HORACE HIGH SCHOOL
ENGINEERING PATHWAY

Our MISSION

Educating today's learners for tomorrow's world.

Our VISION

West Fargo Public Schools prepares all learners with the knowledge and skills to be compassionate, contributing citizens in a rapidly changing world. We are dedicated to continuous improvement, engaging every student to become problem solvers and lifelong learners. Excellence is achieved through practices based in research, and by aligning all resources to support learning.

HIGH-WAGE, HIGH-SKILL, AND HIGH-DEMAND CAREERS

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

PROGRAM OF STUDY: ENGINEERING

SUBJECT	9th Grade	10th Grade	11th Grade	12th Grade
Choice Ready Planning	Advisory	Advisory	Advisory	Advisory
Language Arts	English Language Arts 1	English Language Arts 2	English Language Arts 3	English Language Arts 4
Math	Algebra I	Geometry	Algebra II	Precalculus and Trigonometry*
Science	Biology	Chemistry	Physics	AP Physics*
Social Studies	World Geography	Western Civilization	United States History	Government/Economics
Pathway Courses	**PLTW Intro to Engineering**	**PLTW Principals of Engineering**	**Drafting/Pathway Elective**	**Pathway Electives**
PE/Health 9 ELECTIVES 10-12	Health Physical Education	PE/Elective	PE/Elective	Electives
Recommended Electives: 2 per year	**Pathway Electives**: Drafting Design (0.5), Energy in Motion (0.5), Construction (0.5), Woods I and II (0.5), Robotics (0.5), Computer Science (0.5), Graphics (0.5), Interior Design (0.5), Building Trades I (2.0), Building Trades II (2.0), Drafting (0.5) **Global Electives**: Foreign Language (1.0), Music (1.0), Art (0.5), Public Speaking (0.5), Physical Education (0.5) or any other pathway elective in another Academy that has seats available.			

Student Leadership and Career and Technical Student Organization(s) – TSA

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.

College & Career Experiences – Accessible to ALL Academy Program of Study Students

Community Speakers, Career Interest Inventory, College Application, College & Career Fair, College & Career Research, College and Career Speakers, College Presentations, Job Shadow, Mock Interviews, Personal Statements, Professional Interviews, Scholarship & Financial Aid, Senior Capstone, Ten Year Plan

Aligned Early Postsecondary Courses – Accessible to ALL Academy Program of Study Students

AP Seminar, AP Research, AP Lang & Comp, AP Lit & Comp, Fundamentals of Public Speaking, AP Biology, AP Chemistry, AP Environmental Science, AP Physics, Anatomy & Physiology, Microbiology, AP Calculus, College Algebra, Statistics, AP Human Geography, AP European History, AP U.S. History, AP U.S. Gov, AP Microeconomics, CISCO I, AP Computer Programming, IT Essentials I, IT Essentials II, Drafting

Professional Certification(s)

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Technology & Engineering Coordinated Plan of Study – ND Scholarship	
STEM Cluster	
Course Name	**Cr**
Robotics	.5
Intro to Engineering	1
Principles of Engineering	1
Drafting & Architecture	.5
Cooperative Work Experience	½ to 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?

North Dakota STEM Related Post-Secondary Programs

Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
Engineering & Technology	☐ Architectural Drafting & Estimating Technology (NDSCS) ☐ Engineering Technology (BSC) ☐ Land Surveying and Civil Engineering (NDSCS) Nanoscience Technology (NDSCS) ☐ Nuclear Power Technology (BSC) ☐ Petroleum Engineering Technology (BSC) ☐ Petroleum Production Technology (BSC, NHSC, WSC) ☐ Engineering transfer (BSC, CCCC, DCB, NDSCS, NHSC, SBC, TMCC, WSC) ☐ Robotics, Automation & Mechatronics Technology (NDSCS) ☐ Simulator Maintenance Technology (LRSC) ☐ Technical Studies (BSC, NDSCS)	☐ 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) ☐ 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) ☐ Sustainable Energy Engineering (UND) ☐ Technology (UND)
Science & Mathematics	☐ Biology transfer (BSC, DCB, TMCC, WSC) ☐ Biotechnology transfer (NDSCS) ☐ Chemistry transfer (BSC, DCB, NDSCS, TMCC, WSC) ☐ Environmental Science Transfer (CCCC, NHSC, TMCC, WSC) ☐ Environmental Technology (DCB) ☐ Mathematics transfer (BSC, DCB, NDSCS, NHSC, TMCC, WSC) ☐ Natural Science transfer (NDSCS, TMCC) ☐ Pharmacy transfer (WSC) ☐ Physical Science transfer (NDSCS, WSC) ☐ Physics transfer (BSC, WSC) ☐ Science transfer (CCCC, NHSC) ☐ Tribal Environmental Science (UTTC	☐ 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 Aircr	☐ 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) ☐ Statistics (NDSU) ☐ Zoology (NDSU)