Applications, Web Design
Marketing, Management/Entrepreneurship
Intro to Engineering Design, Principles of Engineering

## **Academic Electives**

Communications
College Algebra, AP Calculus, Statistics
Physics
Publications/Broadcast
STEM





	North Dakota Information Technolog	gy Related Postsecondary Program	S
Pathway	Associate's Degree or Less	Bachelor's Degree	Master's Degree or More
Information Support & Services	□ Computer Applications (CCCC)     □ Computer Information Systems (BSC, DCB)     □ Computer Support Specialist (BSC, TMCC)     □ Computer Technology/Information Technology (DCB)     □ Geographic Information Systems Technician (BSC)     □ Information Systems Administrator (NDSCS)     □ Information Processing Specialist (BSC)     □ Information Management (NHSC, RC)     □ Information Technology (LRSC, NDSCS, RC, SBC, WSC)     □ IT Forensics (NDSCS)     □ Management Information Systems transfer (NDSCS)	□ Applied Business Information Technology (MiSU)     □ Computer Technology Management (DSU)     □ Information Security (RC)     □ Management Information Science (UJ)     □ Information Technology (UJ)     □ Information Technology Management (RC, UM)     □ Technology Education (DSU, VCSU)	☐ Information Systems (MiSU) ☐ Library/Information Technology (VCSU) ☐ Technology (UND)
Network Systems	☐ Information Management (NHSC, RC) ☐ Information Technology (LRSC, NDSCS, RC, SBC, WSC)	□ Computer Information Systems (MaSU, UM, VCSU)     □ Information Systems (UND)     □ Management Information Systems (NDSU)	Computer Science (NDSU, UND) Electrical and Computer Engineering (NDSU)
Programming & Software Development	☐ Computer Science transfer (BSC, NDSCS) ☐ Mobile Application Developer (NDSCS) ☐ Software Application Development (RC)	☐ Computer Engineering (NDSU) ☐ Computer Science (DSU, MiSU, NDSU, RC, UJ, UM, UND) ☐ Electrical and Computer Engineering (NDSU) ☐ Software Engineering (VCSU)	☐ Electrical and Computer Engineering (NDSU) ☐ Software Engineering (NDSU)
Web & Digital Communications	□ Computer Technology/Webmaster and Web Design (DCB)     □ Web Design (NDSCS)     □ Web Developer (NDSCS)     □ Web Page Development and Design (BSC)     □ Web Programming (RC)	□ New Media and Web Design (NDSU)	



Coding, Cyber Security
Help Desk & e-Sports



# **Manufacturing Career Cluster**



Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER
Health, Safety & Environmental Assurance	Environmental Engineer   Health and Safety Specialist   Safety Team Leader   Environmental Specialist  Safety Coordinator   Environmental Field Technician
Logistics & Inventory Control	Dispatcher • Freight/Stock/Material Mover • Industrial Truck & Tractor Operator • Materials Handler • Logistical Engineer • Quality Control Technician
Maintenance, Installation & Repair	Computer Repair Technician • Boilermaker • Communication Systems Installer • Laser Systems Technician • Industrial Machinery Mechanic • Instrument Calibration Technician
Manufacturing Production Process Development	Industrial Engineer • Manufacturing Technician • Purchasing Agent • Precision Inspector, Tester and Grader • Production Manager • Electronics Engineer
Production	Welder • Calibration Technician• Precision Layout Worker • Assembler • Tool & Die Maker • Sheet Metal Worker • Micro and Nano Fabrication Technicians
Quality Assurance	Process Control Technician ● Inspector ● Quality Control Technician ● Calibration Technician ● Lab Technician ● Statistical Process Control (SPC) Coordinator



Trade & Industry – Coordinated Plan of Study				
Production				
Course Name	Cr			
Welding I (NDSCS) – dual credit option	1			
Welding II (NDSCS) – dual credit option	1			
Automated Manufacturing I, II or III (South High)	1 to 3			
Cooperative Work Experience	.5 to 4			
Technology & Engineering				
Manufacturing Production Process Developme	nt			
Metals I	.5			
Metals II	.5			
Construction Technology	.5			
Design & Drafting	.5			
Energy in Motion Innovation	.5			
VEX Robotics	.5			
Woods I	.5			
Woods II	.5			

# Other Electives to Consider for Manufacturing Pathway Preparation

### **CTE Electives**

Intro to Engineering, Civil Engineering & Architecture
Computer Applications, Business and Personal Finance
Fundamentals of Business
Marketing
Living on Your Own

# **Academic Electives**

Arts

Consumer Math; Geometry Environmental Science, Earth Science Public Speaking

# Is this Pathway for you?

- Are you curious about how things are made or how they work?
- Do you enjoy creating, inventing, or imaging new and different ways to do things?
- Do you consider yourself a leader who could be part of a team?
- Are you curious to work in a laboratory?
- Are you interested in technology and its ongoing innovation?
- Have you ever dreamed of owning your own business?
- Do you like to follow directions and use precise detail to complete a task?
- Are you curious how math/science can be applied to build things or solve problems?



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



SkillsUSA is a local, state, and national co-curricular association serving high school, college and middle school students who are preparing for careers in trade, technical and skilled service occupations, including health occupations. SkillsUSA empowers its members to become world-class workers, leaders and responsible American citizens the SkillsUSA Framework of personal, workplace and technical skills. Contact your SkillsUSA Advisor to learn more.



# Marketing, Sales & Service Career Cluster



Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER
Marketing Communications	Account Executive • Advertising Manager • Creative Director • Media Buyer • Marketing Associate • Public Information Director • Interactive Media Specialist
Marketing Management	Database Manager   Customer Service Representative   Brand Manager   Director of Market Development  Marketing Services Manager   Planning Analyst
Marketing Research	Research Associate • Research Specialist • Market Research Manager • Strategic Planner • Research Analyst • Forecasting Manager • Marketing Strategist
Merchandising	Merchandise Buyer • Operations Manager • Retail Marketing Coordinator • Receiving Clerk • Visual Merchandise Manager • Department Manager • Sales Associate
Professional Selling	Account Executive • Broker • Manufacturer's Representative • Field Representative • Sales Executive  • Solutions Advisory • Client Relationship Manager



Marketing Education - Coordinated Plan of Study					
Marketing Career Cluster					
Professional Sales, Merchandising, Marketing Communication Marketing Management					
Course Name	Cr	Course Name	Cr		
Entertainment/Events Marketing	.5	Marketing I	1		
Marketing I	1	Management	1		
Management	1	Retail Store Management	1		
Retail Store Management	1		.5		
Cooperative Work Experience .5-1					
Students must earn at least 2 cred	its in a C	TE pathway and 2 additional (	CTE		

credits to qualify for the CTE Scholarship

# Is this Pathway for you?

- Are you someone who likes to work with data to solve problems?
- Do you like to interact with all kinds of people?
- Do you like to come up with new ideas?
- Do you like to follow directions to complete a task?
- Do you consider yourself a leader who could be part of a team?
- Are you interested in being a team captain, officer, or having a role in an organization?
- Are you interested in technology and its ongoing innovation?
- Have you ever dreamed of owning your own business?

# Other Electives to Consider for Marketing Pathway Preparation

### **CTE Electives**

Computer Applications, Web Design
Accounting I, II
Business & Personal Finance, Business Law
Culinary Academy, International Cuisine, Discovering Foods
Housing and Interior Design

### **Academic Electives**

Communications, Journalism I, II
Creative Writing, Debate
Foreign Language
Microeconomics
Publications/Media, Public Speaking
Sociology
Philosophy Worldview, & Ethics



North Dakota Marketing Related Postsecondary Programs					
Pathway	Associate's Degree or Less	Bachelor's Degree	Master's Degree or More		
Marketing Communications	<ul> <li>☐ Advertising and Marketing (DCB)</li> <li>☐ Advertising transfer (WSC)</li> <li>☐ Information &amp; Communications Technology (NDSCS)</li> <li>☐ Mass Communications (BSC)</li> </ul>	☐ Business Communication (UM) ☐ Communication (UND) ☐ Mass Communication (UM) ☐ Public Relations (UM)			
Marketing Management	□ Advertising & Marketing (DCB)     □ Business Management (NDSCS, RC, UTTC, WSC)     □ Information Management (NHSC)     □ Management (BSC)     □ Management Entrepreneurship (BSC)     □ Marketing (LRSC, RC)     □ Marketing and Management transfer (DCB)     □ Small Business Management (DCB)	□ Business Management (RC, UM, VCSU)     □ Management (MiSU, NDSU, UND)     □ Management Communication (NDSU)     □ Marketing (MiSU, NDSU, RC, UM, UND, VCSU)     □ Sport & Leisure Management (UM)			
Marketing Research	☐ Business Systems Analysis (RC)	☐ Business Systems Analysis (RC)			
Merchandising	☐ Art Marketing (UTTC) ☐ Marketing (LRSC, RC)	☐ Apparel, Retail Merchandising, & Design (NDSU) ☐ Operations and Supply Chain Management (UND)	☐ Merchandising (NDSU)		
Professional Selling	☐ Entrepreneurship (CCCC, NDSCS, SBC, TMCC)	☐ Art Entrepreneurship (DSU) ☐ Computer Information Systems/Customer Relationship Management (VCSU) ☐ Entrepreneurship (UND)			





DECA is a co-curricular student organization that connects the Marketing Education classroom curricular to leadership experiences. DECA's mission is to prepare emerging leaders in marketing, finance, hospitality and management. North Dakota DECA was chartered in 1954 and continues to provide opportunities for its members today. DECA members are encouraged to be involved in local, state and national competitions, community services projects, and leadership. Contact your DECA advisor to learn more about what you can get involved.

Marketing education students also can compete in Junior Achievement's Titan Competition where students apply their knowledge of business to compete in an interactive business simulation or the JA Company Program which challenges student entrepreneurial spirit to start, operate, and liquidate their own company brand. Individual and team scholarship awards are available.



# **STEM Career Cluster**



Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER
Engineering & Technology	Aerospace Engineer • Architectural Engineer • Automotive Engineer • CAD Technician • Civil Engineer • Computer Programmer • Electrical Engineer • Mapping Technician • Mining Engineer • Metallurgist • Petroleum Engineer • Survey Technician • Biomedical Engineer • Agricultural Technician • Application Engineer
Science & Mathematics	Anthropologist • Astronomer • Chemist • Geneticist • Ecologist • Environmental Scientist • Geologist • Research Technician • Economist • Analytical Chemist • Meteorologist • Nuclear Chemist/Technician • Statistician • Atmospheric Scientist • Zoologist • Astrophysicist • Quality-Control Scientist

Technology & Engineering Coordinated Plan of Study							
STEM Cluster		Manufacturing Cluster		Health Science Career Cluster			
Engineering & Technolog	ring & Technology Manufacturing Production Biotechnology Research & Development		Biotechnology Research & Develop	ment			
Course Name	Cr	Course Name	Cr	Course Name (Horace)	Cr		
Robotics	.5	Metals I and Metals II	.5	PLTW Principals of Biomedical Science	1		
				(21-22)			
Into to Engineering	1	Woods I and Woods II	.5	PLTW Human Body Systems (22-23)	1		
Principle of Engineering	1	Construction Technology	.5	PLTW Medical Interventions (23-24)	1		
Drafting & Architecture	.5	Energy in Motion Innovation	.5	Cooperative Work Experience	.5 - 4		
				(Internship)			
Cooperative Work Experience	.5 - 4	Robotics	.5 - 4				

# Is this Pathway for you?

- Are you curious about how things are made or how they work?
- Do you like to interact with all kinds of people?
- Do you enjoy creating, inventing, or imaging new and different ways to do things?
- Do you consider yourself a leader who could be part of a team?
- Are you curious to work in a laboratory?
- Are you interested in technology and its ongoing innovation?
- Have you ever dreamed of owning your own business?
- Do you like to follow directions and use precise detail to complete a task?
- Are you curious how math/science can be applied to build things or solve problems?



# Other Electives to Consider for Marketing Pathway Preparation

### **CTE Electives**

Aviation I, I, UAV
Intro to Agriculture, Plant Science I, II
Health Sciences I, II, CNA, Prevention & Care
Intro to Coding, Python, Java, AP Java, Mobile Apps
Web Design, Advanced Web Design

### **Academic Electives**

Anatomy/Physiology I & II, AP Physics, Chemistry, Biology Environmental Science, Genetics, Field Biology Statistics, Calculus, AP Calculus, Trigonometry Foreign Language Microeconomics Philosophy & Ethics, Psychology, Sociology

Fine Arts



North Dakota STEM Related Postsecondary Programs					
Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More		
Engineering & Technology	<ul> <li>□ Architectural Drafting &amp; Estimating Technology (NDSCS)</li> <li>□ Engineering Technology (BSC)</li> <li>□ Land Surveying and Civil Engineering (NDSCS)</li> <li>□ Nanoscience Technology (NDSCS)</li> <li>□ Nuclear Power Technology (BSC)</li> <li>□ Petroleum Engineering Technology (BSC)</li> <li>□ Petroleum Production Technology (BSC, NHSC, WSC)</li> <li>□ Engineering transfer (BSC, CCCC, DCB, NDSCS, NHSC, SBC, TMCC, WSC)</li> <li>□ Robotics, Automation &amp; Mechatronics Technology (NDSCS)</li> <li>□ Simulator Maintenance Technology (LRSC)</li> </ul>	□ Agricultural and Biosystems Engineering (NDSU)     □ Chemical Engineering (UND)     □ Civil Engineering (NDSU, UND)     □ Computer Engineering (NDSU)     □ Construction Engineering (NDSU)     □ Electrical Engineering (NDSU, UND)     □ Engineering Science (UM)     □ Geological Engineering (UND)     □ Industrial Engineering and Management (NDSU)     □ Industrial Technology (UND)     □ Manufacturing Engineering (NDSU, UJ, UND)     □ Mechanical Engineering (NDSU, UJ, UND)     □ Petroleum Engineering (UND)	□ Aerospace Sciences (UND)     □ Agricultural and Biosystems Engineering (NDSU)     □ Chemical Engineering (UND)     □ Civil Engineering (NDSU, UND)     □ Electrical/Computer Engineering (NDSU, UND)     □ Environmental Engineering (NDSU, UND)     □ Geological Engineering (UND)     □ Industrial Engineering & Management (NDSU)     □ Manufacturing Engineering (NDSU)     □ Mechanical Engineering (NDSU, UND)     □ Software Engineering (NDSU)     □ Software Engineering (NDSU)     □ Sustainable Energy Engineering (UND)		
Science & Mathematics	<ul> <li>□ Technical Studies (BSC, NDSCS)</li> <li>□ Biology transfer (BSC, DCB, TMCC, WSC)</li> <li>□ Biotechnology transfer (NDSCS)</li> <li>□ Chemistry transfer (BSC, DCB, NDSCS, TMCC, WSC)</li> <li>□ Environmental Science Transfer (CCCC, NHSC, TMCC, WSC)</li> <li>□ Environmental Technology (DCB)</li> <li>□ Mathematics transfer (BSC, DCB, NDSCS, NHSC, TMCC, WSC)</li> <li>□ Natural Science transfer (NDSCS, TMCC)</li> <li>□ Pharmacy transfer (WSC)</li> <li>□ Physical Science transfer (NDSCS, WSC)</li> <li>□ Physics transfer (BSC, WSC)</li> <li>□ Science transfer (CCCC, NHSC)</li> <li>□ Tribal Environmental Science (UTTC)</li> </ul>	□ Atmospheric Sciences (UND)     □ Biochemistry and Molecular Biology (NDSU)     □ Biology/Biological Science (DSU, MaSU, MiSU, NDSU, UJ, UM, UND, VCSU)     □ Biotechnology (NDSU)     □ Botany (NDSU)     □ Chemistry (DSU, MaSU, MiSU, NDSU, UJ, UM, UND, VCSU)     □ Computer Science (DSU, MiSU, RC, UM, UND)     □ Earth Science (MiSU)     □ Environmental Science (DSU, NHSC, SBC, UND)     □ Forensic Science (UND)     □ Geology (MiSU, NDSU, UND)     □ Horticulture (NDSU)     □ Mathematics (DSU, MaSU, MiSU, NDSU, UJ, UM, UND, VCSU)     □ Microbiology (NDSU)     □ Molecular and Integrative Biology (UND)     □ Physics (NDSU, UND)     □ Statistics (NDSU)     □ Unmanned Aircraft Systems Operations (UND)     □ Zoology (NDSU)	Technology (UND)  Atmospheric Sciences (UND)  Biochemistry/Biomedical Sciences (NDSU)  Biology/Biological Science (NDSU, UND)  Botany (NDSU)  Cellular and Molecular Biology (NDSU)  Chemistry (NDSU, UND)  Coatings and Polymeric Materials (NDSU)  Entomology (NDSU)  Environmental & Conservation Science (NDSU, SBC)  Geology (UND)  Materials and Nanotechnology (NDSU)  Mathematics (NDSU, UND)  Microbiology (NDSU)  Physics/Astrophysics (NDSU, UND)  Plant Pathology (NDSU)  Plant Sciences (NDSU)  Space Studies (UND)		



The Technology Student Association is a local, state, and national student organization created to develop skills in science, technology, engineering, and mathematics as well as business education. TSA aims to develop leadership, academic, and business management skills in the workplace among students and leaders within the community. Students currently or previously enrolled in Technology & Engineering courses join TSA and extend their learning and leadership through intra-curricular activities, and competitions. Contact your school's TSA Advisor to get involved.



# Transportation, Distribution & Logistics Career Cluster



Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER
Facility & Mobile Equipment Maintenance	Automotive Service Technician   Collision Repair Technician   Diesel Engine Specialist   Marine Technician  Service Manager   Electrical/Electronic Technician   Industrial Electrician   Motorcycle & UTV Technician
Health, Safety & Environmental Management	Industrial Health & Safety Engineer ● Safety Analyst ● Environmental Scientist ● First Responder  ● Environmental Compliance Specialist ● Risk Manager
Logistics Planning & Management Services	Logistic Manager   Logistics Analyst   Logistician   Logistic Consultant  International Logistics Specialists   Logistic Engineer
Sales & Service	Marketing Manager • Sales Representative • Cargo and Freight Agent • Customer Service Representative  • Customer Order and Billing Clerk • Sales Manager
Transportation Operations	Pilot • Flight Engineer • Truck Driver • Bus Driver • Dispatchers • Air Traffic Controller • Transportation Managers • Locomotive Engineer • Flight Attendant
Transportation Systems/Infrastructure Planning, Management & Regulation	Aviation Inspector • Logistics System Manager • Surveying and Mapping Technician • Motor Vehicle Inspector • Transportation Engineer • Freight Inspector
Warehousing & Distribution Center Operations	Warehouse Manager • Shipping & Receiving Clerk • Production/Planning/Expediting Clerk • Laborer & Material Handler • Industrial and Packaging Engineers



# Is this Pathway for you?

- Are you curious about how things are made or how they work?
- Do you enjoy creating, inventing, or imaging new and different ways to do things?
- Do you consider yourself a leader who could be part of a team?
- Are you curious to work in a laboratory?
- Are you interested in technology and its ongoing innovation?
- Have you ever dreamed of owning your own business?
- Do you like to follow directions and use precise detail to complete a task?

Transportation, Distribution & Logistics Career Cluster				
Transportation Facility and Mobile Equipment Operations Maintenance				
Course Name	Cr	Course Name	Cr	
Aviation Technology IA	.5	Diesel Technology I	1	
Aviation Technology IB	.5	Diesel Technology II Block	2	
Aviation Technology II	1	Recreation Engines I	2	
Unmanned Aerial .5 Recreation Engines II 2 Vehicle				
Cooperative Work Experience .5 - 4				
Students must earn at least 2 credits in a CTE pathway and 2 additional CTE credits to qualify for the CTE Scholarship				

# Other Electives to Consider for Transportation, Distribution & Logistics Pathway Preparation

## **CTE Electives**

Computer Applications
Business and Personal Finance
IT Essentials I, II

Intro to Engineering Design; Principles of Engineering
Construction Technology I, II
Automotive Technology I, II
Management/Entrepreneurship
Automated Manufacturing I, II, III
Welding I, II

### **Academic Electives**

**AFJROTC** 

Chemistry, Physics

Consumer Math, Advanced Math, Pre-Calculus, AP Calculus Communications, Public Speaking Psychology



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



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# Career Ready Work Experiences

Awareness Strategies

Career Readiness
Skills Identification

Career-Based Service
Learning
Career Lessons
Research Projects
Guest Speakers
Career Fairs
Lunch & Learns
Career Videos

**Exploration Strategies** 

**Skills Development** 

Business Tours
Field Trips
College Visit
Job Shadows
Mentorships
Simulations
Summer Experiences

Work-Based Learning Strategies

**Skills Demonstration** 

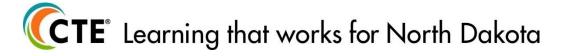
Apprenticeships
Cooperative Education
Education/Training
Experiences
Entrepreneurship
Health Science Clinical
Internship or Capstone
Pre-Apprenticeships
School-Based Enterprises
Supervised Agricultural
Experience



West Fargo high school students are encouraged to participate in work related experiences to develop employability, leadership, and job-related skills.

Students completing over 75 hours of Work-based Learning or 25 hours of Community Service are Career Ready candidates toward North Dakota's Choice Ready Pathways.

Cooperative work-based learning experiences may be measured on Career Ready Practice categories for Responsible Employee, Technical Skills, Communication, Problem-solving and Teamwork.



Extended Learning Experience refers to the knowledge and skills that can be gained in a work setting.

These glimpses into the real-world help students make more informed education and career decisions.

Identify some of the career fields that fit your pathway before you begin your formal career work experience planning.

# Job Shadow/Observation:

A Job Shadow or Observation is an opportunity to pair a student with a person who does the kind of work the student wants to explore. Job Shadow/Observations generally last 2-8 hours and are typically limited to observing the worker. Job Shadows or Observations offer the student:

- A first-hand look at the occupation
- An opportunity to observe and ask questions
- A possible "contact" in the field of work

Talk with your career advisor, school counselor, or with a career and technical education (CTE) instructor.

# **Cooperative Work Experience:**

Cooperative Work Experience (cooperative education) is a job placement directly related to a student's classroom instruction in career and technical education (CTE). This experience must be arranged through a CTE instructor and career advisor. As a co-op student you:

- Are monitored and evaluated by your instructor and your employer.
- Receive a grade for the co-op experience.
- May be paid by the employer.
- A student can obtain a maximum of 2 credits during their high school experience. Hours are calculated as 75 hours for ½ credit, and 150 for 1 credit.

# Capstone Experience:

A Capstone Experience is course open to senior students for credit related to STEM pathways. Students must register for the course. Details about the course are in the Program of Studies under General Electives. Students are not required to be a member of the STEM Cohort but must be approved.

 A combination of coursework and work experience will be completed toward ½ credit.

# Junior Educators of Tomorrow (JET):

A service-learning program to experience a teaching career in the elementary or middle school setting.

 Students must be in 12th grade, have a GPA of at least 2.0, and be registered for at least five additional classes at the high school.

# **Service Learning:**

Service learning offers students an opportunity to do something significant for other people in their community while enhancing their educational experience and personal growth. Students may earn up to one credit toward graduation by serving as a volunteer in the school system or through a non-profit agency.

# **Special Services Job Experience:**

Career Development Job Experiences are arranged by the special services program case manager. Students participate in a variety of activities to prepare for transition from high school to post-secondary training with emphasis on pre-vocational training. Students complete job contracts with quarterly evaluations by supervisor and case manager or career and technical resource educator (CTRE).

# **Diversified Work Experience:**

Diversified Occupations I & II Work Experience are designed to provide students with indirect and direct education in career education related to their occupational interest. Students complete monthly journals, submit paystub to verify hours, provide supervisor evaluations, and write a final essay of their work experience to earn their Pass/Fail grade.

- Student can earn up to 1 credit if enrolled in Work Experience prior to December 31 (new students only can apply for one credit if they begin Community High in January.
- Students can earn ½ credit if enrolled in Work Experience on or before March 1 (new students only can apply for ½ credit if they begin Community High in March and enroll in March)
- CTE Course 25010 & 25120 Grade(s): 11-12
   Prerequisite: Principal approval
   Credit: ½ or 1 (75 hours per ½ credit)

# Work-based Learning Experience:

Option 1: A sustained interaction with industry or community professionals for a minimum of 40 hours, or Option 2: an approved educational setting simulating real-world experiences or projects based on the five Career Ready Practices categories of: Responsible Employee, Technical Skills, Communication, Problemsolving, and Teamwork.

# Need Help? Ask your school counselor!

- Interest inventory results
- Assessment resources
- Career information and exploration
- Job shadowing experiences
- Service-learning experiences
- Post-secondary education options
- College catalogs, view books, & applications
- Letter of recommendation form
- Scholarships
- Financial aid information
- Job-find support
- Student career portfolios
- One-on-one career planning



Profile of a Graduate

# **Cheney Middle School**



Jeffery Belin (B's & L-Q)



Jessica McClaflin (A's & R-Z)



Kia Tompkins (C-K)

# Heritage Middle School & Horace High School



Amy Meier

# **Liberty Middle School**



Veronica Markell (8th Grade)



Tamara Selvig (Lead Counselor)



Dana Strand (6th Grade)



Shaina Winning (7th Grade)

# Community High School



Debora Egge

# **West Fargo High School**



Lorraine Albrecht (Do-H)



Kelsey Fehl (S-Z)



Chasity Odden-Heide (Mg-R)



Dana Rosendahl (I-Mf)



Hannalee Shaw (Career Advisor)



Jamie Zuel (A-Dn)

# **Sheyenne High School**



Penny Aipperspach (Career Advisor)



Erin Beck (Mf-Sc)



Mitchell Grunig (D-H)



Krystal Haugen (I-Me)



Jessica Raile (A-C & AVID)



Jessica Steiner (Sd-Z)

# Profile of a Graduate – Convergence between academic & 21st Century Skills

Disposition	Vision	Levels of Implementation				
Collaborative	Learners will work together, resolving controversy and conflict through respectful negotiations.	Cooperate and work flexibly in partnerships, small, or large groups	Share responsibility and interact respectfully to be productive both individually and as a team	Understand ideas, opinions and skills of others, accept and give constructive feedback	Show leadership and initiative as a contributing global citizen, act on constructive feedback	
Compassionate	Learners will demonstrate their understandings of the complexities of cultures and global issues and see viewpoints beyond their own in order to positively impact the world around them.	Consider information from different viewpoints with respect	Recognize their own and others' perspectives and values	Explain the cultural impacts of their decisions the decisions of others, articulating perspectives and showing empathy	Exhibit character and take- action as a contributing global citizen to improve conditions in our world	
Creative	Learners will take risks to develop and revise ideas.	Adapt existing ideas or products in a novel way	Use flexible thinking to generate multiple ideas	Apply critical thinking to explore and design original work	Act innovatively to impact the local, regional, or global community	
Resilient	Learners will persist on the path toward physical and mental wellness despite impediments and challenges by defining and developing solutions to existing or future problems.	Demonstrate self- control and make realistic plan and take steps to enact them to solve an academic problem or emotional conflict	Manage strong feelings and impulses effectively, propose solutions to a simulated problem	Accept change, be hopeful, rely on others when needed, propose and develop solutions to real- world problems	Have a positive self-view and confidence in strengths and abilities Engage with real-world audiences as a contributing global citizen in an effort to solve an authentic problem	
Communicator	Learners will connect and share ideas; and select an appropriate format to express thoughts and ideas with integrity and appropriate digital citizenship.	Engage in conversation and listen effectively; organize ideas and information to support learning	Engage in discussions; implement multiple communication formats to support learning	Examine and convey complex concepts; analyze content to produce coherent written or oral communication for a diverse audience	Analyze and synthesize to support claims; use digital media to produce and publish written and oral presentations for a diverse audience	
Critical Thinker	Learners will systematically go beyond knowledge reproduction to reason, organize, summarize, interpret, analyze, and synthesize information in ways that generate a new understanding.	Read and comprehend information, discovering new ideas	Assess whether there is adequate reasoning and evidence to justify a claim or outcome	Rigorously interpret and analyze in order to summarize and problem solve	Use systems thinking to analyze and synthesize complete information; construct an argument	
Reflective	Learners will take ownership in their learning by being empowered to take multiple pathways to demonstrate understanding and mastery.	Demonstrate understanding and goals from among teacher-provided feedback	Engage in peer feedback to enhance learning and provide a demonstration of an element of content understanding or mastery	Self-assess to enhance learning, access additional information, and provide a demonstration of content understanding and mastery	Reflect and create personal learning goals as a contributing global citizen, design and work plan to meet and demonstrate mastery and growth	
Responsible	Learners will be actively engaged in their learning and demonstrate responsibility, organization, and perseverance.	Attentively comply with expectations for organization and participation	Engage curiosity and collaboration, taking pride in completing work well	Actively pursue achievement with a sense of importance and student agency	Find passion and value in a task; persist with resilience and stretch oneself despite difficulties	

# Four Year Plan – Student Planning Template

Student Name:	School Year: Current Career G	oal:
School Counselor:	Career Advisor:	ACT Score:
Career Cluster #1:	Career Pathway:	Occupations:
Career Cluster #2:	Career Pathway:	Occupations:
Career Cluster #3:	Career Pathway:	Occupations:

	9 <sup>th</sup> Grade			10 <sup>th</sup> Grade		11 <sup>th</sup> Grade			12 <sup>th</sup> Grade			
COURSE	Course Name		Gr. Cı	. Course Name	Gr.	Cr.	Course Name	Gr.	Cr.	Course Name	Gr.	Cr.
ENGLISH	English I <b>or</b> Honors English I		1	English II <b>or</b> Honors English II		1	English III <b>or</b> AP English III		1	English IV <b>or</b> AP English IV		1
MATH	Algebra I <b>or</b> Geometry		1	Geometry <b>or</b> Algebra II		1	Algebra II <b>or</b> Upper-level math course		1	Upper-level math (recommended)		0.5 or 1
SOCIAL STUDIES	World Geography <b>or</b> AP Human Geography		0.	Western Civilization or AP Western Civilization		1	US History <b>or</b> AP US History		1	Government or AP Government 0.5 and Economics or Microeconomics 0.5		1
SCIENCE	Physical Science <b>or</b> Biology		1	Biology <b>or</b> Chemistry		1	3 <sup>rd</sup> Science <b>or</b> Physics		1			
PE/HEALTH		0.5 0.5	1	PE		0.5	PE		0.5			
	Total Required Credits		4.	Total Required Credits		4.5	Total Required Credits		4.5	Total Required Credits (2021+)		2
ELECTIVE												
ELECTIVE												
ELECTIVE												
ELECTIVE												
CREDITS/YEAR			6, 6 or		'	6, 6.5 or 7		,	6, 6.5 or 7			6, 6.5 or 7
WORK-BASED LEARNING HOURS			Hr	5		Hrs			Hrs			Hrs