Course Planning With a Career In Mind

One of the keys to improving student achievement at Cuyahoga Falls High School is providing students with relevant contexts for studying and learning. The Career Clusters do exactly this by linking school-based learning with the knowledge and skills required for success in the workplace. Listed in this section is a framework comprised of 16 Career Clusters and related Career Pathways to help students of all ages explore different career options and better prepare for college and career.

Each Career Cluster represents a distinct grouping of occupations and industries based on the knowledge and skills they require. The 16 Career Clusters and related Career Pathways provide an important organizing tool for us to develop more effective programs of study (POS) and curriculum.

Listed after each Career Cluster and its respective Career Pathways are related elective courses that are offered here at CFHS. The list was compiled so that students may choose courses geared toward their chosen career field of interest.

The 16 Career Clusters

- Agriculture, Food & Natural Resources
- Architecture & Construction
- Arts, A/V Technology & Communications
- Business Management & Administration
- Education & Training
- Finance
- Government & Public Administration
- Health Science
- Hospitality & Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections & Security
- Manufacturing
- Marketing
- Science, Technology, Engineering & Mathematics
- Transportation, Distribution & Logistics
AGRICULTURE, FOOD & NATURAL RESOURCES

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.

Pathways
1. Food Products & Processing Systems
2. Plant Systems
3. Animal Systems
4. Power, Structural & Technical Systems
5. Natural Resources Systems
6. Environmental Service Systems
7. Agribusiness Systems

1. Food Products and Processing Systems
If you were to study and work in the Food Products and Processing Systems pathway, you would have several options. You might discover new food sources. You could also analyze food content and create new food products. Or, you could inspect processing areas to make sure food is safe to eat.

Occupations
- Agricultural Engineers
- Agricultural Inspectors
- Agricultural Products Graders and Sorters
- Bakers
- Food Processing Workers
- Food Scientists
- Meat Cutters

2. Plant Systems
In the occupations in the Plants Systems pathway, you would study vegetation. Your goal would be to help crop producers feed a growing population. At the same time, you would help them conserve natural resources and protect the environment. You might also develop ways to improve the food value of crops and the quality of seeds. Through research, you could develop plants that require fewer fertilizers, pesticides, and herbicides or that are resistant to drought.

Occupations
- Agricultural Engineers
- Agricultural Scientists
- Conservation Scientists
- Farm and Home Management Advisors
- Farmers and Farm Managers
- Precision Agriculture Technicians

3. Animal Systems
In the Animal Systems pathway, you would strive to find better ways to produce and process meat, eggs, and dairy products. You might study the genetics, nutrition, or development of animals. On the other hand, you might purchase livestock from farmers and ranchers or assist them with marketing or selling their animals. To assure that the products are safe to eat, you could inspect and grade meat. To assist farmers and ranchers, you could advise them on how to feed or house their animals to increase production.

Another option is to care for the animals. You might train, feed and water, groom, or exercise the animals. You may also clean, disinfect, and repair their cages, stalls, or barns.

Occupations
- Agricultural Engineers
- Agricultural Inspectors
- Agricultural Products Graders and Sorters
- Animal Breeders
- Animal Caretakers
- Animal Scientists
- Animal Trainers
- Commercial Fishers
- Farmers and Farm Managers
- Food Scientists
- Veterinarians
- Veterinary Assistants
- Zoologists

4. Power, Structural, and Technical Systems
In the Power, Structural, and Technical Systems pathway, you use engineering, mechanics, electronics, and power to improve agriculture. You might design buildings and equipment used on farms and ranches. You might also develop ways to conserve soil and water. Or your goal might be to improve how farm products are processed. Another option for you is to maintain and repair the machines and structures.
5. **Natural Resources Systems**
In the Natural Resources Systems pathway, you could perform a variety of tasks. Forests and rangelands supply wood products, livestock forage, minerals, and water. They also serve as sites for recreational activities and provide homes for wildlife. You would manage, develop, and help protect the forests and rangelands and other resources.

**Occupations**
- Agricultural Engineers
- Agricultural Scientists
- Conservation Scientists
- Farm Equipment Mechanics
- Trash Collectors
- Water Treatment Plant Operators

6. **Environmental Service Systems**
In the Environmental Service Systems pathway, you would act to protect the environment. You might focus on pollution control, recycling, waste disposal, or public health issues. Your work could involve doing studies to find threats to the ecosystem. Then you would figure out how to deal with the threats and to prevent future problems. You might design and operate wastewater systems. In other occupations in this pathway, you could collect, recycle, and remove hazardous materials.

**Occupations**
- Conservation Scientists
- Fish and Game Wardens
- Foresters
- Forestry Technicians
- Log Graders and Scalers
- Loggers
- Mining Machine Operators
- Park Naturalists
- Rock Splitters

7. **Agribusiness Systems**
In the Agribusiness Systems pathway, you would focus on products or services. You would actually grow food, fiber, or wood products. Or, you would assist farmers and ranchers by providing important services. This assistance might include granting the loans they need to operate. Other forms of assistance might include selling them the tools, equipment, or supplies they need to operate their farms or ranches. You might also assist them with doing their work or by selling their products to get the best prices.

**Occupations**
- Agricultural Worker Supervisors
- Animal Breeders
- Farm and Home Management Advisors
- Farm and Ranch Workers
- Farmers and Farm Managers
- Nursery Workers

**Related CFHS Electives**

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Architecture & Construction

Careers in designing, planning, managing, building and maintaining the built environment.

Pathways
1. Design/Pre-Construction
2. Construction
3. Maintenance/Operations

1. Design/Pre-Construction
In the Design/Pre-Construction pathway, you would create designs for the construction of cities, homes, and highways. You turn ideas into plans. Those plans would be used to guide construction workers as they build the actual structures.

Occupations
- Architects
- Cost Estimators
- Drafters
- Interior Designers
- Landscape Architects
- Surveying and Mapping Technicians
- Surveyors

2. Construction
In the Construction pathway, you would build cities, homes, and highways. You would put up or remodel buildings used for living and work or structures such as highways, streets, bridges, tunnels, and airports.

Occupations
- Boilermakers
- Bricklayers and Stonemasons
- Cabinetmakers
- Carpenters
- Cement Masons
- Commercial Divers
- Construction and Well Drillers
- Construction Helpers
- Construction Managers
- Drywall Finishers
- Drywall Installers
- Electrician Helpers
- Electricians
- Elevator Installers and Repairers
- Explosives Workers
- Fence Builders
- Floor Sanding Machine Operators
- General Construction Workers
- Glaziers
- Heating and Cooling System Mechanics
- Insulation Installers
- Landscapers and Groundskeepers
- Line Installers and Repairers
- Painters
- Paving Equipment Operators
- Pipelayers
- Plasterers
- Plumbers and Pipefitters
- Roof Bolters
- Roofers
- Sheet Metal Workers
- Structural Metal Workers
- Tile Setters
- Wallpaper Hangers

3. Maintenance/Operations
In the Maintenance/Operations pathway, you would take care of, repair, and restore cities, houses, and highways. You might repair and maintain factory equipment, highways and streets, schools and offices, or homes. In your work, you would detect problems and make recommendations for improvements. In some jobs, you would restore old structures to be like new.

Occupations
- Cabinetmakers
- Carpenters
- Drywall Finishers
- Drywall Installers
- Electrician Helpers
- Electricians
- Elevator Installers and Repairers
- Energy Auditors
- Floor and Carpet Layers
- Floor Sanding Machine Operators
- General Construction Workers
- Glaziers
- Hazardous Material Workers
- Heating and Cooling System Mechanics
- Highway Maintenance Workers
- Insulation Installers
- Janitors
- Landscapers and Groundskeepers
- Line Installers and Repairers
- Painters
- Paving Equipment Operators
- Pest Control Workers
- Plasterers
- Plumbers and Pipefitters
- Roofers
- Septic Tank Servicers and Sewer Pipe Cleaners
- Tile Setters
- Wallpaper Hangers
Related CFHS Electives

Art
Art History I & II
Art Foundations
3D Design I & II

Business & Technology
Computer Applications I & II
Leadership and Communications
Business and Management Foundations
Accounting I and II

Career & Technical Education
Forestry & Landscape Management
Collision Repair & Auto Refinishing
Computer-Aided Design & Manufacturing
Construction Technologies
Wood Product Technologies & Cabinetry

Industrial Technology
Woodworking I, II & III
Welding I, II & III
Drafting
Architectural Drawing
Home Maintenance
Foundation of Technology

Math & Computer Science
Discrete Math
Probability & Statistics
Enriched Pre-Calculus
Pre-Calculus
Trigonometry
AP Calculus AB

Science
CP Chemistry
Conceptual Physics
Enriched CP Chemistry
Enriched Physics
AP Chemistry
AP Physics
**ARTS, A/V TECHNOLOGY & COMMUNICATIONS**

Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.

**Pathways**

1. **A/V Technology & Film**
2. **Printing Technology**
3. **Visual Arts**
4. **Performing Arts**
5. **Journalism & Broadcasting**
6. **Telecommunications**

1. **Audio and Video Technology and Film**
   In the Audio and Video Technology and Film pathway, you work with the equipment used in producing sounds and images. You would make sure the equipment is available and working. You might work for hotels, convention centers, schools, movie theatres, and stadiums. Another option is to work for companies that rent or sell sound and video equipment.

   **Occupations**
   - Camera and Photographic Equipment Repairers
   - Movie Projectionists
   - Musical Instrument Repairers and Tuners
   - Photograph Processing Workers
   - Sound Engineering Technicians

2. **Journalism and Broadcasting**
   In the Journalism and Broadcasting pathway, you would make sure that radio and television programs and movies reach the public. You could prepare the content and make broadcasts. During the show, you could record or transmit the program.

   In addition, you could be involved with the publication of newspapers and magazines. As a writer or photographer, you would produce the stories or articles. As an editor, you would plan the content and assign the work.

   **Occupations**
   - Announcers
   - Broadcast Technicians
   - Camera Operators
   - Editors
   - Film and Video Editors
   - News Reporters
   - Photographers
   - Producers and Directors
   - Technical Writers
   - Writers

3. **Performing Arts**
   As a worker in the Performing Arts pathway, you would be responsible for putting on plays and concerts. You could coordinate all the activities associated with putting on a concert or play. Or you might represent the actors or musicians to help them find jobs. Another option is to put on live entertainment.

   **Occupations**
   - Actors
   - Agents and Business Managers
   - Choreographers
   - Dancers
   - Music Composers, Directors, and Arrangers
   - Musicians
   - Producers and Directors
   - Singers
   - Ushers and Ticket Takers

4. **Printing Technology**
   The Printing Technology process has three stages. During the first stage, you would prepare material for printing presses. You would transform text and pictures into digital images or finished pages. Then you would make printing plates of the pages. During the next stage, you would prepare, operate, and maintain the printing presses in a pressroom. You would use computers to perform the tasks electronically. During the third stage, you would join the printed sheets into a finished product.

   **Occupations**
   - Bookbinders and Bindery Workers
   - Page Layout Workers
   - Prepress Workers
   - Printing Press Operators
   - Proofreaders
5. Telecommunications
You would focus on the contact between computer and communications equipment in the Telecommunications pathway. Telecommunications equipment is computerized and can communicate a variety of information, including data, graphics, and video. You would set up, operate, and maintain this complicated equipment.

**Occupations**
- Communications Equipment Mechanics
- Telephone Operators

6. Visual Arts
Visual artists create art to communicate ideas, thoughts, or feelings. You would use a variety of methods such as painting, sculpting, and illustrating. You would create art to satisfy your need for self-expression. Or you might use your artistic skills at corporations; retail stores; and advertising, design, and publishing firms.

**Occupations**
- Animators and Multimedia Artists
- Archivists
- Art Directors
- Costume and Wardrobe Specialists
- Curators
- Fashion Designers
- Fine Artists
- Graphic Designers
- Industrial Designers
- Museum Technicians and Conservators
- Potters
- Set and Exhibit Designers

**Related CFHS Electives**

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<td>AP Studio Art: 3D</td>
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<td>AP Studio Art: Drawing</td>
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<td>Drama I, II, &amp; III</td>
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<td>AP English Literature &amp; Composition</td>
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BUSINESS MANAGEMENT & ADMINISTRATION

Careers in planning, organizing, directing and evaluating business functions essential to efficient and productive business operations.

Pathways
1. General Management
2. Business Information Management
3. Human Resources Management
4. Operations Management
5. Administrative Support

1. General Management
Employees working in management do a variety of activities to keep a business in operation. The size of the company affects the work you might do as the manager. In a large company, you might supervise other managers. In a small company, you might directly supervise all the employees. Or you might direct the work in one area of a business such as marketing or finance.

As a manager, there could be many tasks to your job. You might build relationships with people outside the company or department and with employees. Your might negotiate with or hire employees. Another part of the job might be to assure there are equipment, supplies, and money to operate the business.

Occupations
- Administrative Services Managers
- Advertising Managers
- Business Executives
- General and Operations Managers
- Human Resources Managers
- Management Analysts
- Meeting and Convention Planners
- Property and Real Estate Managers
- Regulatory Affairs Managers
- Supply Chain Managers

2. Business Information Management
Employees in the Business Information Management pathway help collect, analyze, organize, and share information.

Occupations
- Billing Clerks
- Bookkeeping and Accounting Clerks

3. Human Resources Management
In the Human Resources Management pathway, you would be responsible for finding and keeping employees. To do this, you would interview and hire the most qualified applicant. In addition, you would have to be familiar with labor laws and wages and benefits. Your duties might include providing training and doing things to keep employees happy.

Occupations
- Employee Training Specialists
- Employment Interviewers
- Employment Recruiters
- Human Resources Assistants
- Human Resources Managers
- Interviewing Clerks
- Payroll and Timekeeping Clerks

4. Operations Management
In the Operations Management pathway, you help organizations get the resources they need. You plan, organize, coordinate, and schedule the delivery of resources.

Occupations
- Job Benefits and Analysis Specialists
- Management Analysts
- Operations Research Analysts
- Statistical Clerks
- Statisticians

5. Administrative Support
If you were to work in the Administrative Support pathway, you would manage the activities of an office. You would use computers to perform clerical activities. One of your goals would be to ensure that information is collected and shared with staff and clients.
Occupations
- Computer Operators
- Copy Machine Operators
- Couriers and Messengers
- Court Reporters
- Data Entry Keyers
- Executive Secretaries
- File Clerks
- General Office Clerks
- Mail Clerks
- Office Managers
- Order Clerks
- Receptionists
- Regulatory Affairs Specialists
- Secretaries
- Shipping and Receiving Clerks
- Stock Clerks
- Typists and Word Processors

Related CFHS Electives
Business & Technology
- Accounting I and II
- Leadership and Communications
- Beginner's Quickbooks
- Advanced Quickbooks
- Business Blog
- Public Speaking

Computer Applications I & II

Career & Technical Education
- Business, Finance and Entrepreneurship Academy

International Business & Marketing Institute

Foreign Language
- Spanish I, II, III & IV

Math & Computer Science
- Discrete Math
- Probability & Statistics
- Computer Programming

Social Studies
- General Psychology
- Sociology
EDUCATION & TRAINING

Planning, managing and providing education and training services, and related learning support services such as administration, teaching/training, administrative support, and professional support services.

Pathways

1. Administration & Administrative Support
2. Professional Support Services
3. Teaching/Training

1. Teaching and Training
As an educator in the Teaching and Training pathway, you would teach others about a subject you love. You could inspire young learners. This would require you to have the ability to communicate with and motivate learners. To do this, you would have to understand their diverse needs and individual differences. To help each learner achieve, you would use a variety of teaching methods and tools.

Occupations
- Adult and Vocational Education Instructors
- Coaches and Scouts
- Elementary School Teachers
- Fitness Trainers and Aerobics Instructors
- High School Teachers
- Middle School Teachers
- Preschool and Kindergarten Teachers
- Public Health Educators
- Special Education Teachers
- Teacher Aides
- University and College Teachers

2. Professional Support Services
The Professional Support Services pathway includes occupations that are important for the success of schools and learners. You would assist learners with physical, personal, and family needs. These needs might be barriers to success in school. Or you might guide learners as they develop educational and career goals.

Occupations
- Audio-Visual Specialists
- Librarians
- Speech Pathologists and Audiologist

3. Administration and Administrative Support
For a school to operate smoothly, someone must be in charge. In the Administration and Administrative Support pathway, you would manage all the activities in a school. You might also run preschools, daycare centers, colleges, and universities. On the other hand, you might support the work of teachers and administrators.

Occupations
- Assistants
- College and University Administrators
- Education Administrators
- Instructional Coordinators
- Library Assistants and Bookmobile Drivers
- Library Technical Assistants
Related CFHS Electives

Art
Art History I & II
Art Foundations

Business & Technology
Computer Applications I & II
Leadership and Communications

Career & Technical Education
Preschool/Daycare/Educational Aide
Teaching Professions

English/Language Arts
Public Speaking
AP English Language & Composition
AP English Literature & Composition

Family & Consumer Science
Child Development
Family Relations

Foreign Language
Spanish I, II, III & IV
French I, II, III & IV

Health & PE
Life Guarding
Lifetime Fitness I & II
Lifetime Sports I & II
Sports Medicine

Math & Computer Science
Computer Programming

Music
Band
Freshman Womens' Chorus
Mens' Chorus
Advanced Womens' Chorus
Acappella Choir

Social Studies
General Psychology
Sociology
Everyday Law
FINANCE

Planning, services for financial and investment planning, banking, insurance, and business financial management.

Pathways
1. Securities & Investments
   In the Securities and Investments pathway, you would help businesses and individuals make decisions about their investments.

   Occupations
   - Brokerage Clerks
   - Securities Salespeople
   - Tax Preparers

2. Business and Finance
   In the Business and Finance pathway, you would use general accounting systems to prepare financial reports. You would use information to help businesses make financial decisions.

   Occupations
   - Bill and Account Collectors
   - Economists
   - Financial Analysts
   - Financial Examiners
   - Financial Managers

3. Accounting
   In the Accounting pathway, you would record and share information about a business's finances. You would use accounting information to make decisions. Accounting includes such activities as bookkeeping and interpretation of accounts.

   Occupations
   - Accountants and Auditors
   - Actuaries
   - Budget Analysts

4. Banking Services
   Employees working in the Banking Services pathway work with individuals and businesses. You would provide loans, credit, and payment services.

   Occupations
   - Appraisers and Assessors
   - Bank Tellers
   - Bill and Account Collectors
   - Credit Analysts
   - Credit Checkers and Authorizers
   - Loan Clerks
   - Loan Officers
   - New Accounts Clerks
   - Title Examiners and Searchers

5. Insurance
   Employees in the Insurance pathway provide protection to individuals and businesses. You would sell policies to guard against financial losses resulting from a variety of situations.

   Occupations
   - Insurance Adjusters and Examiners
   - Insurance Agents
   - Insurance Policy and Claims Clerks
   - Insurance Underwriters
Related CFHS Electives

**Art**
- Art History I & II
- Art Foundations

**Business & Technology**
- Business and Management Foundations
- Computer Applications I & II
- Accounting I and II
- Leadership and Communications
- Business Blog
- Beginner’s Quickbooks
- Advanced Quickbooks

**Career & Technical Education**
- Business, Finance and Entrepreneurship Academy
- International Business & Marketing Institute

**English/Language Arts**
- Public Speaking

**Foreign Language**
- Spanish I, II, III & IV

**Math & Computer Science**
- Discrete Math
- Probability & Statistics
- Computer Programming

**Social Studies**
- General Psychology
- Sociology
- Macroeconomics
- Microeconomics
Government & Public Administration

Planning and executing government functions at the local, state and federal levels, including governance, national security, foreign service, planning, revenue and taxation, and regulations.

Pathways
1. Governance
   In the Governance pathway, you would be an elected or appointed government official. You would be in charge of making and carrying out public policy. This pathway includes the President and members of Congress, governors, and state legislators, and local elected officials. It also includes the staff members who support them. You would work with the individuals and groups you speak for in the government.

2. National Security
   The military services protect the country and its citizens. In the National Security pathway, you might run a hospital, operate a tank, program computers, or repair a helicopter. The military provides you with training and experience. You could serve in the active Army, Navy, Marine Corps, Air Force, and Coast Guard, their Reserve components, and the Air and Army National Guard.

3. Foreign Service
   People in the Foreign Service pathway work in embassies, consulates, and diplomatic missions and in Washington, D.C. In your job, you may manage the day-to-day operations of an embassy. Or you might analyze political and economic events and give advice to Congress or the President. Or you might help American citizens abroad.

   Occupations
   - Interpreters and Translators

4. Planning
   People who work in the Planning pathway develop plans for use of land. You would prepare for the growth of communities. In addition, you would help local officials make decisions about the best use of land and resources.

   Occupations
   - Urban and Regional Planners

5. Revenue and Taxation
   People who work in the Revenue and Taxation pathway collect taxes. The taxes provide the money the national, state, and local governments need to operate.

   Occupations
   - Tax Examiners

6. Regulation
   People who work in the Regulation pathway protect our health, safety, and environment. You would make sure that our money, highways, airplanes, and power plants are safe. You would do inspections, audits, or investigations. Your goal is to enforce government rules and regulations.

   Occupations
   - Compliance Officers and Inspectors
   - Construction and Building Inspectors
   - License Clerk
   - Meter Readers
   - Transportation Inspectors
7. **Management and Administration**

In Public Management and Administration, you would do the work of the government. You would implement the plans and programs developed by the elected officials.

**Occupations**
- Government Benefits Interviewers
- Mail Carriers
- Postal Clerks
- Postmasters and Mail Superintendents
- Social and Community Service Managers
- Social Science Research Assistants
- Urban and Regional Planners

**Related CFHS Electives**

*Business & Technology*
- Computer Applications I & II
- Leadership and Communications
- Accounting I and II

*Career & Technical Education*
- Marketing Management
- Business, Finance and Entrepreneurship Academy
- International Business & Marketing Institute

*English/Language Arts*
- Public Speaking
- AP English Language & Composition
- AP English Literature & Composition

*Foreign Language*
- Spanish I, II, III & IV
- French I, II, III & IV

*Math & Computer Science*
- Computer Programming

*Social Studies*
- General Psychology
- Sociology
- Everyday Law
- AP US History
- AP Government & Politics: US
- AP World History
HEALTH SCIENCE

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

Pathways
1. Therapeutic Services
2. Diagnostic Services
3. Health Informatics
4. Support Services
5. Biotechnology Research & Development

1. Therapeutic Services
In the Therapeutic Services pathway, you work directly with patients to improve their health. The contact with the patient may be limited to a visit or to contact over many months. You may provide direct care and treatment for patients. You may also give information and counseling so patients can care for themselves.

Occupations
- Acupuncturists
- Anesthesiologists
- Athletic Trainers
- Chiropractors
- Dental Assistants
- Dental Hygienists
- Dental Laboratory Technicians
- Dentists
- Dietetic Technicians
- Dietitians
- Emergency Medical Technicians
- Family and General Practitioners
- Home Health Aides
- Internists
- Licensed Practical Nurses
- Massage Therapists
- Medical Assistants
- Naturopathic Physicians
- Nurse Anesthetists
- Nurse Practitioners
- Nursing Assistants
- Obstetricians and Gynecologists
- Occupational Therapist Assistants
- Occupational Therapists
- Optometrists
- Orthotic and Prosthetic Specialists
- Pediatricians
- Personal and Home Care Aides
- Pharmacists
- Pharmacy Technicians
- Physical Therapist Aides
- Physical Therapist Assistants
- Physical Therapists
- Physician Assistants
- Podiatrists
- Psychiatric Aides
- Psychiatric Technicians
- Psychiatrists
- Recreational Therapists
- Registered Nurses
- Respiratory Therapists
- Surgeons
- Surgical Technologists
- Veterinary Technologists and Technicians

2. Diagnostics Services
In the Diagnostics Services pathway, you would conduct tests and do evaluations. The goal is to assist with detecting and identifying diseases and injuries. Once the diagnosis is made, the test results would be used to set up a treatment plan.

Occupations
- Cardiovascular Technologists
- Medical Laboratory Technicians
- Medical Laboratory Technologists
- Medical Sonographers
- Nuclear Medicine Technologists
- Radiation Therapists
- Radiologic Technologists

3. Health Informatics
You would be responsible for compiling patient information and records in the Health Informatics pathway. You might also use the records to create bills for services. Included in this pathway are administrators who plan and direct the delivery of health care. You may manage hospitals, nursing homes, clinics, or departments.

Occupations
- Health Information Technicians
- Health Services Administrators
- Medical Assistants
- Medical Transcriptionists
- Pharmacy Aides
4. Support Services
Employees in the Support Services pathway provide assistance so that therapeutic services workers can do their job. You might make sure that medical machines operate. Or you might make sure that medical offices operate smoothly. Or you might be sure that patients and employees get meals that are healthy and meet diet guidelines.

Occupations
- Dietetic Technicians
- Medical Equipment Repairers
- Medical Appliance Technicians
- Medical Secretaries
- Medical Equipment Preparers

Biotechnology Research and Development
In the Biotechnology Research and Development pathway, you would be a scientist who works in a laboratory. Through your research, you would try to discover new treatments for diseases or injuries. Or you may work to invent medical devices to help patients live fuller lives. The inventions you work on may also lead to more accurate test results.

Occupations
- Medical Scientists

Related CFHS Electives

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HOSPITALITY & TOURISM

Hospitality & Tourism encompasses the management, marketing and operations of restaurants and other food services, lodging, attractions, recreation events and travel related services.

Paths
1. Restaurants & Food/Beverage Services
2. Lodging
3. Travel & Tourism
4. Recreation, Amusements & Attractions

1. Restaurants and Food and Beverage Services
In the Restaurants and Food and Beverage Services pathway, you would make sure that customers received the food and drinks they ordered. You might prepare the food at a large restaurant or a fast-food business. You could take orders and deliver the food. Or you could clean up after the customer leaves.

Occupations
- Bartenders
- Buspersons
- Chefs and Dinner Cooks
- Counter Attendants
- Fast Food Cooks
- Food Preparation Workers
- Food Service Worker Supervisors
- Kitchen Helpers
- Restaurant Hosts
- Restaurant Managers
- Short Order Cooks
- Waiters and Waitresses

2. Lodging
Employees in the Lodging pathway take care of guests who stay at hotels or motels. You might work directly with guests. Or you might provide the services that make their stay at the hotel pleasant.

Occupations
- Baggage Porters and Bellhops
- Concierges
- Hotel and Motel Managers
- Hotel Desk Clerks
- Janitor and Housekeeper Supervisors
- Maids and Housekeepers

3. Travel and Tourism
Employees in the Travel and Tourism pathway make sure travelers have a good experience on trips. You might help a traveler plan and arrange a trip. You might write guidebooks. Or you might plan and present educational information about a specific location or area.

Occupations
- Recreation Guides
- Reservation and Ticket Agents
- Tour Guides
- Travel Agents

4. Recreation, Amusement, and Attractions
In the Recreation, Amusement, and Attractions pathway, you might find exciting and diverse work situations. The work is often demanding but usually not boring. You will need good customer service skills. Each of the business operations in this area is unique and has different requirements for employees.

Occupations
- Casino Gaming Workers
- Professional Athletes
- Recreation Attendants
- Recreation Guides
- Recreation Workers
- Umpires and Referees
Related CFHS Electives

Art
Art History I & II
Art Foundations

Business & Technology
Business and Management Foundations
Computer Applications I & II
Accounting I and II
Leadership and Communications
Business Blog
Beginner’s Quickbooks
Advanced Quickbooks

Career & Technical Education
Culinary Arts and Catering
Marketing Management

Family & Consumer Sciences
Healthy and Safe Food: Creative Cooking
Healthy Living: Food & Fitness

Foreign Language
Spanish I, II, III & IV
French I, II, III & IV

Health & Physical Education
Life Guarding
Lifetime Fitness I & II
Lifetime Sports I & II
Industrial Technology

Math & Computer Science
Computer Programming

Social Studies
General Psychology
Sociology
Human Services

Preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care, and consumer services.

Pathways

1. Early Childhood Development & Services
2. Counseling & Mental Health Services
3. Family & Community Services
4. Personal Care Services
5. Consumer Services

1. Early Childhood Development and Services
In the Early Childhood Development and Services pathway, you would care for and teach children. You would provide services in childcare centers, preschools, public schools, and private homes.

Occupations
• Child Care Workers

2. Counseling and Mental Health Services
In the Counseling and Mental Health Services pathway, you would assist people with their problems. The problems may be related to personal, family, educational, or career issues. You provide mental health care in hospitals, clinics, schools, or private offices.

Occupations
• Addictions Counselors
• Genetic Counselors
• Marriage and Family Therapists
• Mental Health Counselors
• Psychologists
• Rehabilitation Counselor

3. Family and Community Services
Employees in the Family and Community Services pathway help individuals cope with daily living. You may counsel troubled individuals. Or you may help people get jobs by providing them with needed training. You might care for people who are elderly or have disabilities.

Occupations
• Clergy
• Residential Counselors

4. Personal Care Services
In the Personal Care Services pathway, you could assist individuals with their personal appearance. This might include cutting, coloring, and styling hair. Or you might give manicures, pedicures, and scalp and facial treatments. Also, within personal care services, you might make funeral arrangements for grieving families.

Occupations
• Barbers
• Embalmers
• Funeral Attendants
• Funeral Directors
• Hairstylists and Cosmetologists
• Laundry and Dry Cleaning Workers
• Manicurists
• Professional Makeup Artists
• Skin Care Specialists

5. Consumer Services
People with careers in the Consumer Services pathway help people make decisions related to finance, insurance, real estate, and consumer goods.

Occupations
• Customer Service Representatives
• Financial Counselors
Related CFHS Electives

**Business & Technology**
- Computer Applications I & II
- Leadership and Communications
- Accounting I and II
- Business and Management Foundations

**Career & Technical Education**
- Preschool/Daycare/Educational Aide
- Cosmetology

**English/Language Arts**
- Public Speaking

**Family & Consumer Science**
- Child Development
- Family Relations
- Healthy Living: Food & Fitness
- Healthy and Safe Food: Creative Cooking

**Foreign Language**
- Spanish I, II, III & IV
- French I, II, III & IV

**Health & PE**
- Life Guarding
- Lifetime Fitness I & II
- Lifetime Sports I & II
- Sports Medicine

**Math & Computer Science**
- Computer Programming

**Social Studies**
- General Psychology
- Sociology
- Everyday Law
- AP US History
- AP Government & Politics: US
- AP World History
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.

Pathways

1. Network Systems
   The work done by the employees in the Network Systems pathway is critical to the success of almost every company. You would be involved in designing, installing, and maintaining network systems. These systems allow workers to share information and projects. For example, in a medical facility, a network system would allow several doctors to view a patient's x-rays at the same time. They then could work together to determine the problem and best treatment.

   Occupations
   - Computer and Information Systems Managers
   - Computer Engineers
   - Computer Security Specialists
   - Computer Systems Administrators
   - Data Communications Analysts

2. Information Support and Services
   In the Information Support and Services pathway, you would set up computers, install the software, and make sure that everything is working. If there is a problem, you would find the best solution and test it. You may also be expected to teach other employees how to use the software. In some businesses, you may have to make adaptations in the software to meet specific company needs. Or you may integrate software programs or databases.

   Occupations
   - Computer Support Specialists
   - Database Administrators

3. Programming and Software Development
   In the Programming and Software Development pathway, you would design and test new software programs. You would be developing tomorrow's products for businesses and individuals. You could be employed by large software companies or small businesses that design programs for special groups such as medical offices. To work in this area, you have to know about operating systems and programming languages.

   Occupations
   - Computer Engineers
   - Computer Programmers

4. Web and Digital Communications
   People in the Web and Digital Communications pathway create, design, and produce interactive multimedia products.

   Occupations
   - Web Developers

Related CFHS Electives

Business & Technology
- Business and Management Foundations
- Computer Applications I & II
- Accounting I and II
- Leadership and Communications
- Web Page Design I

Career & Technical Education
- A+ Hardware/Microsoft Academy w/Networking

Math & Computer Science
- Computer Programming
- Discrete Math
- Enriched Computer Programming
- AP Computer Science A
Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.

Pathways

1. **Correction Services**
   Workers in the Correction Services pathway are responsible for watching people who have been arrested or who have been convicted of a crime. Your primary mission would be to protect the public. In addition, you might treat or educate the offenders. Or you might work to help people leave corrections and return to a life in the public.

   **Occupations**
   - Corrections Officers
   - Probation Officers

2. **Emergency and Fire Management Services**
   Every year, fires and other emergencies take lives and destroy property. Firefighters and emergency services workers help protect the public against these dangers. You might be the first emergency personnel at the scene of a traffic accident or medical emergency. In the Emergency and Fire Management Services pathway, you may be called upon to put out a fire, treat injuries, or perform other vital functions.

   **Occupations**
   - Ambulance Drivers
   - Emergency Management Specialists
   - Fire Fighters
   - Fire Inspectors
   - Fire Investigators

3. **Security and Protective Services**
   Employees in the Security and Protective Services pathway often work in public buildings, factories, warehouses, government buildings, and military bases. You might protect products, computers and machines, laboratories, or other employees. You check people and vehicles and walk through hallways, rooms, and buildings. Or you may watch camera monitors.

   **Occupations**
   - Security Guards
   - Transportation Security Agents

4. **Law Enforcement Services**
   People depend on police officers and detectives to protect their lives and property. In the Law Enforcement Services pathway, you might have duties that range from controlling traffic to investigating crimes. You would maintain order; enforce laws; issue traffic tickets; and investigate accidents. In addition, you would present evidence in court; serve legal documents for the court system; and arrest and process offenders.

   **Occupations**
   - Animal Control Workers
   - Bailiffs
   - Coroners
   - Crossing Guards
   - Detectives and Investigators
   - Forensic Science Technicians
   - Life Guards and Ski Patrollers
   - Parking Enforcement Officers
   - Police and Detective Supervisors
   - Police Patrol Officers
   - Private Detectives and Investigators
   - Sheriff

5. **Legal Services**
   The legal system affects nearly every aspect of our lives, from buying a home to crossing the street. For this reason, you would hold positions of great responsibility and are obligated to follow a strict code of ethics.

   **Occupations**
   - Arbitrators and Mediators
   - Court Clerks
   - Judges and Hearing Officers
   - Law Clerks
   - Lawyers
   - Legal Secretaries
   - Paralegals
# Related CFHS Electives

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Manufacturing

Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

Pathways
1. Production
2. Manufacturing Production Process Development
3. Maintenance, Installation & Repair
4. Quality Assurance
5. Logistics & Inventory Control
6. Health, Safety & Environmental Assurance

1. Production
In the Production pathway, you might work for large companies or small shops. You would create the parts needed to make products sold to consumers. Or, you would assemble the parts into products.

Occupations
- Airplane Assemblers
- Blue-Collar Worker Supervisors
- Chemical Equipment Operators
- Chemical Plant Operators
- Clothes Pressers
- Furniture Finishers
- Gas and Oil Drillers
- Gas and Oil Plant Operators
- Geothermal Technicians
- Glass Blowers
- Jewelers
- Machinists
- Manufacturing Production Technicians
- Metal and Plastic Processing Workers
- Numerical Control Machine Operators
- Packaging and Filling Machine Operators
- Painting and Coating Machine Operators
- Precision Assemblers
- Production Helpers
- Pump Operators
- Sawing Machine Operators
- Semiconductor Processing Operators
- Sewing Machine Operators
- Shoe and Leather Workers
- Tailors
- Textile Machine Operators
- Tire Building Machine Operators
- Tool and Die Makers
- Tool Grinders
- Upholsterers
- Vehicle Painters
- Welders and Solderers
- Welding and Soldering Machine Operators
- Woodworking Machine Operators

2. Manufacturing Production Process Development
In the Manufacturing Production Process Development pathway, you would be involved in design and planning. You might design new products. Then you would decide and plan how the product is going to be made. You would work with production workers to set up machines to turn out the new manufactured goods.

Occupations
- Chemical Engineers
- Numerical Control Tool Programmers
- Geothermal Production Managers
- Power Plant Operators
- Industrial Production Managers
- Stationary Engineers

3. Maintenance, Installation, and Repair
Once products are sold and delivered to customers, workers in Maintenance, Installation, and Repair take over. You might install the product in a home or business. If there were problems with the item, you would be called upon to make repairs. Another option would be to make sure that the product is always working properly.

Occupations
- Appliance Installers and Repairers
- Automotive Electronics Installers
- Building Maintenance Workers
- Coin and Vending Machine Repairers
- Computer, ATM, and Office Machine Repairers
- Electric Motor Repairers
- Home Electronics Repairers
- Industrial Electronics Repairers
- Industrial Machinery Mechanics
- Lens Grinders and Polishers
- Locksmiths
- Mechanic and Repairer Helpers
- Millwrights
- Roustabouts
- Shoe and Leather Workers
- Small Engine Mechanics
- Stationary Engineers
- Tailors
- Upholsterers
- Watch Repairers
- Welders and Solderers
4. **Quality Assurance**
The production process may have many steps and products can have many parts. As a result, the work of employees in the Quality Assurance pathway is very important. You would make sure that manufactured goods meet the design standards and work properly and safely. If there are problems in production, you might be asked to find the cause and propose a solution.

**Occupations**
- Quality Control Inspectors

5. **Logistics and Inventory Control**
For manufacturing to go smoothly, workers need the materials to make the products. If they have to wait, the company loses money. In the Logistics and Inventory Control pathway, you get materials to the production workers. You might order the items or check them in the company warehouse when they are delivered. Or, you might deliver the materials to the assembly area. In addition, you could pack and ship the finished products.

**Occupations**
- Crane and Tower Operators
- Operating Engineers and Construction Equipment Operators
- Forklift Operators
- Packers and Packagers
- Hoist and Winch Operators
- Production and Planning Clerks
- Material Moving Machine Operators

6. **Health, Safety, and Environmental Assurance**
People in the Health, Safety, and Environmental Assurance pathway help keep workers safe on the job. They make sure equipment is being used safely. They also make sure businesses are free of hazards and set up programs to keep workers safe.

**Occupations**
- Occupational Health and Safety Specialists
- Safety Engineers

**Related CFHS Electives**
- **Business & Technology**
  - Computer Applications I & II
  - Leadership and Communications
  - Business and Management Foundations

- **Career & Technical Education**
  - Collision Repair & Auto Refinishing
  - Computer-Aided Design & Manufacturing
  - Wood Product Technologies & Cabinetry
  - Automotive Technologies
  - Electronics Technology

- **Industrial Arts**
  - Woodworking I, II & III
  - Welding I, II & III
  - Home Maintenance
  - Foundation of Technology
Planning, managing, and performing marketing activities to reach organizational objectives.

Pathways
1. Marketing Management
   In the Marketing Management pathway, employees direct the marketing operations. The responsibilities include advertising, marketing, sales, and public relations. You might work in a large corporation and direct the activities of several employees. Or you might work for a small company and do all the activities yourself.
   
   Occupations
   - Marketing Managers
   - Purchasing Managers
   - Sales Managers

2. Professional Sales
   Employees in the Professional Sales pathway make sure that goods and services are sold to consumers. The consumers may be other businesses or individuals.

   Occupations
   - Advertising Salespeople
   - Cashiers
   - Counter and Rental Clerks
   - Demonstrators and Promoters
   - Floral Designers
   - Opticians
   - Parts Salespeople
   - Real Estate Agents
   - Retail Salespeople
   - Route Salespeople
   - Sales Representatives
   - Sales Worker Supervisors
   - Telemarketers

3. Merchandising
   Employees in the Merchandising pathway get the product into the hands of the customer. You might buy the products that the businesses sell. Or you may design the display and packaging for the product. Or you might assist the customers with making decisions about which products best meets their needs.

   Occupations
   - Buyers and Purchasing Agents
   - Customer Service Representatives
   - Floral Designers
   - Merchandise Displayers
   - Models

4. Marketing Communications
   Marketing Communications employees design and implement marketing plans. You might create ads for television or magazines. Or you might develop spot ads for radios so an organization becomes better known by the public.

   Occupations
   - Advertising Salespeople
   - Marketing Managers
   - Public Relations Managers
   - Public Relations Specialists

5. Marketing Research
   Employees in Marketing Research collect and analyze many different types of information. The information is used to design new products and to predict future sales. Or you might get information to compare your company against a competitor.

   Occupations
   - Market Research Analysts
   - Marketing Managers
Related CFHS Electives

Art
Art History I & II
Art Foundations
2D Design I & II
Photography I & II

Business & Technology
Business and Management Foundations
Computer Applications I & II
Accounting I and II
Leadership and Communications
Business Blog
Beginner’s Quickbooks
Advanced Quickbooks
Web Page Design I

Career & Technical Education
Marketing Management
Interactive Media/Digital Design

English/Language Arts
Public Speaking
Yearbook Production I & II

Foreign Language
Spanish I, II, III & IV
French I, II, III & IV

Social Studies
General Psychology
Sociology
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.

Pathways
1. Science & Math
2. Engineering & Technology

1. Science and Mathematics
Those who choose careers in the Science and Mathematics pathway apply knowledge and skills in the real world. Your goal would be to improve the physical and human environment. In your work, you would engage in discovery to gather and process data to solve problems.

Occupations
- Anthropologists
- Archeologists
- Astronomers
- Biologists
- Cartographers and Photogrammetrists
- Chemists
- Environmental Scientists
- Geographers
- Geologists and Geophysicists
- Historians
- Mathematicians
- Meteorologists
- Natural Sciences Managers
- Physicists
- Political Scientists
- Remote Sensing Scientists and Technologists
- Science Technicians
- Sociologists

2. Engineering and Technology
To work in the Engineering and Technology pathway, you would solve problems involving design, development, or production. You would work on projects to evaluate problems and develop and test solutions. You could also provide advice and consultation.

Occupations
- Aerospace Engineers
- Civil Engineers
- Electrical and Electronics Engineers
- Electronics Engineering Technologists
- Energy Engineers
- Engineering Managers
- Engineering Technicians
- Environmental Engineering Technicians
- Environmental Engineers
- Geographic Information Systems Specialists
- Geospatial Information Scientists and Technologists
- Geographers
- Geologists and Geophysicists
- Historians
- Mathematicians
- Meteorologists
- Natural Sciences Managers
- Physicists
- Political Scientists
- Remote Sensing Scientists and Technologists
- Science Technicians
- Sociologists

Related CFHS Electives

Business & Technology
Computer Applications I & II
Leadership and Communications
Business and Management Foundations

Career & Technical
Biomedical Engineering & Technology Academy
Aviation Careers Academy
Engineering Academy

Industrial Arts
Woodworking I, II & III
Welding I, II & III
Drafting
Architectural Drawing

Math & Computer Science
Discrete Math
Enriched Pre-Calculus
Pre-Calculus
Trigonometry
AP Calculus AB

Science
CP Chemistry
Conceptual Physics
Enriched CP Chemistry
Enriched Physics
AP Chemistry
AP Physics
Transportation, Distribution & Logistics

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

Pathways
1. Transportation Operations
2. Logistics Planning & Management Services
3. Warehousing & Distribution Center Operations
4. Facility & Mobile Equipment Maintenance
5. Transportation Systems/Infrastructure Planning, Management & Regulation
6. Health, Safety & Environmental Management
7. Sales & Service

1. Transportation Operations
In the Transportation Operations pathway, you would drive trucks or pilot trains, planes, or ships that carry goods and people around the country or world. Or you would provide the support to make sure that cargo and passengers are safe and secure and arrive on time.

Occupations
- Airplane Pilots
- Bus Drivers
- Deckhands
- Dispatchers
- Flight Attendants
- Heavy Truck Drivers
- Light Truck Drivers
- Locomotive Engineers
- Parking Lot Attendants
- Railroad Brake, Signal, and Switch Operators
- School Bus Drivers
- Ship Captains and Mates
- Ship Engineers
- Ship Pilots
- Subway and Streetcar Operators
- Taxi Drivers and Chauffeurs
- Train Conductors and Yardmasters

2. Logistics Planning and Management Services
To get products to a location, a company may have to use different types of transportation. For example, to get a product from China to your home town, a company might use ships, trains, and trucks. This is a complex process. In the Logistics Planning and Management Services pathway, you would make sure products arrive when and where they should at the lowest cost.

Occupations
- Traffic Technicians

3. Warehousing and Distribution Center Operations
In the Warehousing and Distribution Center Operations pathway, employees work at parts, terminals, or warehouses. You would receive, sort, label, and load products. Your job is to make sure items from all over the world are delivered to the right place on time.

Occupations
- Freight Handlers
- Riggers
- Storage and Transportation Managers
- Tank Car, Truck, and Ship Loaders

4. Facility and Mobile Equipment Maintenance
Transportation relies on equipment. It must work properly when needed. In the Facility and Mobile Equipment Maintenance pathway, you would keep machinery running and fueled. You would also look for ways to operate equipment safely but for less money.

Occupations
- Aircraft Mechanics
- Auto Body Repairers
- Auto Glass Installers
- Automobile Mechanics
- Bicycle Repairers
- Bus and Truck Mechanics
- Heavy Equipment Mechanics
- Motorboat Mechanics
- Motorcycle Mechanics
- Service Station Attendants
- Tire Repairers and Changers
- Vehicle Cleaners
5. Transportation Systems/Infrastructure Planning, Management, and Regulation

In the Transportation Systems/Infrastructure Planning, Management, and Regulation pathway, you would design and operate transportation systems. These systems include airports, railroads, and interstate highways. Or you might enforce laws and regulations to make travel safer. Many of the employees in this pathway work for government agencies.

**Occupations**
- Air Traffic Controllers
- Storage and Transportation Managers
- Traffic Technicians

6. Health, Safety, and Environmental Management

People in the Health, Safety, and Environmental Management pathway are concerned about safety and environmental issues, especially related to transportation. Workers research, plan, and carry out activities to make the environment cleaner and safer.

7. Sales and Service

Workers in the Sales and Service pathway sell transportation services for people and freight.

**Occupations**
- Transportation Agents

**Related CFHS Electives**

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