

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Advanced Animal Science (One Credit)	Business and Industry	Agriculture Food and Natural Resources	Animal Science	Advanced Animal Science examines the interrelatedness of human, scientific, and technological dimensions of livestock production. Instruction is designed to allow for the application of scientific and technological aspects of animal science through field and laboratory experiences. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry standards. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings. This course is recommended for students in Grades 11 and 12. Prerequisites: Biology and Chemistry or Integrated Physics and Chemistry (IPC); Algebra I and Geometry; and either Small Animal Management, Equine Science, or Livestock Production. Recommended prerequisite: Veterinary Medical Applications. Students must meet the 40% laboratory and fieldwork requirement. This course satisfies a high school science graduation requirement. Students shall be awarded one credit for successful completion of this course.
Advanced Culinary Arts (Two Credits)	Business and Industry	Hospitality and Tourism	Culinary Arts	Advanced Culinary Arts will extend content and enhance skills introduced in Culinary Arts by indepth instruction of industry-driven standards in order to prepare students for success in higher education, certifications, and/or immediate employment.
Advanced Floral Design (One Credit)	Business and Industry	Agriculture, Food and Natural Resources	Plant Science	This course satisfies the fine arts graduation requirement. Floral Design is designed to develop students' ability to identify and demonstrate the principles and techniques related to floral design as well as develop an understanding of the management of floral enterprises. Through the analysis of artistic floral styles and historical periods, students will develop respect for the traditions and contributions of diverse cultures. Students will respond to and analyze floral designs, thus contributing to the development of lifelong skills of making informed judgments and evaluations. To prepare for careers in floral design, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.
Advanced Floral Design Lab (Two Credits)	Business and Industry	Agriculture, Food and Natural Resources	Plant Science	This course satisfies the fine arts graduation requirement. Floral Design is designed to develop students' ability to identify and demonstrate the principles and techniques related to floral design as well as develop an understanding of the management of floral enterprises. Through the analysis of artistic floral styles and historical periods, students will develop respect for the traditions and contributions of diverse cultures. Students will respond to and analyze floral designs, thus contributing to the development of lifelong skills of making informed judgments and evaluations. To prepare for careers in floral design, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.
Agricultural Equipment Design and Fabrication (One Credit)	Business and Industry	Agriculture Food and Natural Resources	Applied Agricultural Engineering	In Agricultural Equipment Design and Fabrication, students will acquire knowledge and skills related to the design and fabrication of agricultural equipment. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural equipment design and fabrication. To prepare for success, students reinforce, apply, and transfer their academic knowledge and technical skills in a variety of settings. Recommended prerequisite: Agricultural Mechanics and Metal Technologies.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Agricultural Equipment Design and Fabrication LAB (Two Credits)	Business and Industry	Agriculture Food and Natural Resources	Applied Agricultural Engineering	In Agricultural Equipment Design and Fabrication, students will acquire knowledge and skills related to the design and fabrication of agricultural equipment. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural equipment design and fabrication. To prepare for success, students reinforce, apply, and transfer their academic knowledge and technical skills in a variety of settings.
Agricultural Mechanics and Metal Technologies (One Credit)	Business and Industry	Agriculture Food and Natural Resources	Applied Agricultural Engineering	Agricultural Mechanics and Metal Technologies is designed to develop an understanding of agricultural mechanics as it relates to safety and skills in tool operation, electrical wiring plumbing, carpentry, fencing, concrete, and metalworking techniques. To prepare for careers in agricultural power, structural, and technical systems, students must attain academic skills and knowledge; acquire technical knowledge and skills related to power, structural, and technical agricultural systems and the industry; and develop knowledge and skills regarding career opportunities, entry requirements, industry certifications, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills and technologies in a variety of settings.
Agricultural Structures Design and Fabrication LAB (Two Credits)	Business and Industry	Agriculture Food and Natural Resources	Applied Agricultural Engineering	In Agricultural Structures Design and Fabrication, students will explore career opportunities, entry requirements, and industry expectations. To prepare for careers in mechanized agriculture and technical systems, students must attain knowledge and skills related to agricultural structures design and fabrication. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their academic knowledge and technical skills in a variety of settings. Recommended prerequisite: Agricultural Mechanics and Metal Technologies.
Anatomy and Physiology (One Credit, Science Credit R/D)	Public Service	Health Science	Healthcare Diagnostics Healthcare Therapeutic	The Anatomy and Physiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology will study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis.
Animation I Lab (Two Credits)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in animation span all aspects of motion graphics. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the history and techniques of the animation industry.
Animation II Lab (Two Credits)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in animation span all aspects of motion graphics. Within this context, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to create two- and three-dimensional animations. The instruction also assists students seeking careers in the animation industry.
Audio/Video Production I (One Credit)	Business and Industry	Arts, Audio/Visual Technology and Communications	Digital Communications	Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the industry with a focus on preproduction, production, and post-production audio and video products.
Audio/Video Production II (One Credit)	Business and Industry	Arts, Audio/Visual Technology and Communications	Digital Communications	Careers in audio and video technology and film production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production, in addition to developing advanced knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced understanding of the industry with a focus on pre-production, production, and post-production products. This course may be implemented in an audio format or a format with both audio and video.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Automotive Technology I Maintenance and Light Repair (Two Credits)	Business and Industry	Transportation, Distribution and Logistics	Automotive	Automotive Technology I: Maintenance and Light Repair includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. This course includes applicable safety and environmental rules and regulations. In Automotive Technology I: Maintenance and Light Repair, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.
Automotive Technology II: Automotive Service (Two Credits)	Business and Industry	Transportation, Distribution and Logistics	Automotive	Automotive Technology II: Automotive Service includes knowledge of the major automotive systems and the principles of diagnosing and servicing these systems. Automotive Technology II: Automotive Service includes applicable safety and environmental rules and regulations. In this course, students will gain knowledge and skills in the repair, maintenance, and diagnosis of vehicle systems. This study will allow students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings. The focus of this course is to teach safety, tool identification, proper tool use, and employability.
Banking and Financial Services (Half Credit)	Business and Industry	Business, Marketing and Finance	Accounting and Financial Services	Banking services are primarily concerned with accepting deposits, lending funds, and extending credit. Banking services include cash management, short-term investments, mortgages and other loans, credit cards, and bill payment. Banking services are delivered via a number of different institutions, from commercial banks (the largest group) and other traditional means (savings and loans associations, credit unions, and local banks) to newer ventures through insurance companies, brokerage houses, and the Internet.
Business English (One Credit, English Credit)	Business and Industry	N/A	N/A	In Business English, students enhance communication and research skills by applying them to the business environment, in addition to exchanging information and producing properly formatted business documents using emerging technology.
Business Information Management I (One Credit)	Business and Industry	Business, Marketing and Finance	Business Management	In Business Information Management I, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce and postsecondary education. Students apply technical skills to address business applications of emerging technologies, create word-processing documents, develop a spreadsheet, formulate a database, and make an electronic presentation using appropriate software.
Business Information Management II (One Credit)	Business and Industry	Business, Marketing and Finance	Business Management	In Business Information Management II, students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies, create complex word-processing documents, develop sophisticated spreadsheets using charts and graphs, and make an electronic presentation using appropriate multimedia software.
Business Law (One Credit)	Business and Industry	Business, Marketing and Finance	Business Management	Business Law is designed for students to analyze various aspects of the legal environment, including ethics, the judicial system, contracts, personal property, sales, negotiable instruments, agency and employment, business organization, risk management, and real property.
Business Management (One Credit)	Business and Industry	Business, Marketing and Finance	Business Management	Business Management is designed to familiarize students with the concepts related to business management as well as the functions of management, including planning, organizing, staffing, leading, and controlling. Students will also demonstrate interpersonal and project-management skills.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Career Preparation I (One to Three Credits)	Business and Industry	N/A	N/A	This course is recommended for students in Grades 11-12. The student must have a job; transportation; and must have teacher and principal approval. Career Preparation I provides opportunities for students to participate in a learning experience that combines classroom instruction with paid business and industry employment experiences and supports strong partnerships among school, business, and community stakeholders. The goal is to prepare students with a variety of skills for a fast-changing workplace. This instructional arrangement should be an advanced component of a student's individual program of study. Students are taught employability skills, which include job-specific skills applicable to their training station, job interview techniques, communication skills, financial and budget activities, human relations, and portfolio development.
Career Preparation II (One to Three Credits)	Business and Industry	N/A	N/A	This course is recommended for students in Grade 12. Recommended prerequisite: Career Preparation I. Career Preparation II develops essential knowledge and skills through classroom technical instruction and on-the-job training in an approved business and industry training area. Students will develop skills for lifelong learning, employability, leadership, management, work ethics, safety, and communication as a group; however, each student will have an individual training plan that will address job-specific knowledge and skills. Approved training sponsors will provide paid occupational training for a student. The training sponsor will assist the teacher in providing the necessary knowledge and skills for the student's specific career preparation.
Child Development (One Credit)	Public Service	Education and Training	Early Learning	Child Development is a technical laboratory course that addresses knowledge and skills related to child growth and development from prenatal through school-age children, equipping students with child development skills. Students use these skills to promote the well-being and healthy development of children and investigate careers related to the care and education of children.
Child Guidance (Two Credits)	Public Service	Education and Training	Early Learning	Child Guidance is a technical laboratory course that addresses the knowledge and skills related to child growth and guidance equipping students to develop positive relationships with children and effective caregiver skills. Students use these skills to promote the well-being and healthy development of children, strengthen a culturally diverse society, and pursue careers related to the care, guidance, and education of children, including those with special needs. Instruction may be delivered through school-based laboratory training or through work-based delivery arrangements such as cooperative education, mentoring, and job shadowing.
Commercial Photography I Lab (Two Credits)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in commercial photography require skills that span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the commercial photography industry with a focus on creating quality photographs.
Commercial Photography I (One Credit)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in commercial photography require skills that span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the commercial photography industry with a focus on creating quality photographs.
Commercial Photography II (One Credit)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the commercial photography industry with a focus on producing, promoting, and presenting professional quality photographs.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Commercial Photography II Lab (Two Credits)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the commercial photography industry with a focus on producing, promoting, and presenting professional quality photographs
Computer Aided Drafting for Architecture	Business and Industry	Architecture and Construction	Architectural Design	Computer Aided Drafting for Architecture introduces students to the specific architectural computer aided design and drafting (CADD) software and equipment required to produce architectural working drawings and construction documents.
Computer Integrated Manufacturing	Business and Industry	Manufacturing Technology	Manufacturing	PLTW Computer Integrated Manufacturing is one of the specialization courses in the PLTW Engineering program. The course deepens the skills and knowledge of an engineering student within the context of efficiently creating the products around us. Students build upon their Computer Aided Design (CAD) experience through the use of Computer Aided Manufacturing (CAM) software. CAM transforms a digital design into a program that a Computer Numerical Controlled (CNC) mill uses to transform a block of raw material into a product designed by a student. Students learn and apply concepts related to integrating robotic systems such as Automated Guided Vehicles (AGV) and robotic arms into manufacturing systems. Throughout the course students learn about manufacturing processes and systems. This course culminates with a capstone project where students design, build, program, and present a manufacturing system model capable of creating a product.
Computer Programming I (One Credit)	Business and Industry	Information Technology	Web Development	In Computer Programming I, students will acquire knowledge of structured programming techniques and concepts appropriate to developing executable programs and creating appropriate documentation. Students will analyze the social responsibility of business and industry regarding the significant issues relating to the environment, ethics, health, safety, and diversity in society and in the workplace as related to computer programming. Students will apply technical skills to address business applications of emerging technologies.
Computer Programming II (One Credit)	Business and Industry	Information Technology	Web Development	In Computer Programming II, students will expand their knowledge and skills in structured programming techniques and concepts by addressing more complex problems and developing comprehensive programming solutions. Students will analyze the social responsibility of business and industry regarding the significant issues relating to environment, ethics, health, safety, and diversity in society and in the workplace as related to computer programming. Students will apply technical skills to address business applications of emerging technologies.
Cosmetology I Lab (Three Credits)	Public Service	Human Service	Cosmetology and Personal Care Services	In Cosmetology I, students coordinate integration of academic, career, and technical knowledge and skills in this laboratory instructional sequence course designed to provide job-specific training for employment in cosmetology careers. Instruction includes sterilization and sanitation procedures, hair care, nail care, and skin care and meets the Texas Department of Licensing and Regulation (TDLR) requirements for licensure upon passing the state examination. Analysis of career opportunities, license requirements, knowledge and skills expectations, and development of workplace skills are included.
Cosmetology II Lab (Three Credits)	Public Service	Human Service	Cosmetology and Personal Care Services	In Cosmetology II, students will demonstrate proficiency in academic, technical, and practical knowledge and skills. The content is designed to provide the occupational skills required for licensure. Instruction includes advanced training in professional standards/employability skills; Texas Department of Licensing and Regulation (TDLR) rules and regulations; use of tools, equipment, technologies and materials; and practical skills.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Culinary Arts (Two Credits)	Business and Industry	Hospitality and Tourism	Culinary Arts	Culinary Arts begins with the fundamentals and principles of the art of cooking and the science of baking and includes management and production skills and techniques. Students can pursue a national sanitation certification or other appropriate industry certifications. This course is offered as a laboratory-based course.
Diversified Manufacturing I (One Credit)	Business and Industry	Manufacturing	Manufacturing Technology	In Diversified Manufacturing I, students gain knowledge and skills in the application, design, production, and assessment of products, services, and systems and how those knowledge and skills are applied to manufacturing. The study of manufacturing systems allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in a manufacturing setting. Diversified Manufacturing I allows students the opportunity to understand the process of mass production by using a wide variety of materials and manufacturing techniques. Knowledge about career opportunities, requirements, and expectations and the development of skills prepare students for workplace success.
Diversified Manufacturing II (One Credit)	Business and Industry	Manufacturing	Manufacturing Technology	In Diversified Manufacturing II, students will gain knowledge and skills in the application, design, production, and assessment of products, services, and systems and how those knowledge and skills are applied to manufacturing. The study of manufacturing systems allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in a manufacturing setting. Diversified Manufacturing II allows students the opportunity to understand the process of mass production by using a wide variety of materials and manufacturing techniques. Knowledge about career opportunities, requirements, and expectations and the development of skills prepare students for workplace success.
Electrical Technology 1 (One Credit)	Business and Industry	Architecture and Construction	Electrical	In Electrical Technology I, students will gain knowledge and skills needed to enter the workforce as an electrician or building maintenance supervisor, prepare for a postsecondary degree in a specified field of construction or construction management, or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, electrical theory, tools, codes, installation of electrical equipment, and the reading of electrical drawings, schematics, and specifications. This is completed the senior year with the partnership of Independent Electrical Contractors (IEC).
Electrical Technology II (Two Credits)	Business and Industry	Architecture and Construction	Electrical	In Electrical Technology II, students will gain advanced knowledge and skills needed to enter the workforce as an electrician, a building maintenance technician, or a supervisor; prepare for a postsecondary degree in a specified field of construction or construction management; or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, electrical theory, tools, codes, installation of electrical equipment, alternating current and direct current motors, conductor installation, installation of electrical services, and electric lighting installation.
Equine Science (One-Half Credit)	Business and Industry	Agriculture, Food and Natural Resources	Animal Science	In Equine Science, students will acquire knowledge and skills related to equine animal systems and the equine industry. Equine Science may address topics related to horses, donkeys, and mules. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Fashion Design I (One Credit)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the fashion industry with an emphasis on design and construction.
Fashion Design I Lab (Two Credits)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the fashion industry with an emphasis on design and construction.
Fashion Design II (One Credit)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the fashion industry with an emphasis on design and construction.
Fashion Design II Lab (Two Credits)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the fashion industry with an emphasis on design and construction.
Financial Mathematics (One Credit)	Business and Industry	Business, Marketing and Finance	Accounting and Financial Services	Financial Mathematics is a course about personal money management. Students will apply critical-thinking skills to analyze personal financial decisions based on current and projected economic factors.
Firefighter I (Two Credits)	Public Service	Law and Public Service	Emergency Services	Firefighter I introduces students to firefighter safety and development. Students will analyze Texas Commission on Fire Protection rules and regulations, proper incident reporting and records, proper use of personal protective equipment, and the principles of fire safety.
Firefighter II (Three Credits)	Public Service	Law and Public Service	Emergency Services	Firefighter II is the second course in a series for students studying firefighter safety and development. Students will understand Texas Commission on Fire Protection rules and regulations, proper incident reporting and records, proper use of personal protective equipment, and the principles of fire safety. Students will demonstrate proper use of fire extinguishers, ground ladders, fire hoses, and water supply apparatus systems.
Floral Design I (One Credit)	Business and Industry	Agriculture, Food and Natural Resources	Plant Science	This course satisfies the fine arts graduation requirement. Floral Design is designed to develop students' ability to identify and demonstrate the principles and techniques related to floral design as well as develop an understanding of the management of floral enterprises. Through the analysis of artistic floral styles and historical periods, students will develop respect for the traditions and contributions of diverse cultures. Students will respond to and analyze floral designs, thus contributing to the development of lifelong skills of making informed judgments and evaluations. To prepare for careers in floral design, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Floral Design I Lab (Two Credits)	Business and Industry	Agriculture, Food and Natural Resources	Plant Science	This course satisfies the fine arts graduation requirement. Floral Design is designed to develop students' ability to identify and demonstrate the principles and techniques related to floral design as well as develop an understanding of the management of floral enterprises. Through the analysis of artistic floral styles and historical periods, students will develop respect for the traditions and contributions of diverse cultures. Students will respond to and analyze floral designs, thus contributing to the development of lifelong skills of making informed judgments and evaluations. To prepare for careers in floral design, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills and technologies in a variety of settings.
Food Science (One Credit)	Business and Industry	Hospitality and Tourism	Culinary Arts	In Food Science students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Food Science is the study of the nature of foods, the causes of deterioration, the principles underlying food processing, and the improvement of foods for the consuming public
General Employability Skills	N/A	N/A	N/A	This course will provide instruction in general employability skills as well as the prerequisite skills for general employability. Employability skills are the skills and attitudes that allow employees to get along with their co-workers, make important work-related decisions and become strong members of the work team
Global Business (One Half Credit)	Business and Industry	Business, Marketing and Finance	Business Management	Global Business is designed for students to analyze global trade theories, international monetary systems, trade policies, politics, and laws relating to global business as well as cultural issues, logistics, and international human resource management.
Graphic Arts Illustration and Design (One Credit)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in graphic design and illustration span all aspects of the advertising and visual communications industries. Within this context, in addition to developing knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an understanding of the industry with a focus on fundamental elements and principles of visual art and design
Health Informatics (One Credit)	Public Service	Health Science	Healthcare Informatics	The Health Informatics course is designed to provide knowledge of one of the fastest growing areas in both academic and professional fields. The large gap between state of the art computer technologies and the state of affairs in health care information technology has generated demand for information and health professionals who can effectively design, develop, and use technologies such as electronic medical records, patient monitoring systems, and digital libraries, while managing the vast amount of data generated by these systems
Health Science Clinical (One Credit)	Public Service	Health Science	Healthcare Diagnostics	The Health Science Clinical course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development.
Health Science Theory (One Credit)	Public Service	Health Science	Healthcare Diagnostics, Healthcare Therapeutic	The Health Science Theory course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will employ hands-on experiences for continued knowledge and skill development.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology I (One Credit)	Business and Industry	Architecture and Construction	HVAC& Sheet Metal	In Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology I, students will gain knowledge and skills needed to enter the industry as technicians in the HVAC and refrigeration industry or building maintenance industry, prepare for a postsecondary degree in a specified field of construction management, or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, principles of HVAC theory, use of tools, codes, and installation of HVAC and refrigeration equipment.
Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II (Two Credits)	Business and Industry	Architecture and Construction	HVAC& Sheet Metal	In Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II, students will gain advanced knowledge and skills needed to enter the industry as HVAC and refrigeration technicians or building maintenance technicians or supervisors, prepare for a postsecondary degree in a specified field of construction or construction management, or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, electrical theory, use of tools, codes, installation of commercial HVAC equipment, heat pumps, troubleshooting techniques, various duct systems, and maintenance practices.
Horticulture Science (1 Credit) Horticulture Science LAB (2 Credits)	Business and Industry	Agriculture, Food and Natural Resources	Plant Science	Horticultural Science is designed to develop an understanding of common horticultural management practices as they relate to food and ornamental plant production. To prepare for careers in horticultural systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticulture and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings.
Human Resources Management (One Half Credit)	Business and Industry	Business, Marketing and Finance	Business Management	Human Resources Management is designed to familiarize students with the concepts related to human resource management, including legal requirements, recruitment and employee selection methods, and employee development and evaluation. Students will also become familiar with compensation and benefits programs as well as workplace safety, employee-management relations, and global impacts on human resources.
Intermediate Computer Aided Design and Drafting	Business and Industry	Architecture and Construction	Architectural Design	Intermediate Computer-Aided Design and Drafting (CADD), focuses on the fundamentals of computer-aided drafting using various drafting programs. Emphasis is placed on drawing set up; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects; adding text and dimensions; using layers and coordinating systems; and using input and output devices.
Introduction to Computer Aided Design and Drafting	Business and Industry	Architecture and Construction	Architectural Design	Introduction to Computer-Aided Design and Drafting (CADD), introduces students to CADD equipment, software selection and interfaces; setting up a CADD workstation; upgrading a computer to run advanced CADD software; storage devices; storing, retrieving, back-up and sharing databases; file servers and local area networks (LANs); and transferring drawing files over the Internet.
Introduction to Unmanned Aerial Vehicle Flight (One Credit)	Business and Industry	Transportation	Drone (Unmanned Flight)	The Introduction to Unmanned Aerial Vehicle (UAV) Flight course is designed to prepare students for entry-level employment or continuing education in piloting UAV operations. Principles of UAV is designed to instruct students in UAV flight navigation, industry laws and regulations, and safety regulations. Students are also exposed to mission planning procedures, environmental factors, and human factors involved in the UAV industry

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Law Enforcement 1 (One Credit)	Public Service	Law and Public Service	Law Enforcement	Law Enforcement I is an overview of the history, organization, and functions of local, state, and federal law enforcement. Students will understand the role of constitutional law at local, state, and federal levels; the U.S. legal system; criminal law; and law enforcement terminology and the classification and elements of crime.
Law Enforcement 2 (One Credit)	Public Service	Law and Public Service	Law Enforcement	Law Enforcement II provides the knowledge and skills necessary to prepare for a career in law enforcement. Students will understand ethical and legal responsibilities, patrol procedures, first responder roles, telecommunications, emergency equipment operations, and courtroom testimony.
Livestock Production (One Credit)	Business and Industry	Agriculture, Food and Natural Resources	Animal Science	In Livestock Production, students will acquire knowledge and skills related to livestock and the livestock production industry. Livestock Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
Livestock Production Lab (Two Credits)	Business and Industry	Agriculture, Food and Natural Resources	Animal Science	In Livestock Production, students will acquire knowledge and skills related to livestock and the livestock production industry. Livestock Production may address topics related to beef cattle, dairy cattle, swine, sheep, goats, and poultry. To prepare for careers in the field of animal science, students must attain academic skills and knowledge, acquire knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
Metal Fabrication and Machining I (Two Credits)	Business and Industry	Manufacturing	Manufacturing Technology	Metal Fabrication and Machining I provides the knowledge, skills, and certifications required for equal employment opportunities in the metal production industry. Students must have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.
Medical Terminology (One Credit)	Public Service	Health Science	Healthcare Diagnostics, Healthcare Therapeutic, Healthcare Informatics	The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology. EKG Certification.
Money Matters (Half Credit)	Business and Industry	Business, Marketing and Finance	Accounting and Financial Services	Students will investigate global economics with emphasis on the free enterprise system and its impact on consumers and businesses. Students apply critical-thinking skills to analyze financial options based on current and projected economic factors. Students will gain knowledge and skills necessary to set long-term financial goals based on those options. Students will determine methods of achieving long-term financial goals through investment, tax planning, asset allocation, risk management, retirement planning, and estate planning.
Pathophysiology (One Credit) CNA	Public Service	Health Science	Healthcare Diagnostics, Healthcare Therapeutic	The Pathophysiology course is designed for students to conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Pathophysiology will study disease processes and how humans are affected. Emphasis is placed on prevention and treatment of disease. Students will differentiate between normal and abnormal physiology. CNA Certification
Pharmacology (One Credit) Pharmacy Tech	Public Service	Health Science	Healthcare Therapeutic	The Pharmacology course is designed to study how natural and synthetic chemical agents such as drugs affect biological systems. Knowledge of the properties of therapeutic agents is vital in providing quality health care. It is an ever-changing, growing body of information that continually demands greater amounts of time and education from health care workers.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Practicum in Agriculture, Food, and Natural Resources (Two to Three Credits)	Business and Industry	Agriculture, Food and Natural Resources	Animal Science, Applied Agricultural Engineering	This course is recommended for students in Grades 11-12. The practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses in the Agriculture, Food, and Natural Resources cluster. Recommended prerequisite: a minimum of one credit from the courses in the Agriculture, Food, and Natural Resources cluster. The practicum is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories.
Practicum in Animation (Two-Three Credits)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in animation span all aspects of the arts, audio/video technology, and communications industry. Building upon the concepts taught in Animation II and its corequisite Animation II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying pre-production, production, and post-production animation products in a professional environment. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
Practicum in Architectural Design	Business and Industry	Architecture and Construction	Architectural Design	Practicum in Architectural Design is an occupationally specific course designed to provide technical instruction in architectural design. Safety and career opportunities are included in addition to work ethics and architectural design study.
Practicum in Audio/Video Production (Two-Three Credits)	Business and Industry	Arts, Audio/Visual Technology and Communications	Digital Communications	Careers in audio/video production span all aspects of the audio/video communications industry. Building upon the concepts taught in Audio/Video Production II and its corequisite Audio/Video Production II Lab, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an increasing understanding of the industry with a focus on applying preproduction, production, and post-production audio and video products in a professional environment. This course may be implemented in an advanced audio/video or audio format. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
Practicum in Business Management (Two-Three Credits)	Business and Industry	Business, Marketing and Finance	Business Management	Practicum in Business Management is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment. Students incorporate a broad base of knowledge that includes the legal, managerial, marketing, financial, ethical, and international dimensions of business to make appropriate business decisions.
Practicum in Commercial Photography (Two-Three Credits Credit)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in commercial photography span all aspects of the industry from setting up a shot to delivering products in a competitive market. In addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the commercial photography industry with a focus on producing, promoting, and presenting professional quality photographs.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Practicum in Construction Technology (Two-Three Credits)	Business and Industry	Architecture and Construction	Electrical	In Electrical Technology II, students will gain advanced knowledge and skills needed to enter the workforce as an electrician, a building maintenance technician, or a supervisor; prepare for a postsecondary degree in a specified field of construction or construction management; or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, electrical theory, tools, codes, installation of electrical equipment, alternating current and direct current motors, conductor installation, installation of electrical services, and electric lighting installation. The senior year students will partner with Independent Electrical Contractors (IEC) and embedded job opportunity with a local electrical company.
Practicum in Construction Technology (Two-Three Credits)	Business and Industry	Architecture and Construction	Electrical	Practicum in Construction Management is an occupationally specific course designed to provide classroom technical instruction or on-the-job training experiences. Safety and career opportunities are included in addition to work ethics and job-related study in the classroom. The senior year students will gain embedded work skills with a local electrical company.
Practicum in Culinary Arts (Two-Three Credits)	Business and Industry	Hospitality and Tourism	Culinary Arts	Practicum in Culinary Arts is a unique practicum that provides occupationally specific opportunities for students to participate in a learning experience that combines classroom instruction with actual business and industry career experiences. Practicum in Culinary Arts integrates academic and career and technical education; provides more interdisciplinary instruction; and supports strong partnerships among schools, businesses, and community institutions with the goal of preparing students with a variety of skills in a fast-changing workplace
Practicum in Fashion Design (Two-Three Credits)	Business and Industry	Arts, Audio/Visual Technology and Communications	Design and Multimedia Arts	Careers in fashion span all aspects of the textile and apparel industries. Within this context, in addition to developing advanced technical knowledge and skills needed for success in the Arts, Audio/Video Technology, and Communications Career Cluster, students will be expected to develop an advanced technical understanding of the business aspects of fashion, with emphasis on promotion and retailing. Instruction may be delivered through lab-based classroom experiences or career preparation opportunities.
Practicum in Health Science (Two-Three Credits)	Public Service	Health Science	Healthcare Diagnostics Healthcare Therapeutic	The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.
Practicum in Human Services (Two to Three Credits)	Public Service	Human Services	Family and Community Services	This course is recommended for students in Grades 11-12. Practicum in Human Services provides occupationally specific training and focuses on the development of consumer services, early childhood development and services, counseling and mental health services, and family and community services careers. Content for Practicum in Human Services is designed to meet the occupational preparation needs and interests of students for communication, critical thinking, problem solving, information technology, ethical and legal responsibilities, leadership, teamwork, and entrepreneurship. Instruction may be delivered through school-based laboratory training or through work-based delivery arrangements such as cooperative education, mentoring, and job shadowing.
Practicum in Manufacturing (Two to Three Credits).	Business and Industry	Manufacturing	Welding	The Practicum in Manufacturing course is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.
Practicum in Law, Public Safety, Corrections, and Security (Two Credits)	Public Service	Law and Public Services	Emergency Services	The practicum course is designed to give students supervised practical application of previously studied knowledge and skills in law, public safety, corrections, and security. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Precision Metal Manufacturing I (Two Credits)	Business and Industry	Manufacturing	Manufacturing Technology	Precision Metal Manufacturing I will provide the knowledge, skills, and technologies required for employment in precision machining. While the course is designed to provide necessary skills in machining, it also provides a real-world foundation for any engineering discipline. This course may address a variety of materials such as plastics, ceramics, and wood in addition to metal. Students will develop knowledge of the concepts and skills related to precision metal manufacturing to apply them to personal and career development. This course supports integration of academic and technical knowledge and skills. Students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills prepare students for success. This course is designed to provide entry-level employment for the student or articulated credit integration into a community college and dual credit with a community college with completion of the advanced course.
Principles of Agriculture, Food, and Natural Resources (One Credit)	Business and Industry	Agriculture, Food and Natural Resources	Applied Agricultural Engineering	Principles of Agriculture, Food, and Natural Resources will allow students to develop knowledge and skills regarding career and educational opportunities, personal development, globalization, industry standards, details, practices, and expectations. To prepare for careers in agriculture, food, and natural resources, students must attain academic skills and knowledge in agriculture. To prepare for success, students need opportunities to learn, reinforce, experience, apply, and transfer their knowledge and skills in a variety of settings.
Principles of Applied Engineering (One Credit)	Business and Industry	Manufacturing	Advanced Manufacturing and Machinery Mechanics	Principles of Applied Engineering provides an overview of the various fields of science, technology, engineering, and mathematics and their interrelationships. Students will develop engineering communication skills, which include computer graphics, modeling, and presentations, by using a variety of computer hardware and software applications to complete assignments and projects. Upon completing this course, students will have an understanding of the various fields of engineering and will be able to make informed career decisions. Further, students will have worked on a design team to develop a product or system. Students will use multiple software applications to prepare and present course assignments.
Principles of Business, Marketing, and Finance (One Credit)	Business and Industry	Business, Marketing and Finance	Business Management	In Principles of Business, Marketing, and Finance, students gain knowledge and skills in economies and private enterprise systems, the impact of global business, the marketing of goods and services, advertising, and product pricing. Students analyze the sales process and financial management principles. This course allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities, problems, and settings in business, marketing, and finance.
Principles of Hospitality and Tourism (One Credit)	Business and Industry	Hospitality and Tourism	Culinary Arts	Principles of Hospitality and Tourism introduces students to an industry that encompasses lodging, travel and tourism, recreation, amusements, attractions, and food/beverage operations. Students learn 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 in that industry.
Principles of Manufacturing (One Credit)	Business and Industry	Manufacturing	Manufacturing Technology	In Principles of Manufacturing, students are introduced to knowledge and skills used in the proper application of principles of manufacturing. The study of manufacturing technology allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities. Students will gain an understanding of what employers require to gain and maintain employment in manufacturing careers.

MHS Career and Technology Courses

Course Name	Endorsement	Career Cluster	Program of Study	Course Explanation
Professional Communications (One-Half Credit, Speech Credit M/R/D)	Business and Industry	Arts, Audio/Visual Technology and Communications	Digital Communications	Professional Communications blends written, oral, and graphic communication in a career-based environment. Careers in the global economy require individuals to be creative and have a strong background in computer and technology applications, a strong and solid academic foundation, and a proficiency in professional oral and written communication. Within this context, students will be expected to develop and expand the ability to write, read, edit, speak, listen, apply software applications, manipulate computer graphics, and conduct Internet research.
Project-Based Research (One Credit)	Business and Industry	Agriculture, Food and Natural Resources	Animal Science	This course is recommended for students in Grades 11 and 12. Students shall be awarded one credit for successful completion of this course. Students may repeat this course with different course content for up to three credits. Project-Based Research is a course for students to research a real-world problem. Students are matched with a mentor from the business or professional community to develop an original project on a topic related to career interests. Students use scientific methods of investigation to conduct in depth research, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.
Robotics I (One Credit)	Business and Industry	Manufacturing	Advanced Manufacturing and Machinery Mechanics	In Robotics I, students will transfer academic skills to component designs in a project-based environment through implementation of the design process. Students will build prototypes or use simulation software to test their designs. Additionally, students will explore career opportunities, employer expectations, and educational needs in the robotic and automation industry.
Robotics II (One Credit)	Business and Industry	Manufacturing	Advanced Manufacturing and Machinery Mechanics	In Robotics II, students will explore artificial intelligence and programming in the robotic and automation industry. Through implementation of the design process, students will transfer academic skills to component designs in a project-based environment. Students will build prototypes and use software to test their designs.
Scientific Research and Design (One Credit)	Business and Industry	Transportation	Drone (Unmanned Flight)	Scientific Research and Design is a broad-based course designed to allow districts and schools considerable flexibility to develop local curriculum to supplement any program of study or coherent sequence. The course has the components of any rigorous scientific or engineering program of study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. All of these components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.
Small Animal Management (One Credit)	Business and Industry	Agriculture, Food and Natural Resources	Animal Science	In Small Animal Management, students will acquire knowledge and skills related to small animals and the small animal management industry. Small Animal Management may address topics related to small mammals such as dogs and cats, amphibians, reptiles, and birds. To prepare for careers in the field of animal science, students must enhance academic knowledge and skills, acquire knowledge and skills related to animal systems, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to learn, reinforce, apply, and transfer knowledge and skills in a variety of settings.