

CAREER-TECHNICAL EDUCATION  
**YOUR FUTURE. YOUR WAY.**



Department of  
Education &  
Workforce





# SKILLS FOR A LIFETIME

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**Career  
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**O**hio's career-technical education programs offer high-quality educational experiences that help students find their career passion. Students acquire real-world skills through classroom learning, hands-on labs, student organizations and work-based learning with local businesses. In pathways and programs, students have unique opportunities to grow themselves as leaders, contribute to their communities and be part of Ohio's economic development. Regardless of their pathway after graduation, career-technical education prepares **ALL** students for a lifetime of success.

### **Vision**

Every Ohio secondary career-technical program graduate is prepared for successful employment and ongoing education, and every Ohio business has the workforce it needs to prosper.

### **Mission**

Provide leadership and support for the successful delivery of quality career-technical education in an effort to drive quality workforce development in Ohio.

*Career-technical education does not discriminate on the basis of race, color, national origin, sex, disability, or age for participation in any program or activity. Lack of English language proficiency will not be a barrier to admission and participation in career-technical education programs.*





01.

# CAREER FIELDS

Each of Ohio's career fields offer multiple courses and pathways leading to a wide range of career options. Beginning as early as middle school, these courses equip students with knowledge and tools to succeed in high school, college and career.

Choosing to enter a pathway does not mean that career choices cannot change. Instead, students can continue to explore their interests, discover their passions and pursue a career that suits their future, their way.





# Agricultural and Environmental Systems

## CAREER OPTIONS

Explore a career-technical program in animal or crop production, agribusiness, food processing, horticulture, natural resource management, environmental science, education, communications or research.

Ohio career-tech programs help students succeed in the Agricultural and Environmental Systems career field. Below, see how an animal science and management pathway can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Animal Caretakers	\$29,850	730	High School Diploma
Veterinarian Technicians	\$37,730	330	CTE/Certification or Associate Degree
Veterinarians	\$104,470	130	Advanced Degree


\*Data Sourced from OhioMeansJobs




Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Agriculture and Environmental Systems pathway.



### Extra Resources



Let your interests and skills inspire you to reach your education goals. Find part-time jobs, apprenticeships and internships on [OhioMeansJobs.com](https://ohioMeansJobs.com). 





# Agricultural and Environmental Systems

## PATHWAYS AND CAREERS

### Agribusiness and Production Systems

Agribusiness and Production Systems program areas apply animal, plant and environmental sciences to the production, management, marketing, distribution and processing of agronomic crops and domesticated livestock. Communications, business principles and leadership skill development are essential to these program areas.

#### Careers for which this pathway prepares students include:

- Farmer
- Grain Buyer
- Surveyor
- Livestock Buyer

### Animal Science and Management

Animal Science and Management program areas will prepare students for careers in training and marketing domesticated and exotic animals. Students will gain the necessary technical and academic skills in anatomy and physiology, nutrition, reproduction, health, genetics and behavior.

#### Careers for which this pathway prepares students include:

- Veterinarian/ Vet Assistant
- Groomer
- Zoologist

### Agriculture, Food and Natural Resources Bioscience

Bioscience program areas will prepare students for careers in plant/animal research and food processing. Students will gain the necessary technical and academic skills in chemistry, microbiology, genetics, testing, nutrition, safety/quality assurance, preservation and packaging to generate a variety of products.

#### Careers for which this pathway prepares students include:

- Food Scientist
- Lab Technician
- Geneticist
- Inspector

### Industrial Power Technology

Power Technology program areas will prepare students for careers in power equipment service. Students will gain the necessary technical and academic skills in maintenance, diagnosis and repair of equipment and systems.

#### Careers for which this pathway prepares students include:

- Farm Equipment Mechanic
- Equipment Operator
- Service Technician

### Natural Resource Management

Natural Resource Management program areas will prepare students for careers in environmental management, energy, parks and recreation, wildlife and forestry. Students will gain the necessary technical and academic skills in extraction, processing, protection, use and/or renewal of soil and water, mineral resources, plants, non-domesticated animals and aquatic life.

#### Careers for which this pathway prepares students include:

- Environmental Scientist
- Energy Engineer
- Park Ranger
- Biologist

### Horticulture

Horticulture program areas will prepare students for careers in landscaping and plant/floral design. Students will gain the necessary technical and academic skills in plant anatomy, nutrition, reproduction, genetics, health, production and marketing.

#### Careers for which this pathway prepares students include:

- Conservation Scientist
- Nursery Technician
- Landscape Manager
- Soil Scientist







# Arts and Communication

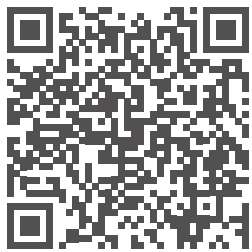
## CAREER OPTIONS

Explore a career-technical program in music engineering, video broadcast and production, graphic design or web production.

Ohio career-tech programs help students succeed in the Arts and Communication career field. Below, see how a visual design pathway can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Printing Press Operators	\$38,730	790	High School Diploma
Audio/Visual Technician	\$45,880	220	CTE/Certification
Graphic Designer	\$50,910	810	Advanced Degree

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Arts and Communication pathway.



### Extra Resources



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# Arts and Communication

## PATHWAYS AND CAREERS

### Media Arts

Media Arts program areas prepare students for careers in various fields of communication such as journalism and commercial photography and film. Students gain the necessary technical and academic skills to develop and distribute mass media content.

#### Careers for which this pathway prepares students include:

- Technical Writer/Editor
- Videographer
- Audio Engineer
- Reporter/Journalist
- Photographer

### Performing Arts

Performing Arts program areas prepare students for careers in theater, music and dance. Students gain the necessary technical and academic skills to support production and delivery of an artistic performance.

#### Careers for which this pathway prepares students include:

- Playwright
- Choreographer
- Stagecraft Designer
- Photographer

### Visual Design

Visual Design program areas prepare students for careers in graphic design, web/emerging technology and print production. Students gain the necessary technical and academic skills to create online and tactile designs and produce two-dimensional and three-dimensional products.

#### Careers for which this pathway prepares students include:

- Graphic Designer
- Webmaster
- Industrial Designer
- Technical Illustrator
- Multimedia Artist/Animator







# Business and Administrative Services

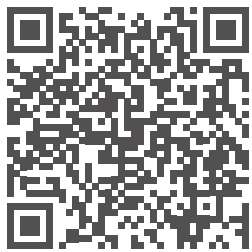
## CAREER OPTIONS

Explore a career-technical program in business management, office management, including legal or medical offices, administrative support, human resources, business administration, entrepreneurship or logistics.

Ohio career-tech programs help students succeed in the Business and Administrative Services career field. Below, see how a logistics pathway can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Inventory Clerk	\$37,710	3,300	High School Diploma
Supply Chain Manager	\$85,160	530	CTE/Certification + Experience
Purchasing Manager	\$125,560	190	Advanced Degree

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Business Administration Services pathway.



### Extra Resources



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# Business and Administrative Services

## PATHWAYS AND CAREERS

### **Business Management and Administrative Services**

The Business Management and Administrative Services pathway prepares students for technical and professional-level careers in business management, human resources and office management, including legal and medical offices. Students learn skills to support business administration, including information and communication management, governance structures, strategic planning and process and project management.

#### **Careers for which this pathway prepares students include:**

- Human Resources Specialist
- Executive Administrative Assistant
- Title Examiner
- Real Estate Broker
- Legal Assistant
- Entrepreneur

### **Logistics and Supply Chain Management**

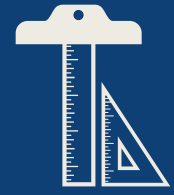
The Logistics and Supply Chain Management pathway prepares students for technical and professional-level careers in operations, logistics and supply chain management. Students learn skills to assist with the planning, management and movement of data, finances, materials and goods for products and services, including skills in inventory and facilities management, sourcing, procurement, safety and security.

#### **Careers for which this pathway prepares students include:**

- Inventory Manager
- Warehouse Administrator
- Inventory Controller
- Project Management Specialist
- Supply Chain Manager







# Construction Technologies

## CAREER OPTIONS

Explore a career-technical program in masonry, commercial and residential electrical systems, carpentry, plumbing, HVAC or architectural design.

Ohio career-tech programs help students succeed in the Construction career field. Below, see how different construction careers can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Construction Laborer	\$43,000	4,790	High School Diploma
HVAC Installer	\$50,570	1,410	CTE/Certification
Construction Manager	\$91,600	900	Degree/Training

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Construction Technologies pathway.



### Extra Resources

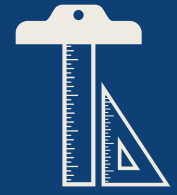


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# Construction Technologies

## PATHWAYS AND CAREERS

### Design

Design program areas will prepare students for careers dealing with construction design, facility maintenance, construction management and site safety and heavy equipment operations.

#### Careers for which this pathway prepares students include:

- Architectural Designer
- Civil Drafting Engineering
- Project Manager
- Facility Maintenance Technician/Manager
- Site Safety Coordinator
- Heavy Equipment Operator

### Mechanical, Electrical, Plumbing

Mechanical, electrical and plumbing program areas will prepare students for careers in electrical, plumbing, sheet metal and environmental control installation and maintenance.

#### Careers for which this pathway prepares students include:

- Electrician Power Line Technician
- Sheet Metal Fabricator
- HVAC Technician
- Telecommunications Technician
- Plumber

### Structural

Structural program areas will prepare students for careers in occupations related to Carpentry and Masonry construction and maintenance.

#### Careers for which this pathway prepares students include:

- Brick, Block and Cement Mason
- General Contractor
- Carpenter
- Remodeler
- Roofer







# Education and Training



## CAREER OPTIONS

Explore a career-technical program in early childhood education or teaching professions.

Ohio career-tech programs help students succeed in the Education and Training career field. Below, see the options that can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Childcare Worker	\$27,340	4,040	High School Diploma
Teaching Assistant	\$30,940	4,260	CTE/Certification
Middle School Teacher	\$75,250	2,180	Advanced Degree

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Education and Training pathway.



### Extra Resources



OhioMeansJobs.com

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# Education and Training



## PATHWAYS AND CAREERS



### Early Childhood Education

The Early Childhood Education program areas will prepare students for professional careers in both public and private childcare and educational environments.

#### Careers for which this pathway prepares students include:

- Teaching Assistant
- Child Care Worker
- Day Care Center Operator
- Educational Aide

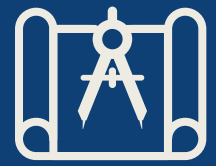
### Teaching Professions

The Teaching Profession program areas will prepare students for professional careers in educational institutions. In most cases, individuals will need to obtain a baccalaureate degree and teacher certification as part of the qualifications for being in charge of a classroom.

#### Careers for which this pathway prepares students include:

- Teacher
- Teaching Assistant
- Educational Aide





# Engineering and Science Technologies

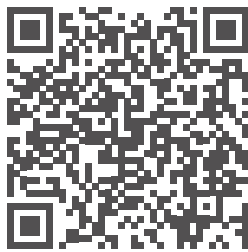
## CAREER OPTIONS

Explore a career-technical program in industrial, mechanical, electrical, aerospace engineering, robotics or engineering design.

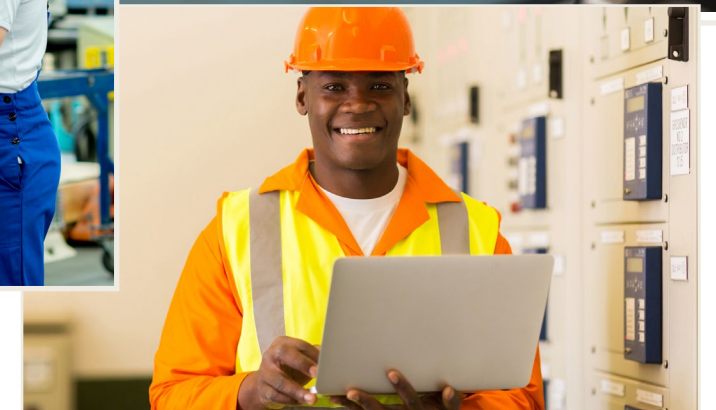
Ohio career-tech programs help students succeed in the Engineering and Science Technologies career field. Below, see how studying machining can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Machine Operator	\$35,980	1,360	High School Diploma
CNC Programmer	\$59,170	310	CTE/Certification
Mechanical Engineer	\$83,080	970	Advanced Degree

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Engineering and Science Technologies pathway.



## Extra Resources



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# Engineering and Science Technologies

## PATHWAYS AND CAREERS

### Engineering and Design

Students participating in the Engineering and Design pathway will use design process to innovate, solve problems and upgrade systems across a wide range of STEM careers and specialties. These programs will expose students to new technologies including robots, drones, CNC machines, 3D printers and more.

#### Careers for which this pathway prepares students include:

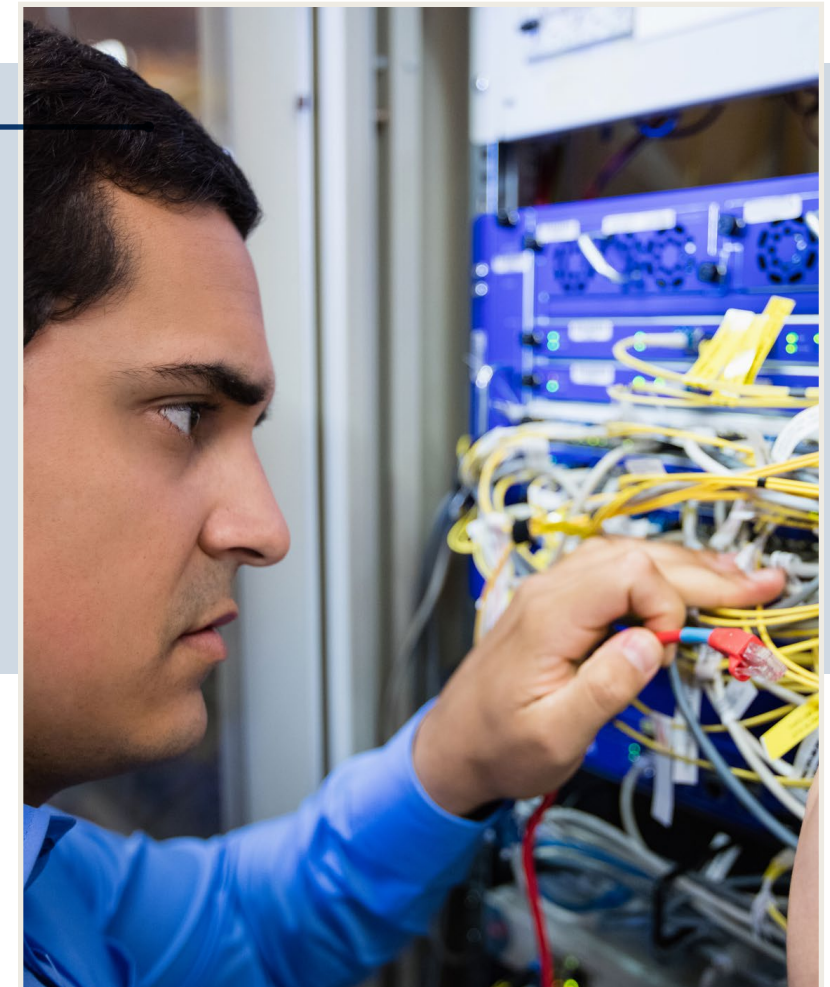
- Electrical or Mechanical Engineer
- Forensic Engineering
- Robotics Technician
- Industrial Technician
- CNC Programmer
- Industrial Maintenance Technician
- Controls Engineer
- Semi-Conductor Test Engineer

### Robotics

Robotics programs prepare students to enter into the high-skilled areas of robotics and industrial automation. Students will study applications of robotics, control systems and electro-mechanical systems and train to operate industry-standard equipment used in product production and energy processing.

#### Careers for which this pathway prepares students include:

- Electromechanical Technician
- Robotics Programmer
- Mechanical Systems Technician
- Control Systems Technician
- Automation Technician
- Injection Molding Technician
- CNC Programmer







# Finance

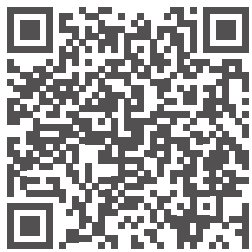
## CAREER OPTIONS

Explore a technical program in accounting, financial and investment planning, banking, insurance, real estate or business financial management.

Ohio career-tech programs help students succeed in the Finance career field. Below, see how an accounting pathway can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Bank Teller	\$35,510	1,270	High School Diploma
Accounting Clerk	\$44,150	5,950	CTE/ Advanced Training
Accountant/Auditor	\$72,740	4,750	Bachelor's Degree

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Finance pathway.



### Extra Resources



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# Finance

## PATHWAYS AND CAREERS

### Finance

The Finance program areas will prepare students for technical and professional-level careers in financial and operational accounting, financial and investment planning, banking, insurance and business financial management.

#### Careers for which this pathway prepares students include:

- Benefits Manager
- Financial Analyst
- Financial Planner
- Claims Adjuster
- Compliance Associate
- Customer Service Representative
- Loss Control Manager
- Small Business Accounting







# Health Science

## CAREER OPTIONS

Explore a career-technical program in physical or behavioral healthcare, phlebotomy, medical coding, diagnostic services, medical or dental assisting, support services or sports medicine.

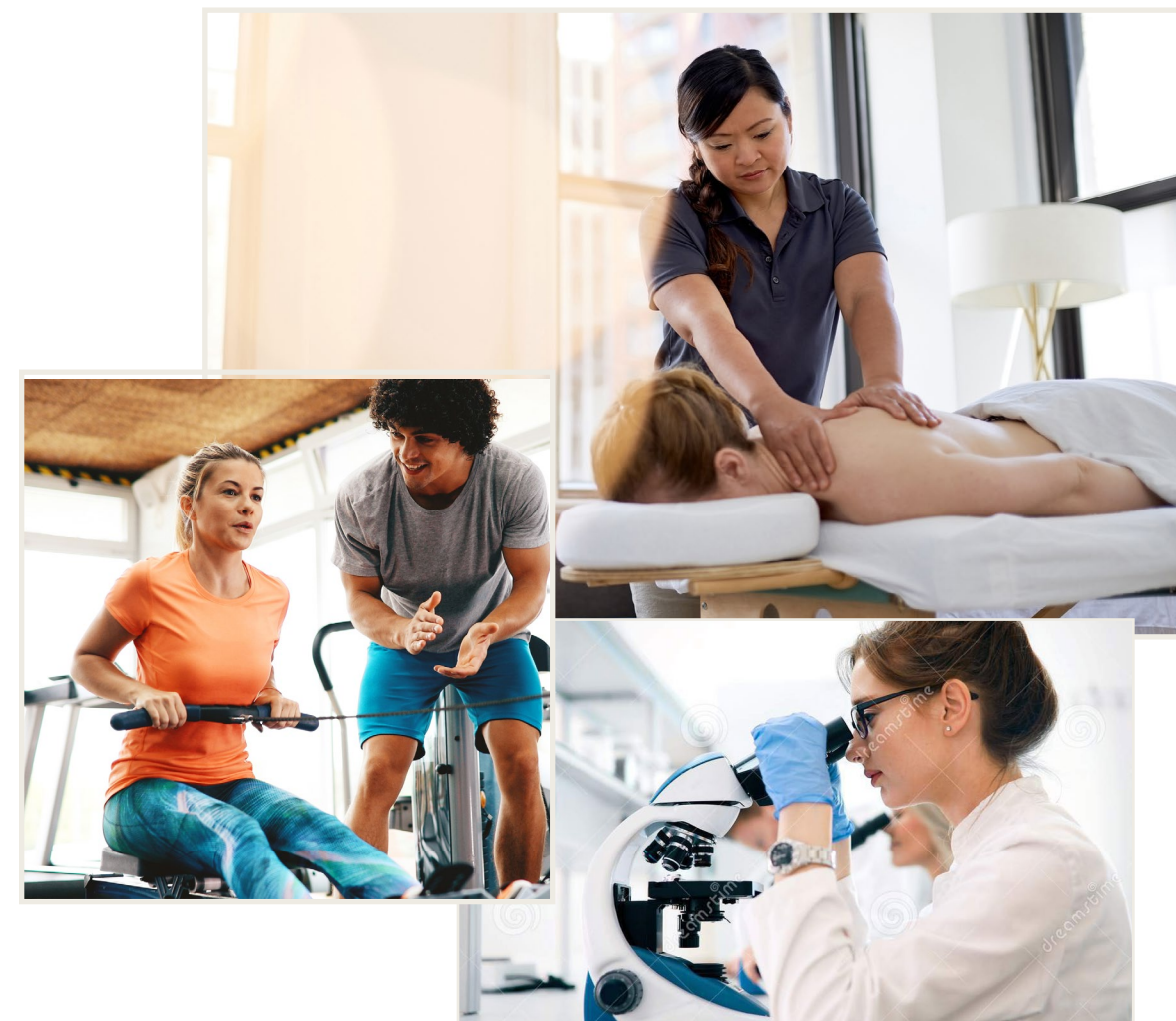
Ohio career-tech programs help students succeed in the Health Science career field. Below, see how a nursing pathway can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
State Tested Nursing Assistant (STNA)	\$34,490	7,770	CTE/Certification
Licensed Practical Nurse (LPN)	\$50,590	3,310	CTE/Certification
Registered Nurse (RN)	\$76,810	7,990	Advanced Degree

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Health Science Pathway.



### Extra Resources



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## PATHWAYS AND CAREERS

### Allied Health and Nursing

Allied Health and Nursing program areas will prepare students with the mathematics, science and technical skills to provide clinical assistance inpatient care, emergency interventions (CPR, first-aid, AED), nutrition, dentistry and surgery.

#### Careers for which this pathway prepares students include:

- Dental Assistant
- Patient Care Assistant
- Licensed Practical Nurse (LPN)
- Pharmacy Aide/Technician
- Medical Assistant
- Surgical Technician
- Nurse Aide (including State Tested Nursing Assistant)
- Respiratory Technician
- Phlebotomist
- Optometry

### Exercise Science and Sports Medicine

Exercise Science and Sports Medicine program areas will prepare students with the mathematics, science and technical skills to assist with exercise and rehabilitative procedures for the human body.

#### Careers for which this pathway prepares students include:

- Athletic Trainer
- Physical Therapist Assistant
- Personal Trainer
- Occupational Therapist Assistant
- Kinesiology and Exercise Science
- Medical Massage Therapist

### Health Information Management

Health Information Management program areas will prepare students with the mathematics, science and technical skills to create, manage and maintain confidential electronic health data and records.

#### Careers for which this pathway prepares students include:

- Medical Coder/Biller
- Medical Records Technician
- Health Information Medical Records Assistant
- Medical Insurance Coding Specialist

### Medical Bioscience

Medical Bioscience program areas will prepare students with the mathematics science and technical skills to apply biotechnology research and development to human health.

#### Careers for which this pathway prepares students include:

- Biomedical Lab Assistant
- Phlebotomist Lab Technician
- Medical Lab Technician
- Microbiology Generalist

### Therapeutic Services

The therapeutic services pathway includes occupational, physical, speech, language, respiratory, vision and other therapy occupations focused primarily on changing the health status of patients over time through direct care, treatment, counseling or health education information.

#### Careers for which this pathway prepares students include:

- Patient Care Assistant
- Licensed Practical Nurse (LPN)
- Medical Assistant
- Nurse Aide (including State Tested Nursing Assistant)
- Respiratory Technician
- Behavioral Health Aide







# Hospitality and Tourism

## CAREER OPTIONS

Explore a career-technical program in hospitality services, restaurant management, catering and banquet operations, food service, culinary arts or travel and adventure planning.

Ohio career-tech programs help students succeed in the Hospitality and Tourism career field. Below, see how a culinary pathway can prepare you for your future, your way:

<b>Food Prep Worker</b>	<b>\$26,320</b>	<b>4,520</b>	<b>High School Diploma</b>
<b>Head Chef</b>	<b>\$44,630</b>	<b>400</b>	<b>CTE/Certification + Experience</b>
<b>Event Management</b>	<b>\$58,400</b>	<b>1,150</b>	<b>Advanced Training</b>

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Hospitality and Tourism pathway.



## Extra Resources



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# Hospitality and Tourism

## PATHWAYS AND CAREERS



### Culinary and Foodservice Operations

Educational programs in culinary and foodservice operations prepare learners for careers in the art and science of food preparation and presentation as well as the skills needed for restaurant management.

#### Careers for which this pathway prepares students include:

- Banquet Setup Employee
- Caterer
- Executive Chef
- Food and Beverage Manager
- Line Cook
- Pastry and Specialty Chef
- Personal Chef
- Restaurant Manager
- Sous Chef

### Lodging and Travel Services

Educational programs in lodging and travel service prepare learners for careers in management, marketing and operations of lodging facilities, meetings and events and travel-related services.

#### Careers for which this pathway prepares students include:

- Convention Service Manager
- Director of Hospitality Sales
- Executive Housekeeper
- Front Desk Supervisor
- Front Office Manager
- Gaming and Casino Supervisor
- General Manager
- Meeting Planner
- Reservationist
- Rooms Division Manager
- Tourism Marketing Specialist
- Welcome Center Supervisor





# Human Services

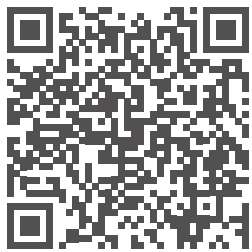
## CAREER OPTIONS

Explore a career-technical program in salon management, barbering, nail and skin care, cosmetology or other entry-level occupations based on student interests and strengths.

Ohio career-tech programs help students succeed in the Human Services career field. Below, see how a cosmetology pathway can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Boutique Services	\$24,970	3,500	High School Diploma
Cosmetologist	\$30,050	2,860	CTE Training/ State Board Licensure
Advanced Cosmetologist	\$75,990	-	Professional License + 2,100 Hours

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Human Services pathway.



### Extra Resources



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# Human Services

## PATHWAYS AND CAREERS

### **Cosmetology and Barbering**

Students in cosmetology and barbering programs will apply the skills and knowledge they learn to enhance clients' personal and professional images through physical and appearance services. Services will include but are not limited to hair design and styling, esthetics, makeup or nail and skin care.

#### **Careers for which this pathway prepares students include:**

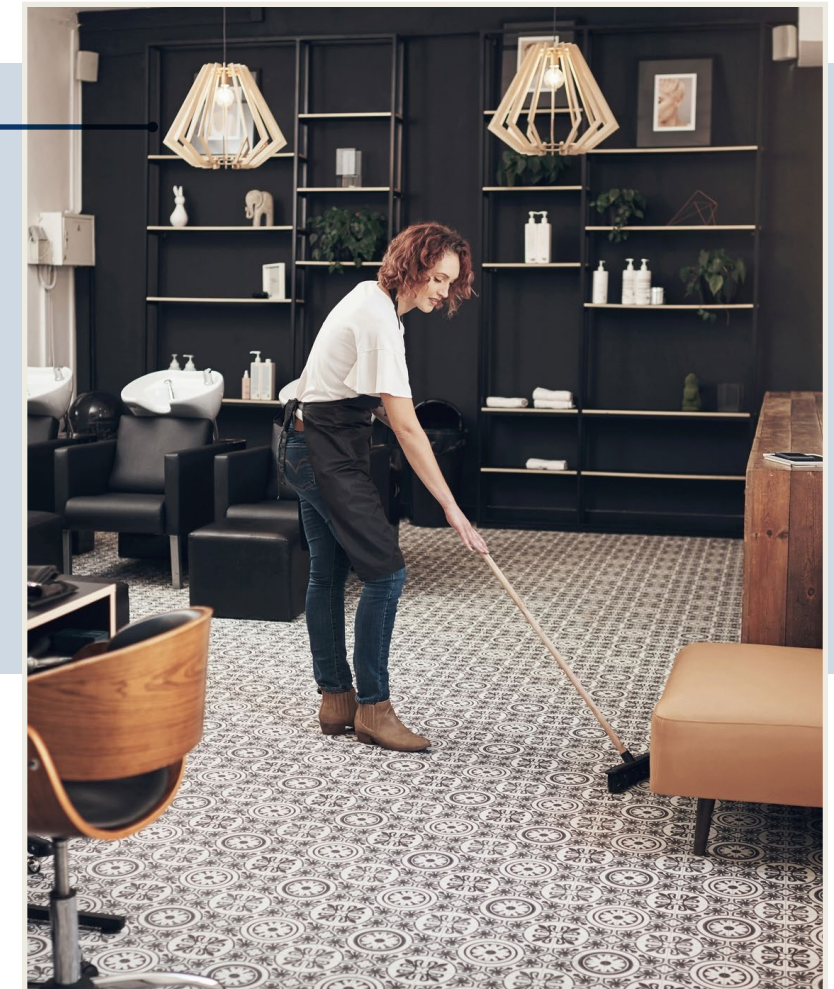
- Cosmetologist
- Boutique Services
- Manicurist
- Esthetician
- Hair Designer
- Barber

### **Job Training Coordination (JTC)**

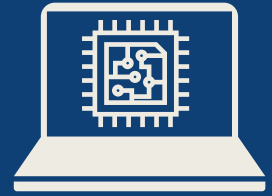
The Job Training Coordination program is a workforce development pathway designed to provide technical, on-the-job training to students with significant cognitive disabilities who require intensive, individualized supports to transition to competitive, integrated employment upon graduation. Community-based experiential learning, work-based learning and supplemental classroom instruction that supports the development and reinforcement of employment skills are all essential elements of the Job Training Coordination program.

#### **Careers for which this pathway prepares students include:**

- Any entry-level job across all career fields







# Information Technology

## CAREER OPTIONS

Explore a career-technical program in web design, animation, application development, cybersecurity, programming or networking.

Ohio career-tech programs help students succeed in the Information Technology career field. Below, see how a network systems pathway can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Computer User Support Specialist	\$48,830	1,700	CTE/Certification
Computer Network Support Specialist	\$63,230	630	CTE/Certification
Information Security Analyst	\$103,470	470	Advanced Degree


\*Data Sourced from OhioMeansJobs



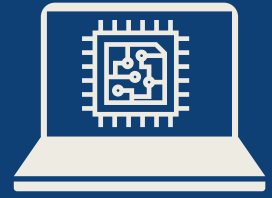
Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Information Technology pathway.



### Extra Resources


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# Information Technology

## PATHWAYS AND CAREERS

### Information Support and Services

Information Support and Services program areas will prepare students for careers dealing with information technology, such as operations, support and deployment/integration. Students will gain the necessary technical and academic skills to implement computer systems and software, provide technical assistance and manage information systems.

#### Careers for which this pathway prepares students include:

- Application Support Specialist
- Computer Support Specialist
- Help Desk Technician
- Product Support Engineer

### Interactive Media

Interactive Media program areas will prepare students for careers using multimedia technology to develop online products for business, training, entertainment, communications and marketing. Students will gain the necessary technical and academic skills to create, design and produce interactive media products and services.

#### Careers for which this pathway prepares students include:

- Desktop Publisher
- Multimedia Specialist
- Webmaster
- Developer

### Network Systems

Network Systems program areas will prepare students for careers dealing with network systems analysis, planning and implementation. Students will gain the necessary technical and academic skills to design, install, maintain and manage network systems.

#### Careers for which this pathway prepares students include:

- Network Technician
- Operations Technician
- Systems Integration Advisor
- Cybersecurity Specialist

### Programming and Software Development

Programming and Software Development program areas will prepare students for careers using technical and academic skills to design, develop, test, document, implement and maintain computer software and database systems.

#### Careers for which this pathway prepares students include:

- Application Developer
- Application Support Specialist
- Database Administrator
- Database Designer

### Cybersecurity

The Cybersecurity program area will prepare students for careers using technical and academic skills to design, develop, implement and test secure information technology systems.

#### Careers for which this pathway prepares students include:

- Cybersecurity Specialist
- Security Administrator
- Network Technician
- Network Administrator
- Security Consultant/Specialist
- Computer Technician







# Law and Public Safety

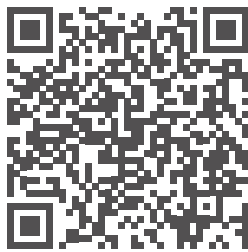
## CAREER OPTIONS

Explore a career-technical program in emergency telecommunications, public safety and protective services, homeland security, forensics, emergency management planning, emergency medical services, firefighting or criminal justice.

Ohio career-tech programs help students succeed in the Law and Public Safety career field. Below, see how a criminal justice pathway can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Security Guard	\$29,560	3,670	High School Diploma
Corrections Officer	\$50,980	1,080	CTE/Certification
Criminal Investigator	\$76,270	150	Advanced Degree

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Law and Public Safety pathway.



### Extra Resources



OhioMeansJobs.com

Let your interests and skills inspire you to reach your education goals. Find part-time jobs, apprenticeships and internships on OhioMeansJobs.com. [↗](#)





# Law and Public Safety

## PATHWAYS AND CAREERS

### Criminal Justice

Criminal Justice program areas will prepare students for careers in law enforcement, private security and corrections. Students will gain the necessary technical and academic skills to protect lives and property through crime prevention, detection and investigation.

#### Careers for which this pathway prepares students include:

- Criminal Justice/Law Enforcement Administration
- Criminology
- Crisis/Emergency/Disaster Management
- Forensic Psychology
- Forensic Science and Technology
- Homeland Security
- Corrections Officer
- Security and Loss Prevention Services
- Emergency Telecommunicator

### Fire and Emergency Medical Services

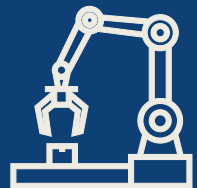
Fire program areas will prepare students for careers in the fire and medical service. Students will gain the necessary technical and academic skills to prevent, respond to and rescue people and property in a fire or medical emergency.

#### Careers for which this pathway prepares students include:

- Emergency Medical Technician
- Firefighter
- Hazard Material Operations







# Manufacturing

## CAREER OPTIONS

Explore a career-technical program in welding, machining, computer-integrated manufacturing, hydraulics and pneumatics or manufacturing operations.

Ohio career-tech programs help students succeed in the Manufacturing career field. Below see how manufacturing careers can prepare you for your future, your way:

Machine Setter	\$38,750	440	High School Diploma
Welder & Brazier	\$46,360	2,060	CTE/Certification
Industrial Engineer	\$87,120	1,150	Advanced Degree

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Manufacturing pathway.



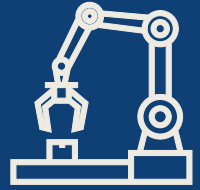
### Extra Resources



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# Manufacturing

## PATHWAYS AND CAREERS



### Manufacturing Operations

Operations program areas will provide students with the necessary technical and academic skills to manage and perform the processing of materials. Students gain experience working with advanced equipment, electronic components, computer-aided drafting (CAD), pneumatics, tools and dies and automation.

#### Careers for which this pathway prepares students include:

- Computer Numerical Control (CNC) Technician
- Machinist
- Precision Metal Working
- CAD Technician
- Robotics Maintenance
- Tool and Die Maker

### Metallurgy (Welding)

Students will learn the chemical, physical and atomic properties and structures of metals. They will apply these principles to the art and technology of joining metals together with heat, using special equipment to perform different welding processes such as oxy-fuel, cutting and brazing, gas metal arc and shielded metal arc welding. They will also learn to accurately fabricate a project, work from blueprints, repair broken parts, problem-solve a welding scenario and use math and measurement skills to set and lay out the parts used for the project.

#### Careers for which this pathway prepares students include:

- Construction Welder
- Pipeline Construction Welder
- Aerospace Welder
- Custom/Specialty Welder
- Welding Supplier
- Service Technician
- Welding Inspector
- Metallurgical Technician/Engineer
- Process Engineer
- Materials Engineer
- Quality Inspector
- Production Manager





# Marketing

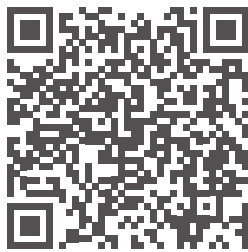
## CAREER OPTIONS

Explore a career-technical program in digital marketing and management, marketing communications, market research or entrepreneurship.

Ohio career-tech programs help students succeed in the Marketing career field. Below, see how a marketing pathway can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Retail Salesperson	\$28,980	18,040	High School Diploma
Sales Representative	\$65,070	5,870	CTE/Certification
Marketing Manager	\$130,680	620	Advanced Degree

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Marketing pathway.



### Extra Resources



OhioMeansJobs.com

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# Marketing

## PATHWAYS AND CAREERS

### Marketing

The Marketing program areas will prepare students for technical and professional-level careers in planning, managing and performing marketing activities such as communications, promotion, pricing, research, product and service management and professional selling to reach organizational objectives.

#### Careers for which this pathway prepares students include:

- Assistant Media Buyer
- Digital Marketer
- Events and Promotions Coordinator
- Marketing Specialist
- Merchandiser
- Promoter
- Public Relations Manager
- Research Assistant
- Sales Representative
- Social Media Manager
- Entrepreneur







# Transportation Systems

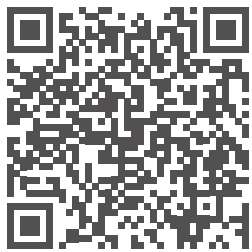
## CAREER OPTIONS

Explore a career-technical program in truck, auto, or aviation maintenance, collision repair or power sports and small engine technology.

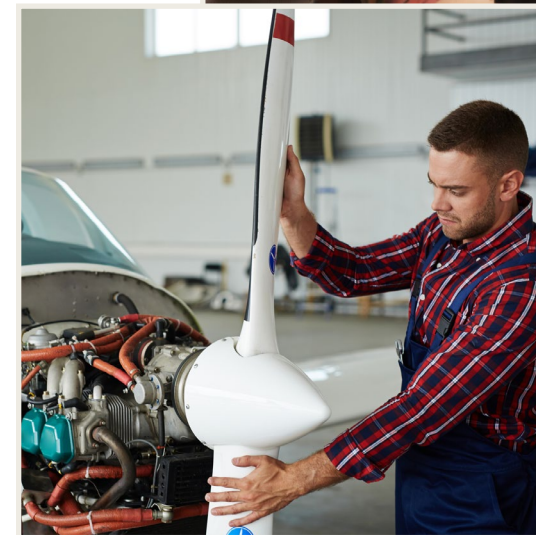
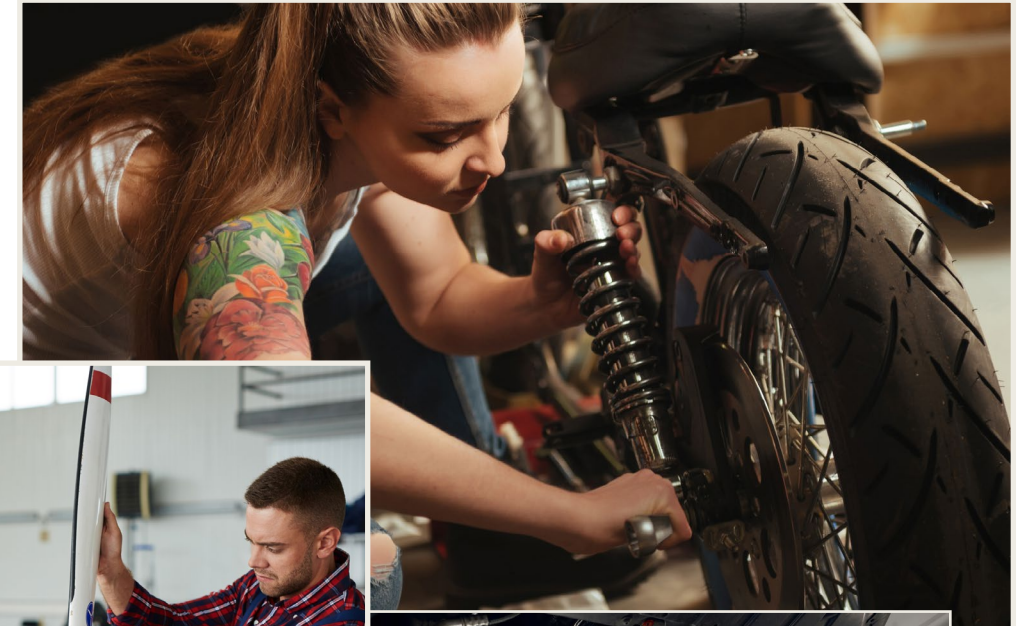
Ohio career-tech programs help students succeed in the Transportation Systems career field. Below, see how an automotive pathway can prepare you for your future, your way:

Occupation Title	Median Salary	Anticipated Annual Openings	Education and Training Requirements
Light Truck Driver	\$37,870	4,430	High School Diploma
Mobile Heavy Equipment Mechanic	\$56,940	440	CTE/Certification
Automotive Engineer	\$83,080	970	Advanced Degree

\*Data Sourced from OhioMeansJobs



Different careers need different amounts of preparation. Find out about the skills and education you need to be successful in the Transportation Systems pathway.



## Extra Resources



OhioMeansJobs.com

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# Transportation Systems

## PATHWAYS AND CAREERS

### Air Transportation

Air Transportation program areas will provide students with the necessary technical and academic skills to assist with airframes and power plants for the aviation industry.

#### Careers for which this pathway prepares students include:

- Aircraft Mechanic
- Avionics Technician
- Aircraft Service Technician
- Ground Operations Specialists
- Air Traffic Controllers
- Small Unmanned Aircraft Pilot

### Ground Transportation

Ground Transportation program areas will provide students with the necessary technical and academic skills to diagnose, repair, service and maintain all types of vehicles and small engines.

#### Careers for which this pathway prepares students include:

- Automotive Service Technician
- Mobile Heavy Equipment Mechanic
- Collision Repair Technician
- Motorcycle Technician
- Diesel/Truck Service Technicians
- Painter Technician
- Estimator
- Parts Manager
- Front End Technician
- Power Sports Technician
- Insurance Adjuster
- Service Writer
- Maintenance and Light Repair Technician
- Transmission Technician
- Warranty Clerk







# Additional Programs and Courses

## Career-Based Intervention

Career Based Intervention (CBI) programs are designed for students ages 12-21 in grades 7-12 who are identified as disadvantaged (either academically, economically or both) and students with disabilities who have barriers to achieving academic and career success. CBI helps students improve academic competency, develop professional skills and implement a career plan that will serve them on the path to graduation and beyond.

## Family and Consumer Sciences

Family and Consumer Sciences (FCS) is a set of courses that draws from a range of disciplines and contexts (education, business, social, economic, cultural, technological, geographical, political) to achieve optimal and sustainable living for individuals, families and communities.



02.

# RESOURCES

The Office of Career-Technical Education provides resources to equip Ohio's schools, students, parents and communities with the knowledge and tools that will help them skillfully navigate career-technical education.

## IMPORTANT LINKS



Department of  
Education &  
Workforce

Department of  
Higher Education

Governor's Office of  
Workforce Transformation

OhioMeansJobs



Department of  
Education &  
Workforce



# Student Supports

Career-technical education is for ALL students. Regardless of background, income, language or disability status, students can achieve success through Ohio's career-technical pathways and programs.

## Equitable Student Access

The Office of Career-Technical Education has a primary focus on improving access, enrollment, engagement and performance for all students participating in high-quality career-technical education programs.

## Innovative Teaching

Career-Technical Education programs and educators proactively introduce and integrate new teaching strategies and methods to better serve students. Whether it involves the creative use of technology, hands-on instruction, collaborating with peers or learning outside of the classroom space, career tech balances real-world applications with rigorous expectations.

## Special Education

Students receiving special education and related services participate and succeed in all career-technical pathways. In fact, participating in career-technical education is a research-based predictor of post school success for students with disabilities. The provision of a free, appropriate public education within the least restrictive environment applies in career tech. Ohio offers robust and extensive education to those with disabilities, not to just graduate from high school, but to prepare for work and life after school.

## Graduation Options

Ohio offers multiple paths for students in high school to earn their diploma and prepare them for life after graduation. The coursework and experiences provided as part of career-technical education can help students meet credit requirements, demonstrate competency and show readiness by earning diploma seals.

## Career Planning

Career-technical education plays a valuable role in helping students determine their best career fit. By participating in courses, experiential learning and career-technical student organizations, students learn their strengths and interests to help them plan more meaningful next steps.

## Individualized Instruction

Because of the unique delivery methods offered in career-technical education, many students receive one-on-one instruction and coaching from their instructors and mentors. Additionally, students have options to select practical learning experiences that will best enhance their skills.

## Credit Flexibility

Credit flexibility is a performance-focused approach that allows students to earn credit toward graduation through integrated coursework, flexible environments or learning opportunities outside of school. Every school and district in the state of Ohio has a plan to offer student-driven credit flexibility options.

## Transition Services

Beginning at age 14, students with disabilities should begin to actively prepare and plan for life after graduation. Career-technical education programs play a vital role in the transition process by teaching critical skills to prepare students for careers and for adulthood. The career-technical experience includes transition planning and supports to achieve competitive integrated employment.



# Resources

## Recruiting Special Populations into Career-Technical Education Toolkit [↗](#)

This toolkit was developed to assist educational agencies with creating and sustaining equitable supports for all students in the delivery of career-technical education across Ohio.

## Apprenticeship and Pre-Apprenticeship [↗](#)

These partnerships between schools and registered apprenticeship sponsors relate the knowledge and skills of work environments and provide on-the-job training. Students completing these programs work alongside industry professionals to prepare for entry into the workforce.

## Work-Based Learning [↗](#)

These opportunities allow students to work in their chosen industry with the support and evaluation of a business mentor and a representative from their school. In work-based learning, students must have a clear plan for how and what they will learn through the experience. Students may earn credit or record hours that could help to meet graduation requirements.

## Industry-Recognized Credentials [↗](#)

Possessing an industry-recognized credential not only helps a student prove competency and capability in a given field, but also demonstrates to the community and employers that the student is knowledgeable, properly trained and equipped to carry out his or her duties. For many students, earning an industry-recognized credential can be an important step toward qualifying for high school graduation.

## Career-Technical Assurance Guides [↗](#)

CTAGs award college credit for career-technical coursework taken in high school or at a career-technical institution. Students are eligible to earn college credit at an Ohio public college or university if the student has completed approved career-technical courses in high school or at an Ohio technical center.

## Industry-Recognized Credential Transfer Assurance Guides [↗](#)

ITAGs guarantee the awarding of college credit for anyone who holds one or more approved industry-recognized credentials, regardless of how and where the credentials were earned. If you are looking to earn a college degree that builds upon your prior learning or work experience, ITAGs are the perfect opportunity to earn credit for demonstrated skills.

## College Credit Plus [↗](#)

Ohio's College Credit Plus (CCP) can help students earn college and high school credits at the same time by taking college courses from community colleges or universities. The purpose of this program is to promote rigorous academic pursuits and to provide a wide variety of options to college-ready students. Taking a college course from a public college or university through College Credit Plus is free. That means no cost for tuition, books or fees if the student attends a public school in the state of Ohio.

## Map of Career-Technical Planning Districts [↗](#)

A Career-Technical Planning District is a collaboration across schools and local districts to deliver career-technical education. These districts oversee the quality and development of programs and promote the growth of career-technical education in their area.



# Career-technical Student Organizations – Building Leaders

Career-technical Student Organizations (CTSOs) are an integral part of every career-technical program. They allow students to learn while completing projects, working and volunteering in the community, competing in career-development events, networking with business leaders and developing and managing the local chapter’s activities. Students have the opportunity to develop leadership, communication and career skills and community awareness through real-world, hands-on experiences. But the best part - they will make friends that have shared interests and goals and form a professional network for the future.

There are nine student organizations recognized by the Ohio Department of Education. These nine organizations have one goal: to create well-rounded, skilled leaders for tomorrow’s workforce and communities.



Business Professionals of America (BPA) is focused on providing opportunities for careers in business and technology programs.



DECA is designed to promote leadership in students through education and competition in the areas of marketing, finance, hospitality and management.



Educators Rising is designed to develop future teachers and to increase teacher diversity and quality.



Family, Career and Community Leaders of America (FCCLA) emphasizes skills in Education and Training, Hospitality and Tourism, Human Services, Culinary Arts and Family and Consumer Sciences.



FFA is dedicated to preparing members for leadership and careers in the science, business and technology of agriculture.



Future Business Leaders of America (FBLA) inspires and prepares students to become community-minded business leaders in a global society through relevant career preparation and leadership experiences.



HOSA – Future Health Professionals actively promotes career opportunities in the health industry to enhance the delivery of quality health care to all people.



SkillsUSA is a versatile organization that prepares students for a variety of careers including Construction, Manufacturing and Engineering, Health, Culinary, Cosmetology, Transportation, Information Technology and Law and Public Safety.



The Technology Student Association (TSA) is a national student organization created to develop skills in science, technology, engineering, mathematics and business education.



# CONTACT



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Education &  
Workforce**

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