



Science, Technology, Engineering & Mathematics (STEM) Academy

College & Career Readiness Pathways



To provide a rigorous future-minded education that deepens students' knowledge in the areas of science and technology so that they are prepared for the careers of tomorrow.



Career Clusters

Agriculture, Food, & Natural Resources

This Career Cluster focuses on the production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

Career Pathways

- Food Products and Processing Systems
- Environmental Science Systems
- Plant & Animal Systems

Health Science

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

Career Pathways

- Health Science

Information Technology

Building linkages in IT occupations for entry level, technical and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integration services.

Career Pathways

Programming and Software Development

Science, Technology, Engineering, & Mathematics

Planning, managing and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

Career Pathways

- Engineering & Technology
- Science Research & Development
- Social Science Research & Development
- Mathematics



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Transportation, Distribution, & Logistics

Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

Career Pathways

- Automotive Technology
- Aviation

Content Competencies of Emphasis:



Independent Research
Problem Solving
Interpretation & Prediction
Text Analysis
Mathematical Reasoning
Scientific Literacy
Culture & Diversity

STEM Academy

Agriculture, Food, & Natural Resources

Food Products & Processing Systems

Food Products & Processing Systems

PATHWAY COURSES

Year 1	Nutrition & Culinary Arts
Year 2	Culinary Occupations 1
Year 3	Culinary Occupations 2
Year 4	<ul style="list-style-type: none">➤ AP Chemistry➤ AP Biology

KEY ELECTIVES

Statistics
Public Speaking
AP Environmental Science
Entrepreneurship
AP Spanish Language & Culture

Related Academy Activities

Career Portfolio Development
Career Speakers
Career Inventory
Career Field Trips
Employability Soft Skills Training
District College & Career Fairs
Career Portfolio

Workplace Learning

Industry Mentoring
Job Shadowing
Internship

Potential College Majors

Agricultural and Food
Products Processing
Agricultural Business &
Management
Agricultural Business
Technology
Agricultural/Farm Supplies
Retailing & Wholesaling
Food Science
Food Technology & Processing

Potential Careers

Agricultural and Food Science
Technician
Agricultural Technician
Chemical Technician
Farm/Ranch Manager
Food Science Technologist
Pest Control Specialist

STEM Academy

Agriculture, Food, & Natural Resources

Environmental Science Systems

Environmental Science Systems

PATHWAY COURSES

Year 1	Biology
Year 2	Chemistry
Year 3	Physics
Year 4	AP Environmental Science

KEY ELECTIVES

Earth Science
Statistics
Public Speaking
Entrepreneurship

Related Academy Activities

Career Portfolio Development
Career Speakers
Career Inventory
Career Field Trips
Employability Soft Skills Training
District College & Career Fairs
Career Portfolio

Potential College Majors

Environmental Control
Technology
Environmental Engineering
Hazardous Materials
Management
Water Quality & Wastewater
Treatment,
Management, &
Recycling Technology

Workplace Learning

Industry Mentoring
Job Shadowing
Internship

Potential Careers

Environmental Engineering Tech
Hazardous Materials
Management/Removal
Occupational Health and Safety
Specialist
Water and Wastewater
Treatment Plant & Systems
Operator



STEM Academy

Agriculture, Food, & Natural Resources

Plant and Animal Systems

Plant and Animal Systems

PATHWAY COURSES

Year 1	Biology
Year 2	Chemistry
Year 3	Physics
Year 4	AP Environmental Science

KEY ELECTIVES

AP Biology
AP Chemistry
Statistics
Public Speaking
Entrepreneurship

Related Academy Activities

Career Portfolio Development
Career Speakers
Career Inventory
Career Field Trips
Employability Soft Skills Training
District College & Career Fairs
Career Portfolio

Potential College Majors

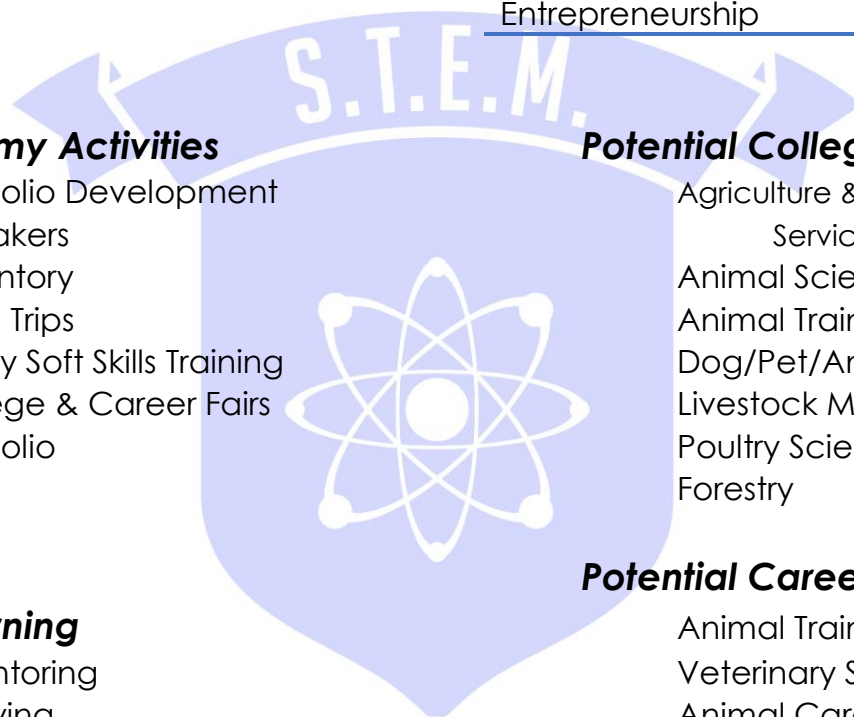
Agriculture & Domestic Animal
Services
Animal Sciences
Animal Training
Dog/Pet/Animal Grooming
Livestock Management
Poultry Science
Forestry

Workplace Learning

Industry Mentoring
Job Shadowing
Internship

Potential Careers

Animal Trainer
Veterinary Science
Animal Caretaker
Zoologist
Aquaculture Manager
Farm/Ranch Worker
Food Science Technician
National/State Park Ranger
Agricultural and Food Science
Technician



STEM Academy

Health Science

Health Science

Health Science

PATHWAY COURSES

Year 1	Biology
Year 2	Chemistry
Year 3	Physiology
Year 4	AP Biology

KEY ELECTIVES

AP Chemistry
Psychology
Forensic Science
Public Speaking

Related Academy Activities

Career Portfolio Development
Career Speakers
Career Inventory
Career Field Trips
Employability Soft Skills Training
District College & Career Fairs
Career Portfolio
Loyola Bio-Medical Workshops

Potential College Majors

Biotechnology
Community Health
Medicine
Dentistry
Emergency Medical
Technology
Health Informatics/Medical
Records

Workplace Learning

Industry Mentoring
Job Shadowing
Internship

Potential Careers

Dentist/Dental Tech
Dietician/Nutritionist
EMT/Paramedic
Health Technologist
Medical Records & Health
Information Tech
Nurse/Nursing Assistant
Occupational and Physical
Therapist
Pharmacist
Physician/Doctor
Psychologist/Psychiatrist

STEM Academy

Science, Technology, Engineering, & Mathematics

Engineering & Technology

Engineering

PATHWAY COURSES

Year 1	Introduction to Engineering Design - PLTW
Year 2	Principles of Engineering - PLTW
Year 3	Computer Integrated Manufacturing – PLTW
Year 4	Mechanical Drafting CAD I

KEY ELECTIVES

Statistics
Entrepreneurship
AP Calculus
Public Speaking
AP Physics
Aviation Physics
AP Chemistry
AP Computer Science Principles

Related Academy Activities

Career Portfolio Development
Career Speakers
Career Inventory
Career Field Trips
Employability Soft Skills Training
District College & Career Fairs
Career Portfolio

Potential College Majors

Aerospace Engineering
Biomedical Engineering
Chemical Engineering
Civil Engineering
Electrical Engineering
Industrial Engineering
Mechanical Engineering
Nuclear Engineering

Workplace Learning

Industry Mentoring
Job Shadowing
Internship

Potential Careers

Aerospace Engineer
Biomedical Engineer
Chemical Engineer
Civil Engineer
Electrical Engineer
Draftsman
Engineering Tech
Mechanical Engineer
Nuclear Engineer

STEM Academy

Science, Technology, Engineering, & Mathematics

Science & Mathematics

Science Research & Development

PATHWAY COURSES

Year 1	Biology
Year 2	Chemistry
Year 3	Physics
Year 4	AP Science of Choice

KEY ELECTIVES

Statistics
Entrepreneurship
AP Calculus
Public Speaking
AP English Language & Composition

Related Academy Activities

Career Portfolio Development
Career Speakers
Career Inventory
Career Field Trips
Employability Soft Skills Training
District College & Career Fairs
Career Portfolio

Potential College Majors

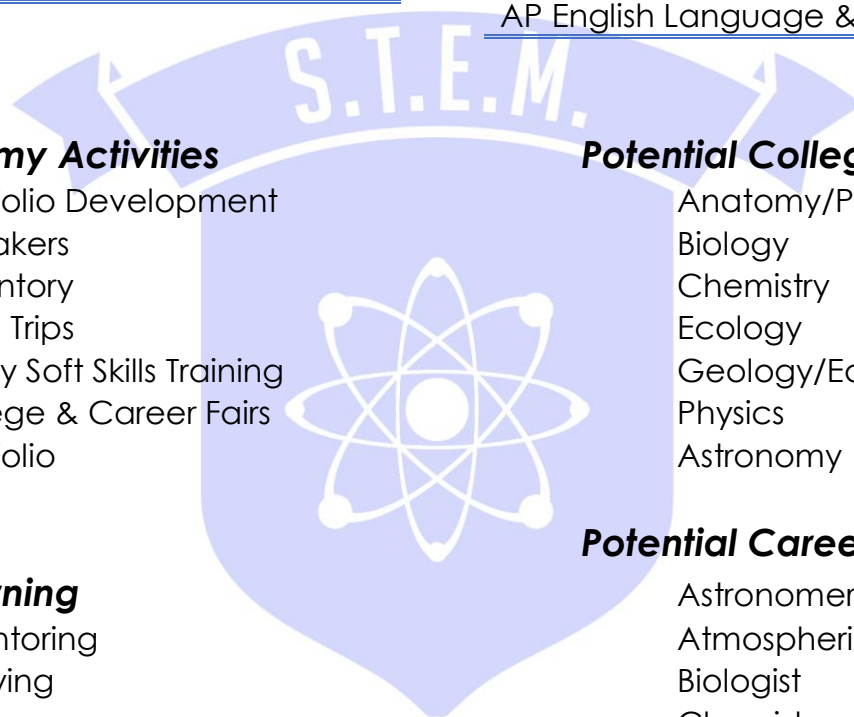
Anatomy/Physiology
Biology
Chemistry
Ecology
Geology/Earth Science
Physics
Astronomy

Workplace Learning

Industry Mentoring
Job Shadowing
Internship

Potential Careers

Astronomer
Atmospheric/Space Science
Biologist
Chemist
Medical Researcher
Museum Curator
Physicist
Research Technician
Zoologist/Wildlife Biologist



STEM Academy

Science, Technology, Engineering, & Mathematics

Science & Mathematics

Social Science Research & Development

PATHWAY COURSES

Year 1	<ul style="list-style-type: none">➤ AP World History➤ AP Human Geography
Year 2	<ul style="list-style-type: none">➤ AP World History➤ AP Human Geography
Year 3	AP US History
Year 4	<ul style="list-style-type: none">➤ AP Government➤ AP European History

KEY ELECTIVES

Statistics
Sociology
Psychology
African American History
Latin American History
AP Language & Composition

Related Academy Activities

Career Portfolio Development
Career Speakers
Career Inventory
Career Field Trips
Employability Soft Skills Training
District College & Career Fairs
Career Portfolio

Potential College Majors

Anthropology
Archeology
History
Geography
Global Studies
Political Science
Psychology
Sociology

Workplace Learning

Industry Mentoring
Job Shadowing
Internship

Potential Careers

Anthropologist
Archeologist
Economist
Historian
Geographer
Museum Curator
Politician
Psychologist
Sociologist

STEM Academy

Science, Technology, Engineering, & Mathematics

Science & Mathematics

Mathematics

PATHWAY COURSES

Year 1	Algebra
Year 2	➤ Geometry ➤ Algebra w/ Trigonometry
Year 3	Precalculus
Year 4	➤ AP Calculus ➤ Statistics

KEY ELECTIVES

AP Computer Science Principles
AP Computer Science
AP Physics
AP Chemistry
Public Speaking
AP Environmental Science

Related Academy Activities

Career Portfolio Development
Career Speakers
Career Inventory
Career Field Trips
Employability Soft Skills Training
District College & Career Fairs
Career Portfolio

Potential College Majors

Algebra and Number Theory
Applied Mathematics
Computational Math
Mathematics
Mathematics & Computer
Science
Statistics & Probability

Workplace Learning

Industry Mentoring
Job Shadowing
Internship

Potential Careers

Applied Mathematician
Actuary
Mathematician
Statistician
Analyst

STEM Academy

Transportation, Distribution, & Logistics

Facility & Mobile Equipment Maintenance

Automotive Service

PATHWAY COURSES

Year 1	Introduction to Technology
Year 2	Automotive Technician 1
Year 3	Automotive Technician 2
Year 4	Auto Inter-related Coop

KEY ELECTIVES

Introduction to Engineering Design - PLTW
AP Computer Science
Public Speaking

Related Academy Activities

Career Portfolio Development
Career Speakers
Career Inventory
Career Field Trips
Employability Soft Skills Training
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Career Portfolio

Potential College Majors

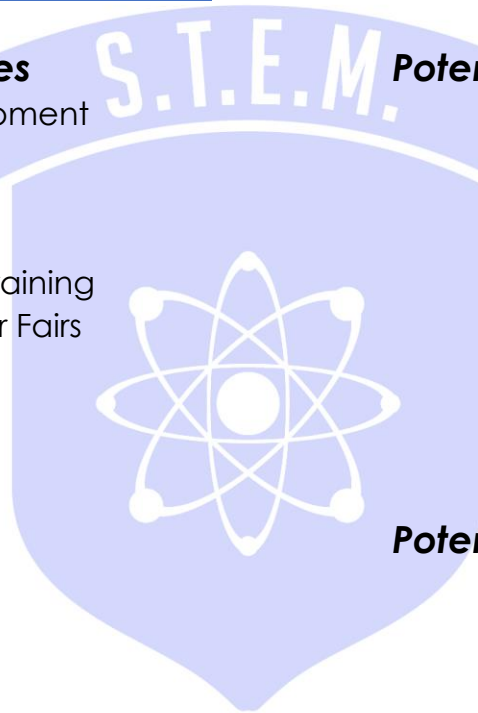
Aircraft Maintenance
Autobody/Collision Tech
Automotive Technology
Diesel Mechanics/Technology
Engine Machinery
Small Engine Mechanics and
Repair Tech
Vehicle Emissions Inspection &
Maintenance Tech

Workplace Learning

Industry Mentoring
Job Shadowing
Internship

Potential Careers

Aircraft Maintenance Tech
Automotive Body Repair
Automotive Service
Tech/Mechanic
Engine Assembly



STEM Academy

Transportation, Distribution, & Logistics

Facility & Mobile Equipment Maintenance

Aviation

PATHWAY COURSES

Year 1	Introduction to Engineering Design - PLTW
Year 2	Principles of Engineering - PLTW
Year 3	Aviation Physics
Year 4	Aviation Meteorology

KEY ELECTIVES

AP Computer Science Principles
AP Computer Science
Public Speaking
Calculus
Pre-Calc Analysis

Related Academy Activities

Career Portfolio Development
Career Speakers
Career Inventory
Career Field Trips
Employability Soft Skills Training
District College & Career Fairs
Career Portfolio

Potential College Majors

Aviation Administration
Aviation and Aerospace Tech
Aviation Flight Management
Air Traffic Control Management
Supply Chain Management
Unmanned Aircraft Systems

Workplace Learning

Industry Mentoring
Job Shadowing
Internship

Potential Careers

Aerospace Engineer
Aircraft Maintenance Tech
Air Crew Member
Airfield Operations Specialist
Air Traffic Controller
Avionics Technician
Commercial Pilot