

**Midland Independent School District**

# **START YOUR JOURNEY!**



# **PASSPORT**

**Career and Technical Education**

# START YOUR JOURNEY!

## Information for traveling on your journey.

1. This passport contains the Programs of Study offered by MISD Career and Technical Education department. The courses listed are available through Legacy and Midland High Schools..
2. The State of Texas requires all students to complete a 4-year plan with an endorsement when entering 9th grade. 4 -year plans detail course selections from 9th to 12th grades.
3. Each program of study leads to an endorsement.
  - a. See back pages for more information on programs of study and endorsements.
4. Review each program of study found on the following pages. Vital information is provided for each program of study. Look for:
  - a. career opportunities,
  - b. postsecondary education,
  - c. high school course selections.
5. Take notes in your passport and pick a program that suits your interests. Use the MISD Course Register, linked in the back of the passport to find additional course information.
6. Academic planning with counselors is taking place this spring on each 8th grade campus to develop 4-year plans. 8th graders are required to input the courses for the program of study selected into their 4-year plan...

**Happy Travels!**



# Accounting & Financial Services

## Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.

### Accounting and Financial Services Statewide Program of Study



The Accounting and Financial Services program of study teaches CTE learners how to examine, analyze, and interpret financial records. Through this program of study, students will learn the skills necessary to perform financial services, prepare financial statements, interpret accounting records, give advice, or audit and evaluate statements prepared by others. This program of study will also introduce students to mathematical modeling tools.

#### Secondary Courses for High School Credit

##### Level 1

- **Business Information Management I** – 1 credit 9th or 10th BMF010/NBM010

##### Level 2

- **Accounting I** – 1 credit 10th or 11th BMF040/NBM040
- **Financial Mathematics** – 1 credit 11th or 12th BMF060/NBM060/MAT310 (Can count as a Math. Prereq – Algebra I)

##### Level 3

- **Accounting II** – 1 credit 11th or 12th BMF050/NBM050/MAT320 (Can count as a Math. Prereq – Accounting I)

##### Level 4

- (Available Option) **Career Preparation** – 2 to 3 credits 11<sup>th</sup> or 12<sup>th</sup>

#### Postsecondary Opportunities

##### Associates Degrees

- Real Estate
- Financial, General
- Financial Planning and Services
- Certified Income Specialist

##### Bachelor's Degrees

- Accounting
- Financial, General
- Financial Planning and Services
- Certified Income Specialist

##### Master's, Doctoral, and Professional Degrees

- Financial Accounting
- Business Administration
- Financial Planning

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in Business Professionals of America, Future Business Leaders of America, or DECA</li> </ul>	<ul style="list-style-type: none"> <li>• Intern with a local accounting firm</li> <li>• Earn Microsoft Office certifications</li> </ul>

#### Industry-Based Certifications

- Intuit QuickBooks Certified User
- Microsoft Office Specialist: Microsoft Access Expert (Access and Access 2019)
- Microsoft Office Specialist: Microsoft Excel Expert (Excel and Excel 2019)

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Accountants and Auditors	\$71,469	14,436	22%
Loan Officers	\$68,598	2,419	19%
Personal Financial Advisors	\$86,965	1,861	52%
Administrative service Managers	\$96,138	2,277	21%
Insurance Underwriters	\$66,206	594	14%

Successful completion of the Accounting and Financial Services program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022



# Advanced Manufacturing & Machinery Mechanics

## Manufacturing Career Cluster

The Manufacturing Career Cluster focuses on 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.

### Advanced Manufacturing and Machinery Mechanics Statewide Program of Study



The Advanced Manufacturing and Machinery Mechanics program of study focuses on the assembly, operation, maintenance, and repair of electromechanical equipment or devices. CTE learners may work in a variety of mechanical fields, gaining knowledge and experience in robotics, refinery and pipeline systems, deep ocean exploration, or hazardous waste removal. CTE concentrators may work in a variety of fields of engineering.

#### Secondary Courses for High School Credit

##### Level 1

- **Principles of Applied Engineering** – 1 Credit  
9<sup>th</sup> or 10<sup>th</sup> STM000/NST000

##### Level 2

- **Robotics I** - 1 Credit 10<sup>th</sup> or 11<sup>th</sup>  
STM030\NST030

##### Level 3

- **Engineering Design and Presentation I** - 1 Credit 10<sup>th</sup> or 11<sup>th</sup> STM010/NST010 (Prereq – Algebra 1)
- **Robotics II** - 1 Credit 11<sup>th</sup> or 12<sup>th</sup>  
STM040/NST040/MAT330 (Can count as Math. Prereq – Robotics I)

##### Level 4

- (Available option) **Career Preparation** – 2 to 3 Credits 11<sup>th</sup> or 12<sup>th</sup>

#### Postsecondary Opportunities

##### Associates Degrees

- Electromechanical Engineering/Technology
- Certified Quality Technician
- Industrial Mechanics and Maintenance Technology

##### Bachelor's Degrees

- Electrical Engineering
- Industrial Engineering
- Mechanical Engineering

##### Master's, Doctoral, and Professional Degrees

- Electrical Engineering
- Industrial Engineering
- Mechanical Engineering

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in SkillsUSA and local STEM events</li> </ul>	<ul style="list-style-type: none"> <li>• Work at a local business or industry apprenticeship</li> <li>• Join the American Welding Society</li> </ul>

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Electro-Mechanical Assemblers	\$30,160	951	9%
Electro-Mechanical Technicians	\$56,555	127	9%
Industrial Machinery Mechanics	\$49,816	3,788	27%

Successful completion of the Advanced Manufacturing and Machinery Mechanics program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised – August 2022





# Animal Science

## Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) Career Cluster focuses on the essential elements of life food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

### Animal Science Statewide Program of Study



The Animal Science program of study focuses on the science, research, and business of animals and other living organisms. It teaches CTE learners how to apply biology and life science to real-world life processes of animals and wildlife, either in laboratories or in the field, which could include a veterinary office, a farm or ranch, or any outdoor area harboring animal life. Students may also research and analyze the growth and destruction of species and research or diagnose diseases and injuries of animals.

#### Secondary Courses for High School Credit

##### Level 1

- **Principles of Agriculture, Food, and Natural Resources** – 1 credit 9th or 10th AGR010/NAG010

##### Level 3

- **Livestock Production** – 1 credit 10th or 11th AGR020/NAG020

##### Level 4

- **Advanced Animal Science** – 1 credit 11th or 12th AGR040/NAG040/SCI410 (Can count as a Science. Prereq- Biology, IPC or Chemistry, Algebra I, Geometry, Livestock Production)
- **Veterinary Medical Applications** - 1 credit 11th or 12th AGR030/NAG030 (Prereq – Livestock Prod)

#### Postsecondary Opportunities

##### Associates Degrees

- Food Science and Technology
- Veterinary Studies
- Biotechnology Laboratory Technician
- Biology Technician

##### Bachelor's Degrees

- Animal Sciences
- Agriculture
- Biology
- Zoology/ Animal Biology

##### Master's, Doctoral, and Professional Degrees

- Genetics
- Veterinary Medicine
- Biological and Physical Sciences
- Biological and Biomedical Sciences

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in Texas FFA</li> </ul>	<ul style="list-style-type: none"> <li>• Compete in an Agri-Science Fair 4H</li> <li>• Volunteer at a local farm or with a veterinarian</li> <li>• Participate in an FFA supervised agriculture experience</li> </ul>

#### Industry-Based Certifications

TBD

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Animal Breeders	\$39,139	28	9%
Animal Scientists	\$57,533	22	12%
Medical Scientists	\$63,898	435	27%
Veterinarians	\$93,496	294	24%
Zoologists and Wildlife Biologists	\$67,309	45	32%

Successful completion of the Animal Science program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022



# Automotive

## Transportation, Distribution, and Logistics Career Cluster

The Transportation, Distribution, and Logistics Career Cluster focuses on careers in planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water. It also includes related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

**DUAL  
CREDIT**

### Automotive Statewide Program of Study



The Automotive program of study teaches CTE learners how to repair and refinish automobiles and service various types of vehicles. CTE learners may learn to collect payment for services or supplies and perform typical vehicle maintenance procedures such as lubrication, oil changes, installation of antifreeze, or replacement of accessories like wiper blades or tires.

#### Secondary Courses for High School Credit

##### Level 2

- **10th - Occupational Safety and Environmental Technology I D** - 1 Credit  
TRN010/NTR010 (3 college hours)

##### Level 3

- **11th - Automotive Technology I D** - 2 Credits  
TRN020/NTR020 (6 college hours)

##### Level 4

- **12th - Automotive Technology II D** - 2 Credits  
TRN025/NTR025 (Prereq-Auto I) (9 college hours)

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Join SkillsUSA or the Automotive Service Association</li> </ul>	<ul style="list-style-type: none"> <li>• Work at a local automotive repair or body shop</li> </ul>

#### Level 1 Certification

Automotive Technician



#### College Credit Hours

**18**

Paid for by MISD

#### Postsecondary Opportunities

##### Associates Degrees

- Autobody/ Collision and Repair Technology/ Technician
- Medium/Heavy Vehicle and Truck Technology/ Technician
- Mechanical Engineering/ Mechanical Technology/ Technician

##### Bachelor's Degrees

- Mechanical Engineering/ Mechanical Technology/ Technician

##### Master's, Doctoral, and Professional Degrees

- Mechanical Engineering

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Automotive Body and Related Repairers	\$40,144	1,456	25%
Automotive Service Technician and Mechanics	\$38,459	5,557	18%

Successful completion of the Automotive program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022





# Automotive Paint & Body

## Transportation, Distribution, and Logistics Career Cluster

The Transportation, Distribution, and Logistics Career Cluster focuses on careers in planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water. It also includes related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

**DUAL  
CREDIT**

### Automotive Paint and Body Statewide Program of Study



The Automotive program of study teaches CTE learners how to repair and refinish automobiles and service various types of vehicles. CTE learners may learn to collect payment for services or supplies and perform typical vehicle maintenance procedures such as lubrication, oil changes, installation of antifreeze, or replacement of accessories like wiper blades or tires.

### Secondary Courses for High School Credit

#### Level 2

- **10th - Occupational Safety and Environmental Technology I D** - 1 Credit  
TRN010/NTR010 (3 college hours)

#### Level 3

- **11th - Automotive Technology I D** - 2 Credits  
TRN021/NTR021 (7 college hours)
- **12th - Paint and Refinishing D** - 2 Credits  
TRN030/NTR030 (11 college hours)

### Postsecondary Opportunities

#### Associates Degrees

- Autobody/ Collision and Repair Technology/ Technician
- Medium/Heavy Vehicle and Truck Technology/ Technician
- Mechanical Engineering/ Mechanical Technology/ Technician

#### Bachelor's Degrees

- Mechanical Engineering/ Mechanical Technology/ Technician

#### Master's, Doctoral, and Professional Degrees

- Mechanical Engineering

### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Join SkillsUSA or the Automotive Service Association</li> </ul>	<ul style="list-style-type: none"> <li>• Work at a local automotive repair or body shop</li> </ul>

## Level 1 Certification

### Automotive Collision Repair Technician



### College Credit Hours

**21**

Paid for by MISD

### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Automotive Body and Related Repairers	\$40,144	1,456	25%
Automotive Service Technician and Mechanics	\$38,459	5,557	18%

Successful completion of the Automotive program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022



# Business Management - Dual Credit

## Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.

**DUAL  
CREDIT**

### Business Management Statewide Program of Study



The Business Management program of study teaches CTE learners how to plan, direct, and coordinate the administrative services and operations of an organization. Through this program of study, students will learn the skills necessary to formulate policies, manage daily operations, and allocate the use of materials and human resources. This program of study will also introduce students to mathematical modeling tools and organizational evaluation methods.

#### Secondary Courses for High School Credit

##### Level 1

- **9th - Business Information Management I - 1 Credit** BMF010/NBM010

##### Level 2

- **10th - Business Information Management II D - 1 Credit** BMF100/NBM100 (Prereq-BIM I) (3 college hours)

##### Level 1

- **11th - Principles of Business, Marketing, and Finance D - 1 Credit** BMF110/NBM110 (Prereq-BIM I) (6 college hours)

##### Level 3

- **11th - Business Management D - 1 Credit** BMF115/NBM115 (6 college hours)

##### Level 4

- **12th - Stats and Business Decision Making D - 1 Credit** BMF125/NBM125 (Prereq-Alg II) (3 college hours)

#### Postsecondary Opportunities

##### Associates Degrees

- Business Administration
- Business/Commerce
- Public Administration
- Business Management

##### Bachelor's Degrees

- Business Administration
- Business/Commerce
- Public Administration
- Management Science

##### Master's, Doctoral, and Professional Degrees

- Business Administration
- Business Management
- Public Administration
- Management Science

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in Business Professional of America, Future Business Leaders of America, or DECA</li> </ul>	<ul style="list-style-type: none"> <li>• Intern with a local business or chamber of commerce</li> </ul>

#### Level 1 Certification



#### Small Business Start Up

#### Industry-Based Certifications

\*Microsoft Office Specialist: Microsoft Excel Expert (Excel and Excel 2019)

\*Microsoft Office Specialist: Microsoft Word Expert (Word and Word 2019)

#### College Credit Hours

**18**

**Paid for by MISD**

Occupations	Median Wage	Annual Openings	% Growth
Administrative Service Managers	\$96,138	2,277	21%
Management Analysts	\$87,651	4,706	32%
General and Operations Managers	\$107,640	18,679	20%
Supervisors of Administrative Support Works	\$57,616	14,982	20%

Successful completion of the Business Management program of study will fulfill requirements of the Business and Industry endorsement.  
Revised – August 2022





# Business Management

## Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.

### Business Management Statewide Program of Study



The Business Management program of study teaches CTE learners how to plan, direct, and coordinate the administrative services and operations of an organization. Through this program of study, students will learn the skills necessary to formulate policies, manage daily operations, and allocate the use of materials and human resources. This program of study will also introduce students to mathematical modeling tools and organizational evaluation methods.

#### Secondary Courses for High School Credit

##### Level 1

- **Business Information Management I** – 1 credit 9<sup>th</sup> or 10<sup>th</sup> BMF010/NBM010

##### Level 2

- **Business Information Management II** – 1 credit 10<sup>th</sup> or 11<sup>th</sup> BMF020/NBM020 (Prereq-BIM I)

##### Level 3

- **Business Management** - 1 credit 10<sup>th</sup>, 11<sup>th</sup> or 12<sup>th</sup> BMF030/NBM030

##### Level 4

- **Statistics and Business Decision Making** - 1 credit 11<sup>th</sup> or 12<sup>th</sup> BMF070/NBM070/MAT450 (Can count as a Math. Prereq – Algebra II)
- (Available Option) **Career Preparation** – 2 to 3 credits 11<sup>th</sup> or 12<sup>th</sup>

#### Postsecondary Opportunities

##### Associates Degrees

- Business Administration
- Business/Commerce
- Public Administration
- Business Management

##### Bachelor's Degrees

- Business Administration
- Business/Commerce
- Public Administration
- Management Science

##### Master's, Doctoral, and Professional Degrees

- Business Administration
- Business Management
- Public Administration
- Management Science

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in Business Professional of America, Future Business Leaders of America, or DECA</li> </ul>	<ul style="list-style-type: none"> <li>• Intern with a local business or chamber of commerce</li> </ul>

#### Industry-Based Certifications

- Microsoft Office Specialist 2016 Master
- Microsoft Office Specialist: Microsoft Access Expert (Access and Access 2019)
- Microsoft Office Specialist: Microsoft Excel Expert (Excel and Excel 2019)
- Microsoft Office Specialist: Microsoft Word Expert (Word and Word 2019)

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Administrative Service Managers	\$96,138	2,277	21%
Management Analysts	\$87,651	4,706	32%
General and Operations Managers	\$107,640	18,679	20%
Supervisors of Administrative Support Works	\$57,616	14,982	20%

Successful completion of the Business Management program of study will fulfill requirements of the Business and Industry endorsement.  
Revised – August 2022



# Commercial Photography

## Arts, Audio/Video Technology, and Communications Career Cluster

The Arts, A/V Technology and Communications (AAVTC) Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

### Graphic Design & Multimedia Arts Commercial Photography Statewide Program of Study

MHS ONLY



The Graphic Design and Multimedia Arts program of study explores the occupations and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. This program of study may also include exploration into designing clothing and accessories, and creating special effects, animation, or other visual images using film, video, computers, or other electronic tools and media, for use in computer games, movies, music videos, and commercials.

#### Secondary Courses for High School Credit

##### Level 1

- **Principles of Arts, A/V Technology, and Communications** - 1 credit 9th or 10th  
AAV010/NAV010

##### Level 2

- **Graphic Design and Illustration I** – 1 credit  
10th or 11th AAV020/NAV020
- **Commercial Photography I** - 1 credit 10th or 11th  
AAV080/NAV080

##### Level 3

- **Commercial Photography II** – 1 credit 11th or 12th  
AAV085/NAV085

##### Level 4

- (Available Option) **Career Preparation** – 2 to 3 credits 11<sup>th</sup> or 12<sup>th</sup>

\*\*You must select 3 or more courses that total 4 credits and at least one course must be Level 3 or 4.\*\*

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Join a website development or coding club</li> <li>• Participate in SkillsUSA or TSA</li> </ul>	<ul style="list-style-type: none"> <li>• Intern with a multimedia or animation studio</li> <li>• Obtain a certificate or certification in graphic design</li> </ul>

#### Industry-Based Certifications

Adobe Certified Professional in Visual Design Using Adobe Photoshop

#### Postsecondary Opportunities

##### Associates Degrees

- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Game and Interactive Media Design

##### Bachelor's Degrees

- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Game and Interactive Media Design

##### Master's, Doctoral, and Professional Degrees

- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Intermedia/Multimedia

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Graphic Designers	\$44,824	1,433	15%
Multimedia Artists and Animators	\$67,392	186	21%





# Cosmetology

## Human Services Career Cluster

The Human Services Career Cluster focuses on 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 services, and consumer services.

### Cosmetology and Personal Care Services Regional Program of Study



The Cosmetology and Personal Care Services regional program of study introduces CTE learners to knowledge and skills related to providing beauty and personal care services. CTE concentrators may learn about or practice managing personal care facilities and coordinating or supervising personal service workers.

#### Secondary Courses for High School Credit

##### Level 2

- **Introduction to Cosmetology** – 1 Credit 10<sup>th</sup>  
HUS010\NHS010

##### Level 3

- **Cosmetology I/Lab** – 2 Credits 11<sup>th</sup>  
HUS020\NHS020

##### Level 4

- **Cosmetology II/Lab** – 3 Credits 12<sup>th</sup>  
HUS030\NHS030

**\*\* Due to limited seats, application is required in 9<sup>th</sup> grade.\*\***

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in TIVA or SkillsUSA</li> </ul>	<ul style="list-style-type: none"> <li>• Job shadow a cosmetologist</li> <li>• Work part-time at a salon, spa, or barbershop</li> </ul>

#### Industry-Based Certifications

Cosmetology Operator License

#### Postsecondary Opportunities

##### Certificate/License

- Certified Aesthetic Laser Operator
- Cosmetologist
- Certified Spa Supervisor
- Nail Technician/Specialist and Manicurist

##### Associates Degrees

- Cosmetology/Cosmetologist, General
- Aesthetician/Esthetician and Skin Care Specialist
- Salon/Beauty Salon Management/Manager
- Cosmetology, Barber/Styling, and Nail Instructor

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
First-Line Supervisors of Personal Service Workers	\$36,941	1,634	24%
Barbers	\$28,267	348	14%
Hairdressers, Hairstylists, and Cosmetologists	\$21,507	3,489	22%
Manicurists and Pedicurists	\$21,715	418	45%
Shampooers	\$18,720	139	24%
Skincare Specialists	\$26,437	637	22%

Successful completion of the Cosmetology and Personal Care Services regional program of study will fulfill requirements of the Public Service endorsement. Revised – August 2022





# Cybersecurity

## Science, Technology, Engineering, and Mathematics Career Cluster

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing scientific research and professional and technical services, including laboratory and testing services, and research and development services.

DUAL  
CREDIT

### Cybersecurity Statewide Program of Study



The Cybersecurity program of study includes the occupations and educational opportunities related to planning, implementing, upgrading, or monitoring security measure for the protection of computer networks and information. This program of study may also include exploration into responding to computer security breaches and virus and administering network security measures.

#### Secondary Courses for High School Credit

##### Level 1

- **11th - Principles of Information Technology D** - 1 Credit (Sem 1) STM100/NST100 (6 college hours)

##### Level 3

- **11th - Networking D** - 1 Credit (Sem 2) STM105/NST105 (6 college hours)

##### Level 2

- **12th - Computer Maintenance D** - 1 Credit (Sem 1) STM110/NST110 (Prereq-Prin IT) (6 college hours)

##### Level 4

- **12th - Cybersecurity Capstone D** - 1 Credit (Sem 2) STM115/NST115 (6 college hours)

#### Postsecondary Opportunities

##### Associates Degrees

- System Networking, and LAN/WAN Management
- Information Technology
- Computer and Information Sciences, General
- Computer Science

##### Bachelor's Degrees

- Computer Systems Networking and Telecommunications
- Computer Systems Networking and Telecommunications
- Computer and Information Sciences, General
- Computer Science

##### Master's, Doctoral, and Professional Degrees

- Computer Systems Analysis/Analyst
- Information Technology
- Computer Information Sciences, General
- Computer Science

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Join TSA</li> <li>• Job shadow a computer system analyst or information security analyst</li> </ul>	<ul style="list-style-type: none"> <li>• Obtain a cybersecurity IBC</li> </ul>

#### Level 1 Certification

Computer Information Technology Foundations



#### Industry-Based Certification

CompTIA Network+

#### College Credit Hours

24

Paid for by MISD

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Information Security Analysts	\$91,915	814	29%
Network and Computer System Administrators	\$82,597	2,814	19%
Computer System Analysts	\$87,568	5,937	29%

Successful completion of the Agribusiness program of study will fulfill requirements of the Business and Industry or STEM Endorsement if this math and science requirements are met. Revised – October 2022



# Culinary Arts

## Hospitality and Tourism Career Cluster

The Hospitality and Tourism Career Cluster focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services. Students acquire knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the hospitality and tourism industry and examine characteristics needed for success.

### Culinary Arts Statewide Program of Study



The Culinary Arts program of study introduces CTE learners to occupations and educational opportunities related to the planning, directing, or coordinating activities of a food and beverage organization or department. This program of study also explores opportunities involved in directing and participating in the preparation and cooking of food.

#### Secondary Courses for High School Credit

##### Level 1

- **Introduction to Culinary Arts** – 1 credit 10<sup>th</sup>  
HOS010/NHO010 **AND/OR**
- **Principles of Hospitality and Tourism** – 1 credit 9<sup>th</sup> or 10<sup>th</sup> HOS000/NHO000

##### Level 2

- **Culinary Arts** - 2 credits 10<sup>th</sup> or 11<sup>th</sup>  
HOS020/NHS020

##### Level 3

- **Advanced Culinary Arts** – 2 credits 11<sup>th</sup> or 12<sup>th</sup>  
HOS030/NHO030 (Prereq – Culinary Arts)

##### Level 4

- (Available Option) **Career Preparation I** - 2 to 3 credits 11<sup>th</sup> or 12<sup>th</sup>

#### Postsecondary Opportunities

##### Associates Degrees

- Hotel and Restaurant Management
- Restaurant Culinary and Catering Management
- Hospitality Administration/ Management, General
- Culinary Arts/ Chef Training

##### Bachelor's Degrees

- Hotel and Restaurant Management
- Food Service Systems Administration/ Management
- Hospitality Administration/ Management, General
- Culinary Science and Food Service Management

##### Master's, Doctoral, and Professional Degrees

- Hotel and Restaurant Management
- Food Service Systems Administration/ Management
- Hospitality Administration/ Management, General
- Business Administration Management, General

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Food and Beverage Managers	\$55,619	1,561	28%
Chef and Head Cooks	\$43,285	1,366	25%
Food Science Technicians	\$34,382	236	11%

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in Family, Career, and Community Leaders of America, SkillsUSA, American Culinary Federation, or the Texas Restaurant Association</li> </ul>	<ul style="list-style-type: none"> <li>• Plan a catering event or work for a catering company</li> <li>• Participate in a cooking course</li> <li>• Work in a restaurant</li> </ul>

#### Industry-Based Certifications

ServSafe Manager

Successful completion of the Culinary Arts program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022





# Diesel & Heavy Equipment

## Transportation, Distribution, and Logistics Career Cluster

The Transportation, Distribution, and Logistics Career Cluster focuses on careers in planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water. It also includes related professional support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

**DUAL  
CREDIT**

### Diesel and Heavy Equipment Statewide Program of Study



The Diesel and Heavy Equipment program of study teaches students to diagnose, repair, modify, or redo mechanical and hydraulic equipment on crane, bulldozer, grader, conveyor, construction equipment, bus, and truck diesel engines.

#### Secondary Courses for High School Credit

##### Level 2

- **10th - Occupational Safety and Environmental Technology I D** - 1 Credit  
TRN010/NTR010 (3 college hours)
- **11th - Diesel Equipment Technology I D** - 2 Credits  
TRN040/NTR040 (6 college hours)

##### Level 3

- **12th - Diesel Equipment Technology II D** - 2 Credits  
TRN050/NTR050 (Prereq- Diesel I)  
(9 college hours)

#### Postsecondary Opportunities

##### Associates Degrees

- Diesel Mechanics Technology/ Technician
- Heavy Equipment Maintenance Technology/ Technician

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in SkillsUSA</li> </ul>	<ul style="list-style-type: none"> <li>• Volunteer or work part time for an engine repair shop</li> </ul>

### Level 1 Certification

#### Diesel Technician



#### College Credit Hours

**18**

Paid for by MISD

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Bus and Truck Mechanics and Diesel Engine Specialists	\$44,574	3,150	21%
Mobile Heavy Equipment Mechanics, Except Engines	\$47,299	1,627	16%

Successful completion of the Diesel and Heavy Equipment program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022





# Digital Communications

## Arts, Audio/Video Technology, and Communications Career Cluster

The Arts, A/V Technology and Communications (AAVTC) Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

### Digital Communications Statewide Program of Study



The Digital Communications program of study explores the occupations and educational opportunities associated with the production of audio and visual media formats for various purposes, such as TV broadcasts, advertising, video production, or motion pictures. This program of study may also include exploration into operating machines and equipment to record sound and images, such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment.

#### Secondary Courses for High School Credit

##### Level 1

- **Principles of Arts, Audio/Video Technology, and Communications** – 1 credit 9th or 10th  
AAV010/NAV010

##### Level 2

- **Audio/Video Production I** – 1 credit 10th or 11th  
AAV040/NAV040

##### Level 3

- **Audio/Video Production II/Lab** – 2 credits 11th or 12th  
AAV050/NAV050 (Prereq-Audio/Video Prod 1)

##### Level 4

- (Available Option) **Career Preparation** – 2/3 credits 11<sup>th</sup> or 12<sup>th</sup>

#### Postsecondary Opportunities

##### Associates Degrees

- Recording Arts Technology/Technician
- Cinematography and Film/Video Production
- Radio and Television Broadcasting Technology/Technician
- Music Technology

##### Bachelor's Degrees

- Recording Arts Technology/Technician
- Cinematography and Film/Video Production
- Radio and Television
- Agricultural Communication/Journalism

##### Master's, Doctoral, and Professional Degrees

- Communications Technology/Technician
- Cinematography and Film/Video Production
- Radio and Television
- Agricultural Communication/Journalism

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Shadow a production team</li> <li>• Participate in SkillsUSA or TSA</li> </ul>	<ul style="list-style-type: none"> <li>• Intern at a local television station or video production company</li> <li>• Work with a local company on a project</li> </ul>

#### Industry-Based Certifications

Adobe Certified Professional in Visual Design Using Adobe Photoshop

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Sound Engineering Technicians	\$39,562	79	27%
Camera Operators, Television, Video, and Motion Picture	\$50,024	129	9%
Audio and Video Equipment Technicians	\$40,581	757	29%
Film and Video Editors	\$47,382	118	23%

Successful completion of the Digital Communications program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022



# Emergency Services- Firefighter

## Law and Public Service Career Cluster

The Law and Public Service Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and fire and emergency services.

**DUAL  
CREDIT**

### Emergency Services Firefighter Statewide Program of Study



The Emergency Services program of study focuses on training CTE learners to respond to emergency situations, such as medical emergencies and fire-based emergencies. Students will learn how to prevent emergencies, respond appropriately and in accordance with rules and regulations during crises, and investigate and delineate the source of the emergency.

#### Secondary Courses for High School Credit

##### Level 2

- **11th - Disaster Response D** - 1 Credit  
LPS060/NLP060 (3 college hours)

##### Level 3

- **11th - Firefighter I D** - 2 Credits  
LPS070/NLP070 (13 college hours)

##### Level 4

- **12th - Firefighter II D** - 3 Credits  
LPS080/NLP080 (Prereq-Firefighter I)  
(12 college hours)

#### Postsecondary Opportunities

##### Associates Degrees

- Emergency Medical Technology/Technician (EMT Paramedic)
- Fire Prevention and Safety Technology/Technician
- Fire Science/Firefighting

##### Bachelor's Degrees

- Emergency Medical Technology/Technician (EMT Paramedic)
- Natural Resources Law Enforcement and Protective Services

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Attend local emergency awareness events</li> <li>• Join the Texas Public Service Association</li> </ul>	<ul style="list-style-type: none"> <li>• Volunteer at a hospital or a fire station</li> </ul>

#### Industry-Based Certifications

Basic Structure Fire Protection

Emergency Medical  
Technician - Basic



#### College Credit Hours

**28**

**Paid for by MISD**

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Firefighters	\$50,149	2,309	13%
Fire Inspectors and Investigators	\$54,787	161	14%
Emergency Medical Technicians	\$34,091	1,880	31%

Successful completion of the Emergency Services program of study will fulfill requirements of the Public Service endorsement. Revised – August 2022





# Engineering

## Science, Technology, Engineering, and Mathematics Career Cluster

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

### Engineering Statewide Program of Study



The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. CTE learners will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.

#### Secondary Courses for High School Credit

##### Level 1

- **Principles of Applied Engineering** – 1 Credit 9<sup>th</sup> or 10<sup>th</sup> STM000/NST000

##### Level 3

- **Engineering Design and Presentation I** - 1 Credit 10<sup>th</sup> or 11<sup>th</sup> STM010/NST010 (Prereq – Algebra 1)

##### Level 4

- **Engineering Design and Presentation II** - 2 Credits 11<sup>th</sup> or 12<sup>th</sup> STM020/NST020 (Prereq – Algebra 1 and Geometry)

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in Skills USA competitions</li> </ul>	<ul style="list-style-type: none"> <li>• Intern at an engineering firm</li> <li>• Shadow a machinist</li> </ul>

#### Postsecondary Opportunities

##### Associates Degrees

- Electrical and Electronics Engineering
- Drafting and Design Technology/ Technician, General
- Engineering Technology

##### Bachelor's Degrees

- Electrical and Electronics Engineering
- CAD/CADD Drafting and/or Design Technology/ Technician
- Bioengineering and Biomedical Engineering
- Construction Engineering Technology/ Technician

##### Master's, Doctoral, and Professional Degrees

- Electrical and Electronics Engineering
- Mechanical Engineering
- Bioengineering and Biomedical Engineering

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Aerospace Engineers	\$110,843	481	9%
Industrial Engineers	\$97,074	1,263	10%
Mechanical Engineers	\$91,107	1,535	11%
Chemical Engineers	\$112,819	474	9%
Electrical Engineers	\$98,405	1,137	10%

Successful completion of the Engineering program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised – August 2022





# Engineering - Dual Credit

## Science, Technology, Engineering, and Mathematics Career Cluster

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

DUAL  
CREDIT

### Engineering - CADD Statewide Program of Study



The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. CTE learners will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.

#### Secondary Courses for High School Credit

##### Level 1

- 9th or 10th - Principles of Applied Engineering D - 1 Credit STM000/NST000

##### Level 2

- 11th - Manufacturing Engineering Technology I D – 1 Credit (Sem 2) STM215/ NST215 (3 college hours)

##### Level 4

- 11th - Engineering Design and Problem Solving D – 1 Credit (Sem 1) STM200/NST200 /SCI412 (Can be a Science. Prereq-Algebra 1 and Geometry) (6 college hours)
- 12th - Engineering Design and Presentation II D - 2 Credits STM210/NST210 (Prereq – Algebra 1 and Geometry) (9 college hours)

#### Postsecondary Opportunities

##### Associates Degrees

- Electrical and Electronics Engineering
- Drafting and Design Technology/ Technician, General
- Engineering Technology

##### Bachelor's Degrees

- Electrical and Electronics Engineering
- CAD/CADD Drafting and/or Design Technology/ Technician
- Bioengineering and Biomedical Engineering
- Construction Engineering Technology/ Technician

##### Master's, Doctoral, and Professional Degrees

- Electrical and Electronics Engineering
- Mechanical Engineering
- Bioengineering and Biomedical Engineering

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in Skills USA competitions</li> </ul>	<ul style="list-style-type: none"> <li>• Intern at an engineering firm</li> <li>• Shadow a machinist</li> </ul>

#### Level 1 Certification



Computer Aided

Drafting Technician – Entry Level

#### College Credit Hours

18

Paid for by MISD

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Aerospace Engineers	\$110,843	481	9%
Industrial Engineers	\$97,074	1,263	10%
Mechanical Engineers	\$91,107	1,535	11%
Chemical Engineers	\$112,819	474	9%
Electrical Engineers	\$98,405	1,137	10%

Successful completion of the Engineering program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised – August 2022



# Graphic Design

## Arts, Audio/Video Technology, and Communications Career Cluster

The Arts, A/V Technology and Communications (AAVTC) Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

### Graphic Design & Multimedia Arts Statewide Program of Study



The Graphic Design and Multimedia Arts program of study explores the occupations and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. This program of study may also include exploration into designing clothing and accessories, and creating special effects, animation, or other visual images using film, video, computers, or other electronic tools and media, for use in computer games, movies, music videos, and commercials.

#### Secondary Courses for High School Credit

##### Level 1

- **Principles of Arts, A/V Technology, and Communications** - 1 credit 9th or 10th AAV010/NAV010

##### Level 2

- **Graphic Design and Illustration I** – 1 credit 10th or 11th AAV020/NAV020

##### Level 3

- **Graphic Design and Illustration II/Lab** - 2 credits 11th or 12th AAV030/NAV030 (Prereq- Graphic Design and Illustration I)

##### Level 4

(Available Option) **Career Preparation** – 2 to 3 credits 11<sup>th</sup> or 12<sup>th</sup>

**\*\*You must select 3 or more courses that total 4 credits and at least one course must be Level 3 or 4.\*\***

#### Postsecondary Opportunities

##### Associates Degrees

- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Game and Interactive Media Design

##### Bachelor's Degrees

- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Game and Interactive Media Design

##### Master's, Doctoral, and Professional Degrees

- Animation, Interactive Technology, Video Graphics and Special Effects
- Graphic Design
- Intermedia/Multimedia

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Graphic Designers	\$44,824	1,433	15%
Multimedia Artists and Animators	\$67,392	186	21%

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Join a website development or coding club</li> <li>• Participate in SkillsUSA or TSA</li> </ul>	<ul style="list-style-type: none"> <li>• Intern with a multimedia or animation studio</li> <li>• Obtain a certificate or certification in graphic design</li> </ul>

#### Industry-Based Certifications

Adobe Certified Professional in Visual Design Using Adobe Photoshop

Successful completion of the Graphic Design & Multimedia Arts program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022





# Healthcare - EMT

## Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others.

**DUAL  
CREDIT**

### Healthcare Therapeutic Emergency Medical Technician Statewide Program of Study



The Healthcare Therapeutic program of study introduces students to occupations and educational opportunities related to diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study also includes an introduction to the opportunities associated with providing treatment and counsel to patients as well as rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

### Secondary Courses for High School Credit

#### Level 1

- **9th - Principles of Health Science D - 1 Credit**  
HSC000/NHS000 (3 college hours)

#### Level 2

- **10th - Medical Terminology D - 1 Credit**  
HSC010/NHS010 (7 college hours)

#### Level 3

- **11th - Health Science Theory/Health Science Clinical - EMT D - 2 Credits**  
HSC080/NHS080 (8 college hours)

#### Level 4

- **12th - Practicum in Health Science - EMT D - 2 Credits**  
HSC090/NHS090 (4 college hours)

### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in SkillsUSA or Health Occupation Students of America</li> </ul>	<ul style="list-style-type: none"> <li>• Volunteer at a community wellness center, hospital, assisted living, or nursing home</li> </ul>

### Level 1 Certification



**Health Science  
Foundation**

**Industry-Based Certifications**  
Emergency Medical Technician - Basic

### Postsecondary Opportunities

#### Associates Degrees

- Dental Hygienist
- Medical/Clinical Assistant

#### Bachelor's Degrees

- Dental Hygienist

#### Master's, Doctoral, and Professional Degrees

- Dentist
- Physician Assistant
- Family and General Practitioners
- Pharmacist

### College Credit Hours

**22**

**Paid for by MISD**

### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	20%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%

Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022





# Healthcare - Patient Care Technician

## Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others.

**DUAL  
CREDIT**

**Healthcare Therapeutic  
Patient Care Technician**  
Statewide Program of Study



The Healthcare Therapeutic program of study introduces students to occupations and educational opportunities related to diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study also includes an introduction to the opportunities associated with providing treatment and counsel to patients as well as rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

### Secondary Courses for High School Credit

#### Level 1

- **9th - Principles of Health Science D** - 1 Credit  
HSC000/NHS000 (3 college hours)

#### Level 2

- **10th - Medical Terminology D** - 1 Credit  
HSC010/NHS010 (7 college hours)

#### Level 3

- **11th - Health Science Theory/Health Science Clinical - Patient Care Tech D** - 2 Credits  
HSC020/NHS020 (9 college hours)

#### Level 4

- **12th - Practicum in Health Science - Patient Care Tech D** - 2 Credits  
HSC040/NHS040 (11 college hours)

### Postsecondary Opportunities

#### Associates Degrees

- Dental Hygienist
- Medical/Clinical Assistant

#### Bachelor's Degrees

- Dental Hygienist

#### Master's, Doctoral, and Professional Degrees

- Dentist
- Physician Assistant
- Family and General Practitioners
- Pharmacist

### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in SkillsUSA or Health Occupation Students of America</li> </ul>	<ul style="list-style-type: none"> <li>• Volunteer at a community wellness center, hospital, assisted living, or nursing home</li> </ul>

### Level 1 Certification

**Health Science Foundation**



### Industry-Based Certifications

- Certified EKG Technician
- Certified Nurse Aide (CNA)
- Patient Care Technician
- Phlebotomy Technician

**College Credit Hours**

**30**

**Paid for by MISD**

### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	20%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%

Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022



# Healthcare - Pharmacy Technician

## Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others.

**DUAL  
CREDIT**

**Healthcare Therapeutic  
Pharmacy Technician**  
*Statewide Program of Study*



The Healthcare Therapeutic program of study introduces students to occupations and educational opportunities related to diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study also includes an introduction to the opportunities associated with providing treatment and counsel to patients as well as rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

### Secondary Courses for High School Credit

#### Level 1

- **9th - Principles of Health Science D** - 1 Credit  
HSC000/NHS000 (3 college hours)

#### Level 2

- **10th - Medical Terminology D** - 1 Credit  
HSC010/NHS010 (7 college hours)

#### Level 4

- **11th- Pathophysiology D** - 1 Credit (Sem1)  
HSC050/NHS050 (5 college hours)
- **11th - Pharmacology D** - 1 Credit (Sem 2)  
HSC060/NHS060 (6 college hours)
- **12th - Practicum in Health Science - Pharmacy Tech D** - 2 Credits HSC070/NHS070 (9 college hours)

### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in SkillsUSA or Health Occupation Students of America</li> </ul>	<ul style="list-style-type: none"> <li>• Volunteer at a community wellness center, hospital, assisted living, or nursing home</li> </ul>

### Level 1 Certification

**Health Science  
Foundation**



### Industry-Based Certifications

- Pharmacy Technician

### Postsecondary Opportunities

#### Associates Degrees

- Dental Hygienist
- Medical/Clinical Assistant

#### Bachelor's Degrees

- Dental Hygienist

#### Master's, Doctoral, and Professional Degrees

- Dentist
- Physician Assistant
- Family and General Practitioners
- Pharmacist

### College Credit Hours

**30**

**Paid for by MISD**

### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$45,032	1,150	20%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%

Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised – August 2022





# HVAC & Sheet Metal

## Architecture and Construction Career Cluster

The Architecture and Construction Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

**DUAL  
CREDIT**

### HVAC and Sheet Metal Statewide Program of Study



The HVAC and Sheet Metal program of study explores the occupations and educational opportunities associated with installing, serving, or repairing heating and air conditioning systems and also the fabrication, assembly, installation, and repair of sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. This program of study may also include exploration into preparing cost estimates for certain construction projects involving heating and air conditioning and sheet metal.

#### Secondary Courses for High School Credit

##### Level 1

- **11th - Principles of Construction D - 1 Credit**  
(1st sem) ARC010/NAR010 (4 college hours)

##### Level 2

- **11th - Heating, Ventilation Air Conditioning (HVAC) and Refrigeration Technology I D - 1 Credit** (2nd sem) ARC020/NAR020 (4 college hours)

##### Level 3

- **12th - Heating, Ventilation Air Conditioning (HVAC) and Refrigeration Technology II D - 2 Credits** ARC030/NAR030 (Prereq - HVAC I) (7 college hours)

#### Postsecondary Opportunities

##### Associates Degrees

- Business Administration and Management, General
- Mechanical Engineering
- Heating, Ventilation, Air Conditioning and Refrigeration Engineering Technology/ Technician
- Business/ Commerce, General

##### Bachelor's Degrees

- Business Administration and Management
- Mechanical Engineering
- Construction Engineering Technology/ Technician
- Business/ Commerce, General

##### Master's, Doctoral, and Professional Degrees

- Business Administration and Management
- Mechanical Engineering
- Construction Engineering
- Business/Commerce, General

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Shadow an HVAC worker or cost estimator</li> <li>• Participate in SkillsUSA</li> </ul>	<ul style="list-style-type: none"> <li>• Intern with an HVAC and/or sheet metal company</li> </ul>

#### Level 1 Certification



HVAC Technician -  
Entry Level

#### College Credit Hours

**15**

**Paid for by MISD**

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Heating, Air Conditioning, and Refrigeration Mechanics	\$41,808	3,356	26%
Sheet Metal Workers	\$37,419	1,479	17%
Cost Estimators	\$63,939	2,239	21%

Successful completion of the HVAC and Sheet Metal program of study will fulfill requirements of the Business and Industry endorsement.  
Revised – August 2022



# Law Enforcement

## Law and Public Service Career Cluster

The Law and Public Service Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and fire and emergency services.

DUAL  
CREDIT

### Law Enforcement Statewide Program of Study



The Law Enforcement program of study teaches CTE learners about the development of, adherence to, and protection of various branches of law. Students will learn how to appropriately and legally respond to breaches in the law according to statutory rules and regulations as well as investigate how and why the breaches occurred.

### Secondary Courses for High School Credit

#### Level 1

- **11th - Principles of Law, Public Safety, Corrections, and Security D** - 1 Credit (Sem 1)  
LPS010/NLP010 (6 college hours)

#### Level 2

- **11th - Law Enforcement I D** - 1 Credit (Sem 2)  
LPS020/NLP020 (6 college hours)

#### Level 3

- **12th - Law Enforcement II D** - 1 Credit (Sem 1)  
LPS030/NLP030 (6 college hours)
- **12th - Correctional Services D** - 1 Credit (Sem 2)  
LPS040/NLP040 (6 college hours)

### Postsecondary Opportunities

#### Associates Degrees

- Criminal Justice/Safety Studies/Law
- Enforcement Administration
- Criminal Justice/Police Science
- Corrections
- Criminalistics and Criminal Science

#### Bachelor's Degrees

- Criminal Justice/Safety Studies/Law
- Enforcement Administration
- Criminal Justice/Police Science
- Juvenile Corrections
- Cyber/Computer Forensics and Counterterrorism

#### Master's, Doctoral, and Professional Degrees

- Criminal Justice/Safety Studies/Law
- Enforcement Administration
- Natural Resources
- Law Enforcement and Protective Services

### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Join the Texas Public Service Association or local criminal justice clubs</li> </ul>	<ul style="list-style-type: none"> <li>• Attend court hearings and other legal procedures</li> </ul>

### College Credit Hours

24

Paid for by MISD

### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Police and Sheriff's Patrol Officers	\$60,112	5,241	13%
Probation Officers and Correctional Treatment Officers	\$44,054	793	9%
Correctional Officers and Jailers	\$40,186	4,683	9%
Immigration and Customs Inspectors	\$78,104	1,236	9%
First-Line Supervisors of Police and Detectives	\$91,312	253	25%

Successful completion of the Law and Public Service program of study will fulfill requirements of the Public Service endorsement. Revised – August 2022





# Lodging & Resort Management

## Hospitality and Tourism Career Cluster

The Hospitality and Tourism Career Cluster focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services. Students acquire knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the hospitality and tourism industry and examine characteristics needed for success.

### Lodging and Resort Management Statewide Program of Study



The Lodging and Resort Management program of study introduces CTE learners to occupations and educational opportunities related to the logistical and operational management of lodging and resorts. This program of study also explores opportunities related to human resources, financial analysis, and marketing.

#### Secondary Courses for High School Credit

##### Level 1

- **Principles of Hospitality and Tourism** – 1 credit 9<sup>th</sup> or 10<sup>th</sup> HOS000/NHO000

##### Level 2

- **Travel and Tourism Management** – 1 credit 10<sup>th</sup> or 11<sup>th</sup> HOS040/NHO040

##### Level 3

- **Hospitality Services** – 2 credits 10<sup>th</sup>, 11<sup>th</sup> or 12<sup>th</sup> HOS050/NHP050

##### Level 4

- (Available Option) **Career Preparation** – 2 to 3 credits 11<sup>th</sup> or 12<sup>th</sup>

#### Postsecondary Opportunities

##### Associates Degrees

- Hotel/Motel Administration/ Management
- Business Administration and Management, General
- Tourism and Travel Services Management
- Business Administration and Management

##### Bachelor's Degrees

- Hospitality Administration/ Management, General
- Business Administration and Management, General
- Hotel and Restaurant Management
- Marketing/ Management, General

##### Master's, Doctoral, and Professional Degrees

- Hospitality Administration/ Management, General
- Business Administration and Management, General
- Hospitality Administration
- Marketing/ Management, General

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in Family, Career, and Community Leaders of America or the American Hotel and Lodging Association</li> </ul>	<ul style="list-style-type: none"> <li>• Intern at a resort or lodging property</li> <li>• Work at a hotel, summer camp, or theme park</li> </ul>

#### Industry-Based Certifications

Certified Hospitality & Tourism Management Professional

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
General and Operations Managers	\$107,640	18,679	20%
Lodging Managers	\$48,381	396	19%
Administrative Services Managers	\$96,138	2,277	21%
Meeting, Convention, and Event Planners	\$47,446	1,083	21%

Successful completion of the Lodging and Resort Management program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022



# Oil & Gas Exploration & Production

Class of 2026 & Beyond

## Energy Career Cluster

The Energy Career Cluster prepares individuals for careers in the designing, planning, maintaining, generating, transmission, and distribution of traditional and alternative energy.

DUAL CREDIT

### Oil and Gas Exploration and Production Statewide Program of Study



The Oil and Gas Exploration and Production program of study focuses on processing, refining, and distributing petroleum and gas. It introduces CTE learners to the process of regulating the flow of oil into pipelines, controlling pumping systems, and operating and maintaining machinery to generate electric power.

#### Secondary Courses for High School Credit

##### Level 2

- 10th - Occupational Safety and Environmental Technology I D - 1 Credit ENR000 (3 college hours)

##### Level 1

- 11th - Oil and Gas Production I D - 1 Credit (Sem 1) ENR010 (6 college hours)

##### Level 2

- 11th - Oil and Gas Production II D - 1 Credit (Sem 2) ENR020 (Prereq-O&G I) (3 college hours)

##### Level 3

- 12th - Oil and Gas Production III D - 1 Credit (Sem 1) ENR030 (Prereq-O&G II) (3 college hours)

##### Level 4

- 12th Oil and Gas Production IV D - 1 Credit (Sem 2) ENR040 (Prereq-O&G III) (3 college hours)

#### Postsecondary Opportunities

##### Associates Degrees

- Petroleum Engineering
- Chemical Engineering
- Petroleum Technology/ Technician
- Industrial Mechanics and Maintenance Technology

##### Bachelor's Degrees

- Petroleum Engineering
- Chemical Engineering
- Mechanical Engineering
- Industrial Engineering

##### Master's, Doctoral, and Professional Degrees

- Petroleum Engineering
- Chemical Engineering
- Mechanical Engineering
- Industrial Engineering

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Extraction Workers- All Other	\$44,616	145	25%
Extraction Workers	\$34,570	1,000	7%
Drill Operators, Oil and Gas	\$52,083	925	14%

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Intern at an oil or gas company</li> <li>• Read trade publications to understand economic and political issues</li> </ul>	<ul style="list-style-type: none"> <li>• Earn an American Petroleum Institute Certification</li> </ul>

#### Level 1 Certification



MC Energy Tech

#### College Credit Hours

18

Paid for by MISD

Successful completion of the Oil and Gas Exploration and Production program of study will fulfill requirements of the Business and Industry endorsement or STEM endorsement if math and science requirements are met. Revised – August 2022





# Teaching & Training

## Education and Training Career Cluster

The Education and Training Career Cluster focuses on planning, managing, and providing education and training services and related learning support services. All parts of courses are designed to introduce learners to the various careers available within the Education and Training career cluster.

### Teaching and Training Statewide Program of Study



The Teaching and Training program of study prepares CTE learners for careers related to teaching, instruction, and creation of instructional and enrichment materials. The program of study introduces CTE learners to a wide variety of student groups and their corresponding needs. It familiarizes them with the processes for developing curriculum, coordinating educational content, and coaching groups and individuals.

#### Secondary Courses for High School Credit

##### Level 1

- **Principals of Education** - 1 Credit 9<sup>th</sup>  
EDU000/NED000 (Optional)

##### Level 2

- **Child Development** - 1 Credit 10<sup>th</sup>  
EDU010/NED010

##### Level 3

- **Instructional Practices** - 2 Credits 11<sup>th</sup>  
EDU020/NED020 (Prereq – Child Development)

##### Level 4

- **Practicum in Education and Training** – 2 Credits 12<sup>th</sup> EDU030/NED030

#### Postsecondary Opportunities

##### Associates Degrees

- Teacher Education
- Education, General (or specific subject area) Special Education
- Health and Physical Education/Fitness

##### Bachelor's Degrees

- Bilingual and Multilingual Education
- Education, General (or specific subject area)
- Special Education
- Health and Physical Education/Fitness

##### Master's, Doctoral, and Professional Degrees

- Instruction and Learning
- Educational Leadership and Administration, General
- Special Education
- Social and Philosophical Foundations of Education

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate in the Texas Association of Future Educators or Family, Career, and Community Leaders of America</li> </ul>	<ul style="list-style-type: none"> <li>• Teach a community education class</li> <li>• Intern as a teaching assistant or tutor</li> <li>• Serve as a camp counselor</li> </ul>

#### Industry-Based Certifications

##### Educational Aide I

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Adult Basic and Secondary Education and Literacy Teachers and Instructors	\$48,069	862	17%
Middle School Teachers, Except Special and Career/Technical Education	\$54,510	6,407	15%
Career and Technical Education Teachers, Secondary School	\$56,360	719	9%
Special Education Teachers, Secondary School	\$56,720	980	18%

Successful completion of the Teaching and Training program of study will fulfill requirements of the Public Service endorsement. Revised – August 2022



# Welding

## Manufacturing Career Cluster

The Manufacturing Career Cluster focuses on 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.

**DUAL  
CREDIT**

### Welding Statewide Program of Study



The Welding program of study focuses on the development and use of automatic and computer-controlled machines, tools, and robots that perform work on metal or plastic. CTE learners will learn how to modify parts to make or repair machine tools or maintain individual machines, and how to use hand-welding or flame-cutting equipment.

#### Secondary Courses for High School Credit

##### Level 1

- **10th - Introduction to Welding** - 1 Credit  
10th MFG010/NMF010

##### Level 2

- **11th - Welding I D** - 2 Credits 11th  
MFG020/NMF020 (8 college hours)

##### Level 3

- **12th - Welding II D** - 2 Credits 12th  
MFG030/NMF030 (Prereq-Welding I) (11 college hours)

#### Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
<ul style="list-style-type: none"> <li>• Participate and compete in SkillsUSA</li> <li>• Job shadow a machinist</li> </ul>	<ul style="list-style-type: none"> <li>• Work in a local business or industry apprenticeship</li> <li>• Join the American Welding Society</li> </ul>

### Level 1 Certification

Welder



**College Credit Hours**

**19**

**Paid for by MISD**

#### Postsecondary Opportunities

##### Associates Degrees

- Certified Welder or Welder Inspector
- Machine Shop Technology/Assistant
- Operations Management and Supervision
- Occupational Safety and Health Technology/Technician

##### Bachelor's Degrees

- Welding Engineering Technology/Technician
- Biomedical Technology/Technician
- Operations Management and Supervision
- Environmental Health

##### Master's, Doctoral, and Professional Degrees

- Welding Engineering Technology/Technician
- Occupational Health and Industrial Hygiene
- Operations Management and Supervision
- Environmental Health

#### Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Welders, Cutters, Solderers, and Brazers	\$41,350	6,171	9%
Welding Soldering and Brazing Machine Setters, Operators and Tenders	\$40,040	280	9%

Successful completion of the Welding program of study will fulfill requirements of the Business and Industry endorsement. Revised – August 2022





# Programs of Study

[ACCOUNTING AND FINANCIAL SERVICES](#)

[ADVANCED MANUFACTURING AND MACHINERY MECHANICS](#)

[ANIMAL SCIENCE](#)

[AUTOMOTIVE, AUTOMOTIVE PAINT & BODY](#)

[BUSINESS MANAGEMENT- DUAL,](#)      [BUSINESS MAN. NON-DUAL](#)

[COSMETOLOGY AND PERSONAL CARE SERVICES](#)

[CYBERSECURITY](#)

[CULINARY ARTS](#)

[DIESEL AND HEAVY EQUIPMENT](#)

[DIGITAL COMMUNICATIONS](#)

[EMERGENCY SERVICES FIRE](#)

[ENGINEERING,](#)      [ENGINEERING DUAL](#)

[GRAPHIC DESIGN AND MULTIMEDIA ARTS](#)    [COMMERCIAL PHOTOGRAPHY](#)

[HEALTHCARE THERAPEUTIC EMT,](#)    [PATIENT CARE TECH](#)    [PHARMACY TECH](#)

[HVAC and SHEET METAL](#)

[LAW ENFORCEMENT](#)

[LODGING AND RESORT MANAGEMENT](#)

[OIL AND GAS EXPLORATION AND PRODUCTION '26+,](#)

[TEACHING & TRAINING](#)

[WELDING](#)



# GOOD TO KNOW!

## **Foundation School Program with Endorsements**

Texas requires all students to begin high school with a four-year plan to earn at least 26 credits toward graduation with one of five endorsements. The five endorsements align to statewide programs of study (POS) toward future careers. Students are encouraged to consider their skills and interests as they select programs of study (POS) toward an endorsement. The five endorsements are STEM, Business & Industry, Public Service, Arts & Humanities and Multidisciplinary.

## **What is a Program of Study?**

A program of study is a Career Cluster specific coherent sequence of courses that lead to an endorsement. It's similar to a college degree, allowing the student to learn more about a particular subject area. They include opportunities for industry-based certifications, and student organization involvement, and work-based learning. Our standard credit Programs of Study (POS) provide college and career preparation based on a student's interest. Our College and Career Academies are dual credit CTE Programs of Study that give students the opportunity to earn Level I college certifications and industry-based certifications. All programs of study lead to an endorsement.

## **Endorsements**

Students may earn one or more endorsements as part of their high school diploma. An endorsement consists of a sequence of courses that are grouped together by interest or occupational skill. They provide students with in-depth knowledge of a subject area or a high-wage, high-skill, and in-demand occupation. Every career and technical education (CTE) Program of Study leads to either a STEM, Business & Industry or Public Service endorsement. Students also have options of programs from other departments which lead to an Arts & Humanities endorsement.





# COLLEGE, CAREER, and MILITARY READINESS (CCMR)



## College Ready

- Score 3 or higher on AP examinations
- Meet TSI criteria on BOTH reading and math on SAT, ACT, TSIA2, or College Bridge/Prep course
- Complete 3 hours of dual credit in ELA or Math
- Complete 9 or more hours of dual credit in any subjects
- Earn an Associate Degree



## Career Ready

- Earn an industry-based certification while being a completer in a program of study
- Earn a Level I or Level II Certificate (CTE or Non-CTE Dual Credit)
- Graduate with a completed IEP and workforce readiness (grad type 04, 05, 54, or 55)
- Graduate under an advanced degree plan and identified as a current special education student



## Military Ready

- Enlist in the United States Armed Forces and produce the appropriate documentation

**Mission: All students will graduate prepared and ready for college or career.**



# ANY QUESTIONS!

## [MISD Course Register 2023-2024](#)

### **Counselors - LFHS**

Carla.Byrne@midlandisd.net

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### **Counselors - MFHS**

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### **More Information**

[Start Your Journey Passport 2023- Video](#)

[MISD Programs of Study 2023-2024](#)

[College, Career, and Military Readiness \(CCMR\)](#)



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Course  
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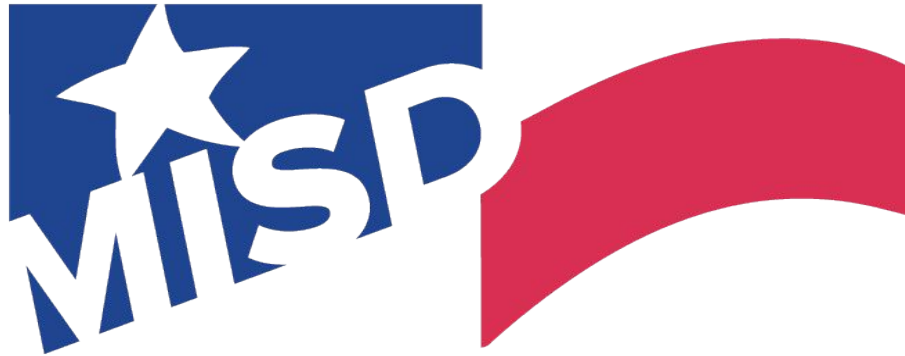
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CCMR







Midland Independent School District

MIDLAND INDEPENDENT SCHOOL DISTRICT



CAREER AND TECHNICAL EDUCATION

[www.midlandisd.net/cte](http://www.midlandisd.net/cte)



**Midland Independent School District**

# **Passport to Success!**

## **Safe Travels!**

**Career and Technical Education**

