

Career Pathways

Mission: The mission of Career and Technical Education is to assist schools in providing students with skills necessary for a successful transition to postsecondary education or work and a desire for life-long learning in a global society.

Transportation Education



Transportation Education is composed of 2 pathways:

- Automotive Maintenance & Light Repair
- Automotive Engineering



Automotive Maintenance & Light Repair

This pathway prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Includes instruction in brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drive trains, and heating and air condition systems.

- Entry Level Auto Technician
- Service Advisor
- Dispatcher
- Warranty Clerk
- Auto Sales Rep
- Service Manager

Automotive Engineering

A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Includes instruction in brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drive trains, and heating and air condition systems.

- Automotive Engineer
- Service Manager

Business and Marketing Education

Business Education is composed of
6 Pathways:

E-Commerce

Hospitality, Travel, Tourism &
Recreation

Management/Entrepreneurship

Marketing



E-COMMERCE

This pathway focuses on the creation, execution, transmission, and evaluation of commercial messages in various media intended to promote and sell products, services, and brands; and that prepares individuals to function as advertising assistants, technicians, and managers. Includes instruction in advertising theory, marketing strategy, advertising design and production methods, campaign methods and techniques, media management, related principles of business management, and applicable technical and equipment skills.

- Communication Specialist
- E-Business Consultant
- Economic Development Officer
- Media Buyer
- Retail Buyer
- Retail Salesperson
- Sales Representative
- Web Developer
- Webmaster
- Website Designer

Hospitality, Travel, Tourism & Recreation

The Hospitality, Travel, Tourism & Recreation career pathway prepares individuals to provide services in the hospitality and leisure fields. Includes instruction in hospitality operations, customer sales, marketing techniques, and assistance operations and techniques, basic office management, retail sports, recreation equipment and food and beverage services.

- Airline Customer Service Agent
- Amusement and Recreation Attendant
- Bed and Breakfast Proprietor
- Caterer Concierge
- Event Planner
- Recreation Director
- Restaurant/Hotel Manager
- Sales Representative
- Tour Guide
- Travel Agent

Management/ Entrepreneurship

A program that generally prepares individuals to perform development, marketing and management functions associated with owning and operating a business. Includes instruction in management theory, human resources management and behavior, accounting and other quantitative methods, purchasing and logistics, organization and production, marketing, and business decision-making.

- Entrepreneur
- Small Business Owner
- Account Manager
- Real Estate Agent
- Venture Capitalist
- Insurance Agent
- Association Manager
- Quality Controller

Marketing

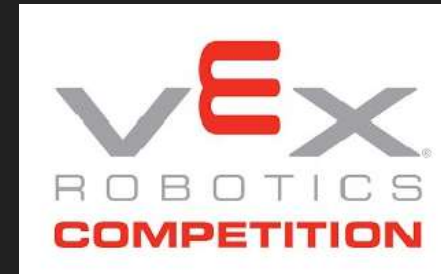
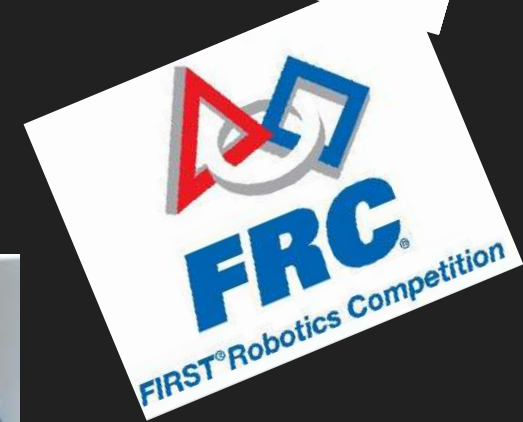
A program that generally prepares individuals to undertake and manage the process of developing consumer audiences and moving products from producers to consumers. Includes instruction in buyer behavior and dynamics, principle of marketing research, demand analysis, cost-volume and profit relationships, pricing theory, marketing campaign and strategic planning, market segments, advertising methods, sales operations and management, consumer relations, retailing, and applications to specific products and markets.

- Advertising Account Executive
- Airline Customer Service Agent
- Convenience Store Operator
- Customer Service Representative
- Fashion Retailer
- Interior Designer
- Public Relations Specialist
- Purchaser
- Sports Marketer
- Telemarketer
- Travel Agent

Engineering & Technology

Engineering & Technology is composed of 3 pathways:

- PLTW Civil Engineering
- Industrial/Mechanical Engineering
- Automotive Engineering



Civil Engineering (PLTW)

This pathway generally prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of structural, loadbearing, material moving, transportation, water resource, and material control systems; and environmental safety measures. Civil engineers design, build, supervise, operate, and maintain construction projects and systems in the public and private sector, including roads, buildings, airports, tunnels, dams, bridges, and systems for water supply and sewage treatment.

- Civil Engineer
- Water Resources Engineer
- Agricultural Engineer
- Environmental Engineer
- Mining Engineer
- Engineering Tech
- Civil Engineering Tech
- Land Surveyor
- Geotechnical Engineer
- Public Works
- Military Engineer
- Aerospace Engineer
- Forensic Engineer
- Urban Planning

Industrial/Mechanical Engineering

This pathway prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of physical systems used in manufacturing and end-product systems including, but not limited to, fluid power, robotics, automation, rapid prototyping and machine control.

Industrial/Mechanical Engineering is one of the broadest engineering disciplines.

Industrial/Mechanical engineers design, develop, build, and test mechanical and thermal sensors and devices, including tools, engines, and machines.

- Engineering Technology
- Education Teacher
- Mechanical Engineer
- Mechanical Engineering Technician
- Industrial Designer
- Engineering Tech
- Industrial Engineer
- Aerospace/Aviation Design
- Biosystems Engineer
- Engineering Technology
- Manufacturing Manager
- Industrial Engineering Tech

Health Science



Health Science pathways:

- Allied Health
- Pre-Nursing
- EKG Tech
- EMT
- Dental Assisting
- Phlebotomy Tech
- Pharmacy Tech



Allied Health

A general, introductory, undifferentiated, or joint program in health services occupations that prepares individuals for either entry into specialized training programs or for a variety of concentrations in the allied health area. Includes instruction in the basic sciences, research and clinical procedures, and aspects of the subject matter related to various health occupations.

- Doctor
- Nurse
- Pharmacist
- Physical Therapist
- Psychologist
- Radiologist
- Surgeon
- Veterinarian

Pre-Nursing

A program that prepares individuals for admission to a professional program in Nursing.



- Licensed Practical Nurse
- Nurse
- Nurse Practitioner
- Nursing Assistant
- Physician's Assistant
- Doctor

Health Science Pathways with limited availability

Dental Assisting: Prepares individuals to provide patient care, take dental radiographs (x-ray photographs), prepare patients and equipment for dental procedures, and discharge office administrative functions under the supervision of dentists and dental hygienists. Includes instruction in medical record-keeping, general office duties, reception and patient intake, scheduling, equipment maintenance and sterilization, basic radiography, pre- and post-operative patient care and instruction, chairside assisting, taking tooth and mouth impressions, and supervised practice.

EKG Tech: Prepares individuals, under the supervision of physicians and nurses, to administer EKG and ECG diagnostic examinations and report results to the treatment team. Includes instruction in basic anatomy and physiology, the cardiovascular system, medical terminology, cardiovascular medications and effects, patient care, EKG and ECG administration, equipment operation and maintenance, interpretation of cardiac rhythm, patient record management, and professional standards and ethics.



Health Science Pathways with limited availability

EMT: Prepares individuals, under the remote supervision of physicians, to recognize, assess, and manage medical emergencies in prehospital settings and to supervise Ambulance personnel. Includes instruction in basic, intermediate, and advanced EMT procedures; medical triage; rescue operations; crisis scene management and personnel supervision; equipment operation and maintenance; identification and preliminary diagnosis of diseases and injuries; communication and computer operations; basic anatomy, physiology, pathology, and toxicology; and professional standards and regulations.

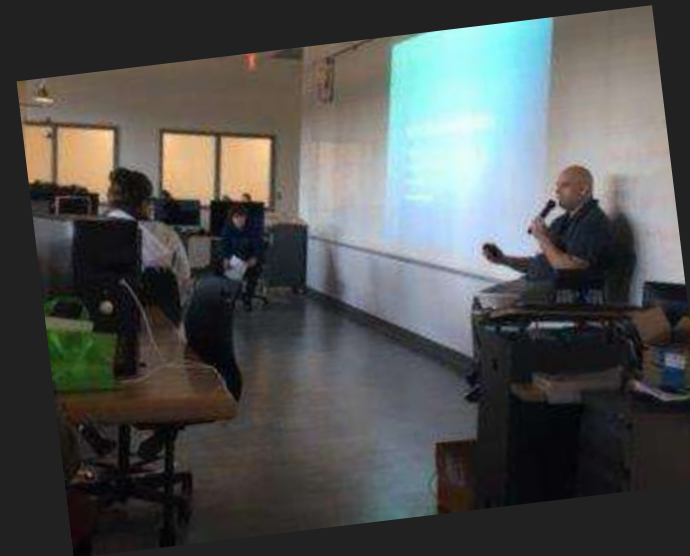
Pharmacy Tech: Prepares individuals, under the supervision of pharmacists, to prepare medications, provide medications and related assistance to patients, and manage pharmacy clinical and business operations.

Phlebotomy Tech: Prepares individuals, under the supervision of physicians and other health care professionals, to draw blood samples from patients using a variety of intrusive procedures. Includes instruction in basic vascular anatomy and physiology, blood physiology, skin puncture techniques, venipuncture, venous specimen collection and handling, safety and sanitation procedures, and applicable standards and regulations.

Information Technology

Information Technology has 3 Pathways:

- Computer Science
- Digital Design and Game Development
- Network Administration



Computer Science

The Computer Science Pathway courses focus on computer theory, computing problems and solutions, and design of computer systems and user-interfaces. The coursework will include instruction in the principles of computational science, computer development and programming and applications to a variety of end use situations.

- Computer Software Engineer
- Database Developer
- Computer Hardware Engineer
- Computer Network Specialist
- Computer Scientist
- Web Developer
- Information Security Analyst
- Computer Programmer
- IT Project Manager

Digital Design & Game Development

The digital design/gaming pathway courses provide students with a thorough understanding of techniques for designing advanced 3D games and simulations. The courses will cover 2D and 3D graphics, animation, character development, texturing, scripting, program design and coding, and game setup using state-of-the-art software development tools. Completing students will have developed the skills necessary to create 3D graphics and simple applications that can be used for games and simulations.

- IT Project Manager
- Computer Animator
- Cartoonist
- Game Designer
- Game Design Analyst
- Webmaster
- Web Developer
- Website Designer

Network Administration

The networking pathway courses will help students learn new administration support skills or upgrade existing computer information systems skills. Students will be able to properly install networking software on an appropriately sized computer, configure the software for a simple server environment and connect it correctly to a physical network, manage a simple networking environment, effectively troubleshooting common problems, adding new users and attending to security concerns, work within the ethical and professional parameters in the field of network administration.

- Network Server Administrator
- Support Team Member
- Quality Assurance System Analyst
- Sales Representative
- Technical Support Representative
- Technical Writing Expert
- Electronics Engineer
- Hardware Engineer
- System Administrator
- Network Administrator
- Microsoft Server Administrator
- Cisco Administrator
- Cisco Engineer

Industrial Maintenance Technology

Industrial Maintenance Technology has 2 Pathways:

- Integrated Manufacturing (hybrid with Engineering)
- Welding Maintenance Technician



Integrated Manufacturing

A program that provides students with technical knowledge and experience in the area of manufacturing processes and fundamentals of plastics. This program will explore the industry and the different plastics applications in manufacturing. The capstone course (4th credit) will design and build an electric guitar.

- Injection Molding Operator/Programmer
- CNC Operator/Programmer
- Robotic Operator/Programmer
- CAD Operator



Electrical Technician

Electrical Technicians apply electrical theory and related knowledge to diagnose and modify developmental or operational electrical machinery and electrical control equipment and circuitry in industrial or commercial plants and laboratories:

Assembles and tests experimental motor-control devices, switch panels, transformers, generator windings, solenoids, and other electrical equipment and components according to engineering data and knowledge of electrical principles.

- Electrical Engineer
- Electrical Technician
- Electrical Supervisor
- Electronics Engineer