

Director—Sam Richardson  
Career Resource Coordinator—Leah Stein

Student Services—Sharon Johanning  
Embedded Credit—Terry Soendker

## 2017-2018 COURSE DESCRIPTIONS

**1. AGRICULTURE AND NATURAL RESOURCES**-Articulated college credit and embedded credit are available in this program if students meet the hourly enrollment requirement.

### Large Animal Science

**GRADES 9-12**(1 credit-all year) This course includes instruction in animal breeding, genetics, animal nutrition, livestock management, marketing and economics in livestock production, anatomy and physiology, meat science, veterinarian science and animal systems. The animal species covered include: cattle, horses, sheep, goat, swine, and poultry. FFA is an integral part of the course, offering the opportunity to be involved in leadership activities and to receive recognition for accomplishments pertaining to classroom achievements. Students joining this class at semester are strongly encouraged to have a previous agriculture class due to the FFA record book requirement.

### Horticulture

**GRADES 9-12**(1 credit-all year) This course is designed to give instruction in the areas of exploring the horticulture field, greenhouse management, pest control, propagation, landscaping, lawn and turf management, crop and soil science, gardening and floral designs. A greenhouse will be available for practical hands-on laboratory experience as related to the classroom. FFA is an integral part of the course, offering the opportunity to be involved in leadership activities and to receive recognition for accomplishments made pertaining to classroom achievements. Students joining this class at semester are strongly encouraged to have a previous agriculture class due to the FFA record book requirement.

### Agriculture Construction-Metals

**GRADES 9-12**(1 credit-all year) This course is designed to teach basic welding procedures, techniques and methods. Experience will be provided in arc, mig and oxyacetylene gas on mild steel. Approximately 80% of this class will be shop instruction. Shop work will be limited to practicing the basic welds and developing skills. It also consists of major metal projects as related to agricultural operations. FFA is an integral part of the course, offering the opportunity to be involved in leadership activities and to receive recognition for accomplishments made pertaining to classroom achievements.

### Agricultural Construction-Woods

**GRADES 9-12**(1 credit-all year) This course is designed to give instruction in the basics of wood construction. Units include fine woodworking skills, measurement, small and large project development, tool identification and shop safety. Students wishing to keep their projects must provide their own material. FFA is an integral part of the course, offering the opportunity to be involved in leadership activities and to receive recognition for accomplishments made pertaining to classroom achievements.

### Small Animal Science

**GRADES 9-12**(1 credit-all year) This course includes instruction in animal management, nutrition, genetics, anatomy, reproduction, production practices, and the role animals play in our society. The animal species covered include: dogs, cats, rabbits, and other small and large companion animals. FFA is an integral part of the course, offering the opportunity to be involved in leadership activities and to receive recognition for accomplishments made pertaining to classroom achievements. Students joining this class at semester are strongly encouraged to have a previous agriculture class due to the FFA record book requirement.

### Conservation and Natural Resources

**GRADES 9-12**(offered 2017-2018 school year, 1 credit-all year) This course is designed to give instruction in the areas of conservation, natural resources, wildlife, and forestry. Units include natural resource conservation, wildlife management, wildlife and fish identification, ornithology (birds), reptiles, amphibians, entomology (insects), and careers in conservation and natural resources. FFA is an integral part of the course, offering students the opportunity to be involved in leadership

activities and to receive recognition for accomplishments made pertaining to classroom achievement. Students joining this class at semester are strongly encouraged to have a previous agriculture class due to the FFA record book requirement.

### **Fish and Wildlife Management/Forestry**

**Grades 9-12**(offered 2018-2019 school year, 1 credit-all year) This course is designed to give instruction in the areas of fish, wildlife and forestry. Units include natural resource conservation, conservation careers, fish and wildlife values, habitat management principles and techniques, animal life histories, fish and wildlife protection. Forest units include the importance of forest resources, identifying Missouri trees, planting trees, forestry tools and equipment and timber stand improvement. FFA is an integral part of the course, offering the opportunity to be involved in leadership activities and to receive recognition for accomplishments made pertaining to classroom achievements. Students joining this class at semester are strongly encouraged to have a previous agriculture class due to the FFA record book requirement.

### **Landscape and Turf Management**

**GRADES 9-12**(2 credits-all year) This course is designed to give instruction in landscaping and turf management and to develop entry level skills in designing landscapes for homes and businesses as well as taking care of athletic fields and golf courses. Units include how plants grow; use of hand and power tools; installation of trees, shrubs, bedding plants, ground covers, turf grass; site analysis and evaluation; plant identification and selection; design elements and cost estimates. Students examine science as both content and process. Practical experience outside the classroom on-site will be provided. Students will perform actual landscaping work. Appropriate dress is recommended. FFA is an integral part of the course, offering the opportunity to be involved in leadership activities and to receive recognition for accomplishments made pertaining to classroom achievements.

### **Agricultural Cooperative Education**

**GRADES 11-12**(1-2 credits-all year) Restrictions – Students' workstation must be a full time agriculture business with approval of agricultural instructor. All credit earned depends on exact number of weekly hours worked. Averaging work hours is not allowed. Participation in the Agricultural Cooperative Education Program will follow all requirements as set down in the current program requirements published by the Agriculture Program. This course is designed for an agriculture student to train at an instructor-approved agricultural or related workstation. The work must be paid work, with earned academic credit depending upon the number of certified work hours engaged in weekly by the student. All workstations MUST be pre-approved by the instructor before enrollment in the course. Credit:

- 1 credit earned for working 10-19 hours per week.
- 2 credits earned for working 20 or more hours per week.

## **2. ARCHITECTURAL & ENGINEERING DESIGN**-Articulated college credit and embedded credit are available in this program.

### **Introduction to Architectural & Engineering Design**

**GRADE 10-12**(1 credit-all year) Recommendations: Good math background and basic computer skills. Enrollment is limited to a space available basis. This course is designed for students to explore the architecture or engineering fields. The course covers the basics of engineering and architecture drawing concepts through hands-on experience while using Autocad computer drafting software. Course content includes careers in drafting/engineering/architecture, use of drafting equipment, drafting techniques, lettering, geometric construction, multi-view and isometric drawings, and basic dimensioning. Students will also be instructed in residential architecture drafting techniques required to design and draft floor plans.

### **Architectural & Engineering Design I**

**GRADE 11-12**(2-3 credits-all year) Recommendations: Good math background and basic computer skills. This course is designed for students who are aspiring to become an architect, engineer, designer or engineering technician. The course covers the basics of architecture and engineering drawing concepts through hands-on experience while using AutoDesk computer design software. Course content includes careers in drafting/engineering, use of drafting equipment, drafting techniques, lettering, geometric construction, multi-view and isometric drawings, sectional and auxiliary views, and basic dimensioning, solid modeling, 3D printing and basic engineering concepts. Students will also be instructed in residential architecture drafting techniques required to design and draft floor plans using Architecture computer drafting software. In the event of over-enrollment, a basic visualization/math aptitude assessment which emphasizes skills needed to be successful in this course will be administered to determine final enrollment. To enroll in Engineering & Architectural Design II, students must earn a minimum of 'C-' each semester in Architectural & Engineering Design I.

### **Architectural & Engineering Design II**

**GRADE 12**(2-3 credits-all year) Prerequisite: C- or better each semester of Architectural & Engineering Design I. This advanced course focuses on training students in the techniques of 3-D modeling, 3D printing, rendering, and animation on the personal computer. The course introduces the principles of visualization, which enables students to create presentation drawings for both architectural and industrial product design. The course focuses on teaching students the

design of parts by using engineering software (Autodesk, Inventor, and Solidworks) in the study of mechanical designing, detail and assembly drawings, and advanced dimensioning and tolerancing techniques. Students will also learn about designing for renewable energy sources (solar, hydro, eco), basic electronics, basic physics, and robotics. Advanced drawing techniques and drafting applications will also be included. Advanced architecture in commercial design will also be taught using Autodesk Revit software. This course uses design projects to teach students about working on engineering design teams. Students will also learn techniques to obtain a drafting job. Upon successful completion, students will be able to obtain an engineering or architectural technician job and/or earn articulated college credit.

**3. AUTOMOTIVE TECHNOLOGY**-Articulated college credit and embedded credit are available in this program.

**Automotive Technology I/II**

**GRADES 11-12**(3 credits-all year) This program is certified by the National Automotive Technicians Education Foundation (NATEF). Recommendations - Students should have a good math and science background. The Automotive Technology program teaches students to service and repair automobiles. Course content covers development of inspection skills, diagnosis of malfunctions, disassembly, repair or replacement of automobile engines, power trains, steering, brakes, electrical systems and air-conditioning. Instruction includes proper use of diagnostic test equipment and tools used in the repair process. This course is a two-year, half-day program, open to juniors and seniors for 3 units of credit each year. In the event of over-enrollment, a basic mechanical aptitude assessment which emphasizes skills needed to be successful in this course will be administered to all Level 1 students to determine final enrollment. To enroll in Automotive Technology II students must successfully complete Automotive Technology I with a 'C-' or better each semester.

**4. BUILDING TECHNOLOGY**-Articulated college credit and embedded credit are available in this program.

**Building Technology I/II**

**GRADES 11-12**(3 credits-all year) Recommendations - Student should have a good math and general science background, mechanical aptitude, dexterity, balance and good hand-eye coordination. The Building Technology program teaches students the basics of carpentry, masonry, electrical wiring and plumbing as related to residential structures. Students learn how to operate hand and power tools commonly used in the construction trades. Students also receive instruction in first aid, safety, and communication skills. Second year students can specialize in estimating, supervision, layout and problem solving. The course is a two-year, half-day program open to juniors and seniors for 3 units of credit each year. In the event of over-enrollment, a basic physical abilities assessment which emphasizes skills needed to be successful in this course will be administered to all Level 1 students to determine final enrollment. To enroll in Building Technology II, students must successfully complete Building Technology I with a 'C-' or better each semester.

**5. BUSINESS AND TECHNOLOGY**-Articulated college credit and embedded credit are available in this program if students meet the hourly enrollment requirement.

**Computer Applications**

**GRADES 9-12**(1 credit-all year) This course is designed to help students master beginning and advanced skills in the areas of word processing, database management, spreadsheet applications, desktop publishing, multimedia, Internet usage, and integrated software applications. MS Office 2016 will be used in this course. Successful completion of this course is required for Marketing, Graphic Arts, Web Design, Multimedia, Accounting II, and Computer Information Technology.

**Graphic Arts I**

**GRADES 10-12**(1 credit-all year) Prerequisite: Computer Applications-both semesters. This is an introductory course designed to prepare students for employment in a career area, which includes graphic arts skills. Students develop proficiency in the areas of: publication set-up, typography concepts, managing images, demonstrating design concepts, and performing print processes. This course follows industry standards for professional layout and design in the world of publishing using Adobe Master Suite software. Students learn the basics of how to create professional looking documents in a creative graphic design atmosphere. To enroll in Graphic Arts II, students must earn a minimum of 'B-' each semester in Graphic Arts I.

**Graphic Arts II**

**GRADES 11-12**(1 credit-all year) Prerequisite: Graphic Arts 1 with a minimum grade of 'B-' for both semesters. This is an advanced course designed to prepare students for employment in a career area which includes graphic arts skills. Students develop proficiency in the areas of: publications set-up, typography concepts, managing images, demonstrating

design concepts, and performing print processes. This course follows industry standards for professional layout and design in the world of publishing using Adobe Master Suite software. Students learn the basics of how to create professional looking documents in a creative graphic design atmosphere.

### **Multimedia**

**GRADES 10-12**(1/2 credit-2<sup>nd</sup> semester) Prerequisite: Computer Applications-both semesters. This course addresses the technological skills required of students to create effective electronic presentations for companies. The demand for multimedia knowledge and ability to apply it will continue to increase as businesses utilize multimedia functions such as graphics, audio, video, and electronic presentations. Students will work with multimedia software to develop advanced electronic presentations. They will learn how to manipulate text, art, graphics, photography, animation, audio, and video for presentations in various media formats.

### **Web Design**

**GRADES 10-12**(1/2 credit-1<sup>st</sup> semester) Prerequisites: Computer Applications-both semesters. Rapid technological advancement by businesses to reach global markets, greater focus on industry certifications and national skill standards, expansion of responsibilities of office workers, portability of employee skills – all these increase the need for business students in career education programs to have skills in Web design and maintenance. This course deals with the use of HTML, graphics applications, and other Web authoring tools to design, edit, launch, and maintain Web sites and pages. Such topics as Internet theory, Web page standards, Web design elements, user interfaces, special effects, navigation, and emerging Web technologies will be included.

### **MOS Certification**

**GRADES 10-12**(1/2 credit- either semester) Prerequisite: Computer Applications with a minimum grade of 'B' for both semesters. Students will prepare for the Microsoft Office Specialist (MOS) Word, Excel and PowerPoint exams. These exams will certify students according to nationally recognized computing skills standards. Students will take the MOS Exams on-line through Microsoft Corporation. If passed, students will be nationally certified which will help advance career prospects in a competitive job market or result in advanced standing in post-secondary programs.

### **Accounting I**

**GRADES 10-12**(1 credit-all year) This course introduces double-entry accounting. It covers the complete accounting cycle in its simplest form and then expands the cycle by using special journals, subsidiary ledgers, and detailed financial statements. Microcomputers and practice sets will be used to reinforce accounting concepts. Additional units include instruction in payroll, checking accounts, inventory control and preparing financial statements. This course reinforces needed skills, characteristics, and attitudes, not just for business purposes, but for everyday living. Students will learn principles that are important for personal use, for use by all business workers, for use in decision-making by management, and to prepare for a career. To enroll in Accounting II, students must earn a minimum of 'C' each semester in Accounting I.

### **Accounting II**

**GRADES 11-12**(1 credit-all year) Prerequisite: Computer Applications; minimum grade of 'C' each semester in Accounting I. This course is designed to help students acquire a more thorough, in-depth knowledge of accounting procedures and techniques utilized in solving business problems and making financial decisions. Students will develop skills in analyzing and interpreting information common to partnerships and corporations, preparing formal statements and supporting schedules, and using inventory and budgetary control systems. The entire accounting cycle is expanded manually and on the computer using Excel software. This program is highly recommended for anyone planning to attend college to be a Certified Public Accountant (CPA), in a business-related field, or for anyone planning to enter the workforce in the business/financial world. To enroll in Problems in Accounting, students must earn a minimum of 'B' each semester in Accounting II.

### **Problems in Accounting**

**GRADE 12**(1 credit-all year) Prerequisite: minimum grade of 'B' each semester in Accounting II. This course is designed for students who have completed the first two years of Accounting and wish to continue their exploration into the Accounting field. This course is designed to help students acquire a more thorough, in-depth knowledge of accounting procedures and techniques utilized in solving business problems and making financial decisions. Students will work on more business simulation accounting problems as they fine tune their ability to analyze and interpret financial information. The entire accounting cycle is expanded manually and on the computer using Excel. This program is highly recommended for anyone planning to attend college to be a Certified Public Accountant (CPA), in a business-related field, or for anyone planning to enter the workforce as a bookkeeper.

### **Business Principles & Management**

**GRADES 10-12**(1 credit-all year) Are you interested in how business is organized, owned, and managed? Business Principles and Management is designed to provide an understanding of the characteristics, organization, and operations of business. The course is geared to students who are exploring the possibility of a career in business and focuses on the

role of the manager or entrepreneur. Students will learn principles and concepts that will aid them in becoming effective members of the business community, studying such topics as business environment, types of ownership and the law, information and communication systems, production and marketing, finance, human resources, and management. Business law topics such as torts; contracts-proper form, discharge and remedies for breach; employment contracts, regulations and employee protections; buying and selling goods; personal property and bailment will also be covered. This course is especially recommended for those who will continue in any area of business at the college level or for those who have an interest in owning and operating their own business.

### **Personal Finance**

**GRADE 10**(1/2 credit-either semester) **Required for students to graduate.** Understanding and managing personal finances are key to one's future financial success. This one-semester course is based on the Missouri Personal Finance Competencies and presents essential knowledge and skills to make informed decisions about real-world financial issues. Students will learn how choices influence occupational options and future earning potential. Students will also learn to apply decision-making skills to evaluate career choices and set personal goals. The course content is designed to help the learner make wise spending, saving, and credit decisions and to make effective use of income to achieve personal financial success.

### **Employment Essentials**

**GRADES 11-12**(1 credit-all year) Employment Essentials is a course designed for students with a wide variety of career interests who wish to learn more about employment opportunities and skills. Students will study topics related to professional communication, technology in the workplace, entrepreneurship, and balancing work life and personal life. Students will also develop an individual career plan, research a variety of careers, examine the job search process, and learn interviewing skills.

### **Supervised Business Experience (SBE)**

**GRADES 11-12**(1-2 credits-all year) Restrictions--1. The student must be at least 16 years old and a junior. 2. The student must be enrolled in an advanced technical business class and be responsible for transportation to and from the worksite. Enrollment is by approval of the SBE Coordinator. This course offers a supervised learning experience through the cooperation of school and business. It provides an opportunity for students to attend classes at school and work in a business setting to apply business knowledge, skills, and techniques to a specific job situation. Earned credit depends upon the number of certified hours worked per week by the student. The instructor **MUST** approve all workstations. The student must also be enrolled in a technical business course at the same time as earning Supervised Business Experience credit. Credit:

- 1 credit earned for working 10-19 hours per week
- 2 credits earned for working 20 or more hours per week.

**6. COLLISION REPAIR TECHNOLOGY**-Articulated college credit and embedded credit are available in this program.

### **Collision Repair Technology I/II**

**GRADES 11-12**(3 credits-all year) This program is certified by the National Automotive Technicians Education Foundation (NATEF). Recommendations – Students should have the ability to understand and apply math skills, general knowledge of the use of hand and power tools, possess good hand-eye coordination, manual dexterity and be free from allergies. Students in Collision Repair Technology will learn to repair damaged vehicles to their pre-accident condition using the same state-of-the-art equipment used in industry. Students in Collision Repair Technology I will be introduced to the different types of technology used in collision repair. They will use hand and power tools; learn to raise and support vehicles; repair sheet metal, plastic and fiberglass; use plastic body filler; replace panels; and be introduced to refinishing. In addition, first year students will learn how to complete damage reports used for estimating. Students enrolled in Collision Repair Technology II will repair panels made of plastic, metal, and fiberglass; replace whole panels; practice refinishing; learn frame repair; and repair suspension systems. Collision Repair Technology students receive practical experience in auto body repair, parts replacement, automotive painting, welding, and frame straightening. This course is a two-year, half-day program open to juniors and seniors for 3 units of credit each year. To enroll in Collision Repair Technology II, students must successfully complete Collision Repair Technology I with a 'C-' or better each semester.

**SEM CERTIFIED TECHNICIAN**-Students completing in-shop training can be **SEM certified** in the following areas: 1. Plastic Repair and Refinishing; 2. Interior Repair; 3. Metal Bonding; 4. Spray-on Bedliners; 5. Corrosion Protection.

**PRO SPOT WELDING SYSTEMS TECHNICIAN**-Students completing in-shop training can be Pro Spot certified in basic Squeeze Type Resistance Spot Welding and Weld Testing.

**7. COMPUTER INFORMATION TECHNOLOGY**-Articulated college credit and embedded credit are available in this program.

**Computer Information Technology I/II**

**GRADES 11-12**(2-3 credits-all year) Prerequisite: Computer Applications and NO computer violations for school year previous to enrollment (students may appeal this decision, in writing, to the MATC director within 5 days of enrollment rejection notification). Computer Information Technology (CIT) is a course designed for students that aspire to be in the technology industry and want to be exposed to the various disciplines. This course is a two-year program open to juniors and seniors. Students will learn to design, build and troubleshoot personal computers, laptops, and network servers. Students will be introduced to operating systems with advanced study in Windows 7, Windows 8, Server 2008, Server 2012, Ubuntu and MAC OS X. Students will learn basic network setup, network administration, local area network (LAN), wireless local area network (WLAN), and wide area network (WAN) configuration. Students will be introduced to basic robotic programming, 3-D Graphics, basic computer programming, voice-over IP phone systems and power over Ethernet cameras. Students will also create a website and movie maker project. Students will acquire the necessary knowledge and skills needed to pass the Microsoft MTA OS certification test, a nationally recognized testing program that certifies the competency of entry-level computer service technicians. To enroll in CIT II students must earn a minimum of a "C-" each semester in Computer Information Technology I.

**8. ELECTRONICS & ROBOTICS TECHNOLOGY**-Articulated college credit and embedded credit are available in this program.

**Introduction to Electronics & Robotics Technology**

**GRADE 10**(1 credit all year) Enrollment is limited to a space available basis. Students will be introduced to the exciting field of electronics technology through a state-of-the-art lab. If you are interested in becoming an electrical engineer, electronic technician or gaining the foundational skills used in many technical fields from automotive, computers to lasers, robotics to fiber optics, this is the course for you. You will be engaged in hands-on labs that will develop your knowledge and skills in DC and AC and simple digital electronics. You will learn how these circuits are used in audio-video surveillance systems, robotics, lasers, avionics, bio-medicine, and computers.

**Electronics & Robotics Technology I**

**GRADE 11-12**(2-3 credits-all year) Electronics involves the manipulation of voltages and electric currents through the use of various devices for the purpose of performing some useful action. Students will learn the necessary skills needed to prepare for the field of electronics. From basic DC/AC electronic theory to advanced digital applications, students will design, build and test a variety of electronic circuits. A "hands-on" intense program, students will work in a progressive lab with state-of-the-art test equipment. Students will also be introduced to audio-video surveillance, robotics, and sound system installation. To enroll in Electronics & Robotics Technology, students must earn a minimum of 'C-' each semester in Electronics & Robotics Technology I.

**Electronics & Robotics Technology II**

**Grade 12**(2-3 credits-all year) Prerequisite: C- or better each semester of Electronics Technology I. Second year students can choose to specialize in robotics programming. Robots build automobiles, computers, X-Boxes, etc. Industrial robots combine multiple processes utilizing multiple tools to efficiently streamline manufacturing. Technicians who can build, program, and maintain robots are in demand. Additionally, second year students will have the opportunity to further their skills and knowledge with advanced-security systems, fiber optics and advanced sound system programming. Students also have the opportunity to become ISCET certified (see below).

**INTERNATIONAL SOCIETY FOR CERTIFIED ELECTRONICS TECHNICIANS (I.S.C.E.T.)**-Recommendations: Algebra Upon completion of Electronics Technology I, students can take the Associate-Level CET test (for technicians or students with less than four years of experience). Testing for the Journeyman-Level CET is also available.

**INTERNATIONAL MUSICAL INSTRUMENT TECHNICAL ASSOCIATION (I.M.I.T.A.)**-Upon completion of Electronics Technology II, students can take the test to be certified through I.M.I.T.A. as a technician.

**9. MACHINE TOOL TECHNOLOGY**-Dual college credit, articulated college credit, and embedded credit are available in this program.

**Introduction to Machine Tool Technology**

**GRADE 10**(1 credit-all year) Enrollment is limited to a space available basis. If you are mechanically inclined, creative, enjoy challenging work, like to fix things, like using your mind and hands to build things, then you need to enroll in Introduction to Machine Tool Technology! You will experience the excitement of producing your own projects in a state-

of-the-art machining lab. While creating your projects, you will learn basic machining information and techniques. You will also have the opportunity to develop advanced machining skills and knowledge by the time you leave high school.

### **Machine Tool Technology I/II**

**GRADES 11-12**(2-3 credits-all year) Students will learn to operate lathes, milling machines, grinders, computer numerical control (CNC) machines, and Omax waterjet to fabricate many different projects from steel and aluminum. Skills are taught through classroom instruction and hands-on training. Second year students learn Mastercam programming for CNC operations, metallurgy, heat treatment, and precision grinding. The Machine Tool Technology program provides students with training for the following career areas: CNC Operators, Quality Control Engineers, Production Engineers, Tool and Die Apprentice, Lathe Operation, Milling Machine Operation, Surface Grinder Operation, and Precision Measurement. Students completing the Machine Tool Program enter the job market with the potential for high employment and high wage opportunities or enter post-secondary education with a solid background in machining. The course is a two-year, half-day program open to juniors and seniors for 3 units of credit each year. To enroll in Machine Tool Technology II, students must successfully complete Machine Tool Technology I with a 'C-' or better each semester.

**10. MARKETING**-Articulated college credit and embedded credit are available in this program if students meet the hourly requirement.

### **Marketing**

**GRADES 10-12**(1 credit-all year) Prerequisite: Computer Applications. Recommendations: math skills, communication skills. Marketing is the process of planning and executing the product, price, distribution, and promotion of goods and/or services. This course provides students with the application of marketing activities within the promotional mix: advertising, personal selling, promotional planning, and public relations. The course also provides students with a variety of projects covering a business/marketing plan. Students will use a variety of skills, attitudes and abilities needed for success in today's workplace: career planning, critical thinking, decision making, and teamwork. The application of mathematics, English, and technology will all be used to execute marketing activities and projects. This course also introduces students to the rewards and risks of owning/operating a business enterprise. Emphasis is placed on the mastery of skills needed to plan, organize, manage, and finance a small business. The students are also in charge of operating the MATC Cornerstone School Store on a rotation basis throughout the year. Participation in the work cooperative education program is an option, yet it will give students an opportunity to apply marketing skills in the workplace.

- 1 credit earned for working 10-19 hours per week
- 2 credits earned for working 20 or more hours per week

### **Advertising and Sales Promotion**

**GRADES 9-12**(½ credit-semester) Recommendations: math skills, communication skills In this semester course, students will gain knowledge in the advertising and promotional components of the promotional mix. Promotion and Advertising is the key to persuasive communication. Companies use promotional techniques to enhance their public image and reputation as well as educate the public about an issue or cause. This course will educate the students in the marketing mix, promotional mix, types of promotion, display features, artistic design, advertising media, elements of advertising, and advertising layout. Students will have the opportunity to work with local patrons, businesses, and/or school officials in completing project work. As with all marketing classes, this class is also in charge of running the MATC Cornerstone School Store. They will also take on responsibilities that will advertise and promote the school store. These students are also encouraged to participate in the work cooperative education program, although it is an option, it gives students an opportunity to apply marketing skills in the workplace:

- 1 credit earned for working 10-19 hours per week
- 2 credits earned for working 20 or more hours per week

### **Hospitality, Travel and Tourism**

**GRADES 9-12**( ½ credit-semester) Recommendations: math skills, communication skills Students will gain insight towards the changing career opportunities in hospitality, travel and tourism—tourism is one of the top leading industries; hospitality prepares students to work in the catering and accommodation industries: from hotels and restaurants to leisure centers and hospitals. Tourism courses enable you to work in hotels, restaurants, travel companies as a tour operator or travel agent, guide, rep and manager. Another key component of this course may include (but is not required) student travel through DECA (an association of Marketing Students). As students discuss and/or participate in travel experience, they will gain a multitude of knowledge—an irreplaceable way to learn. As with all marketing classes, this class is also in charge of running the MATC Cornerstone School Store. They will also take on responsibilities that will advertise and promote the school store. These students are also encouraged to participate in the work cooperative education program, although it is an option, it gives students an opportunity to apply marketing skills in the workplace:

- 1 credit earned for working 10-19 hours per week

- 2 credits earned for working 20 or more hours per week

### **Advanced Marketing**

**GRADES 11-12**(1 credit-all year) Prerequisite: Successful completion of Marketing I. Recommendation: advanced computer skills. Advanced Marketing further develops student understanding in distribution, financing, marketing-information management, and product service management. Opportunities are provided for students to apply problem-solving, information gathering, processing and reporting. Emphasis will be placed on promotional planning and public relations through community involved research projects and event planning activities. Financial considerations related to business profit/loss will be explored. Throughout the course, students are presented with problem-solving situations for which they must apply high-level, critical thinking skills. It is very important that students be able to set priorities and complete tasks independently in this course setting. There are many projects that require the student to be motivated, a self-starter, and pay attention to deadlines. As an upper level marketing course, students are given more project based work similar to a college course. As with Marketing, the students are also in charge of operating the MATC Cornerstone School Store on a rotation basis throughout the year and participation in the work cooperative education program is an option, yet it will give students an opportunity to apply marketing skills in the workplace.

- 1 credit earned for working 10-19 hours per week
- 2 credits earned for working 20 or more hours per week

### **Advanced Marketing II(independent study by arrangement)**

**GRADE 12**(1 credit-all year)Prerequisite: Successful completion of Advanced Marketing and instructor approval. Advanced Marketing II continues where students finish in Advanced Marketing with emphasis on marketing research, planning, and problem-solving. Much of the work completed in Advanced Marketing II will further develop student understanding in distribution, financing, marketing-information management, and product service management. It is very important that students be able to set priorities and complete tasks independently in this course setting. There are many projects that require the student to be motivated, a self-starter, and pay attention to deadlines. As an upper level marketing course, students are given more project based work similar to a college course. All marketing students are in charge of operating the MATC Cornerstone School Store on a rotation basis throughout the year. Participation in the work cooperative education program is an option, yet it will give students an opportunity to apply marketing skills in the workplace. As with Marketing, the students are also in charge of operating the MATC Cornerstone School Store on a rotation basis throughout the year and participation in the work cooperative education program is an option, yet it will give students an opportunity to apply marketing skills in the workplace.

- 1 credit earned for working 10-19 hours per week
- 2 credits earned for working 20 or more hours per week

**11. MEDICAL TECHNOLOGY-** Articulated college credit and embedded credit are available in this program if students meet the hourly enrollment requirement.

### **Preparation for Medical Professions (Pre-med)**

**Grades 11-12**(2 credits-all year) Recommendations–Student should have an interest in science and enjoy working with people. This two hour block course is designed for junior and senior level students who desire to pursue a medical career. The curriculum of the program will enhance students’ medical career education by developing a solid foundation of knowledge and skills necessary for obtaining a medical career. The content of the program will expand students’ knowledge about the multitude of job opportunities in the health care industry plus enhance their knowledge regarding the nature of work, educational requirements/training, employment, earnings, career outlook, and medical terminology. Students will learn basic skills such as how to take vital signs, cardio-pulmonary resuscitation (CPR), first aid, body mechanics, etc. Students will also have opportunities to meet and talk with current health care professionals, tour health care settings, and interact with “patients” by visiting residential and long term care facilities.

### **Medical Anatomy**

**Grades 10–12**(1 credit-1<sup>st</sup> semester) This course is designed for students interested in pursuing a medical career. The curriculum of the program is designed to help students develop a solid beginning foundation in anatomy and physiology. The Anatomy in Clay curriculum emphasizes hands-on learning as students use manikins and clay to build the anatomy systems of the human body. The content of this class will enhance students’ knowledge base needed for pursuing a medical career.

### **Medical Skills**

**Grades 10–12**(1/2 credit-semester) This course is designed to help familiarize students with some of the basic safety and health care skills a medical professional first develops. Included in the curriculum, but not limited to, is the practicing of such skills as cardiopulmonary resuscitation, first aide, vital signs, transfers, and principles of infection control.

### **Medical Terminology**



**Grade 10-12** (1/2 credit-semester) Articulated credit is available for this course This course is designed to help students acquire the medical language used by health care professionals. The curriculum is presented in an easy format which helps students break down every term into its components. By understanding how each term is formed, students can then better identify and understand new medical terms. In addition, each chapter profiles a different health profession and body system while prompting students to master each term and its pronunciation by practicing pronouncing new terms with the aid of an audio glossary.

### **Medical Pathophysiology**

**Grade 10-12**(1 credit-2nd semester) Prerequisite: Successful completion of Medical Anatomy or both semesters of high school level Anatomy and Physiology (cannot take concurrently) This course is designed to build on prior basic anatomy and physiology knowledge. The curriculum makes Pathophysiology (the changes/symptoms that accompany a particular syndrome or disease) incredibly easy to learn by using vivid graphic characters. The characters and pictures help students maximize their power of visual thinking in understanding Pathophysiology. Content includes basic descriptions of how disorders occur, what signs to look for, and if there are risk factors that contribute to disorders, all of which help prepare students pursuing medical careers.

### **Mental Health Issues in Health Care**

**Grades 10-12**(1/2 credit-semester) This course is designed for students interested in pursuing a medical career and learning about mental health. Issues covered within this class include assessment, diagnosis, and treatment of mental illness (in a long term and community based setting). Diagnoses covered include, but not limited to, depressive disorders, anxiety disorders, bipolar affective disorder (manic depressive), schizophrenia, chemical dependence, and eating disorders.

### **Forensic Medicine**

**Grades 11-12** (1/2 credit-semester) We all have seen forensic science/medicine on TV programs, but how does it work? How does the healthcare field play a part in forensics? As forensic evidence becomes more common in criminal proceedings, the expertise of forensic healthcare professionals will be necessary to ensure justice. Healthcare professionals who work in the forensic medicine field help discover the cause of a person's death, injury, or disease. This class combines math, chemistry, biology, physics, and earth science. It balances medical scientific concepts with hands-on classroom and lab activities, readings, intriguing case studies, scenarios, and true-life stories. Some of the topics that are covered are crime-scene investigation: the collection, handling and analysis of trace evidence such as hair, fibers, soil, drugs, glass, handwriting; and the determination of the manner, mechanism, and cause of death and the estimation of postmortem interval. Join us as we explore the world of forensic medicine.....case closed!

**12. WELDING TECHNOLOGY**-Dual college credit, articulated college credit, and embedded credit are available in this program.

### **Introduction to Welding**

**GRADES 10**(1 credit-all year) Enrollment is limited to a space available basis. This course is for students who have a strong desire to pursue a career in the welding or welding engineering field which will require post-secondary training. Basic welding information and techniques are introduced and students are given hands-on practice in the welding lab. By enrolling in this course students will be able to advance to a higher level of skill and knowledge by the time they graduate from high school.

### **Welding I/II**

**GRADES 11-12**(2-3 credits-all year) Recommendations-Good background in math and good hand-eye coordination. The Welding Technology program teaches students the various metals that can be welded and how to weld in different positions. Students learn basic blue print reading, layout skills, weld symbols and basic mathematics used by most welders. Students are taught SMAW(stick), GMAW(mig), GTAW(tig), OFC/OFW(torch cutting and welding), brazing, plasma arc cutting, carbon arc cutting, the use of semi-automatic cutting and welding equipment and are encouraged to work at their own speed. Second year students will complete projects and have on-the-job training opportunities at some of the community businesses. Students also have the opportunity to become American Welding Society (AWS) certified (see below). This course is a two-year, half-day program open to juniors and seniors for 2-3 units of credit each year. To enroll in Welding II students must successfully complete Welding I with a 'C-' or better each semester.

**AMERICAN WELDING SOCIETY CERTIFICATION LEVEL I**-MATC is approved by the American Welding Society (AWS) to train and certify entry-level welders. We are a Level 1 SENSE school (Schools Excelling through National Skill Standards Education). Students are pre-tested to determine how much training is needed in order to receive certification which requires passing 8 written exams and 8 hands-on welding tests. The tests cover the following topics: safety, inspection and testing, weld symbols, SMAW (stick), GMAW (MIG), GTAW (TIG), FCAW (Flux Core MIG), PAC (Plasma Arc Cutting), CAC-A (Carbon Arc Cutting-Air) and OFC/W (Oxy-Fuel Cutting and Welding) principles, visual exams, welding terms and definitions. Records of successful applicants are maintained by AWS in a nationwide welding registry.

This system allows employers to verify individual welding qualifications (easily and with confidence) without additional testing. Successful applicants are maintained on active status with the national registry for at least one year.

**MATC OVER-ENROLLMENT POLICY:** Each program has maximum enrollment guidelines based upon safety, supervision, and technology considerations. In case of program over-enrollment the following policies will be utilized:

**1-2 hour programs:** the previous year's attendance rate will be utilized to determine priority enrollment. In addition some classes have prerequisites, please see course descriptions.

Agriculture & Natural Resources	Business Technology
Marketing	Medical Technology

**3 hour programs:**

Architectural & Engineering Design	Computer Information Technology
Automotive Technology	Building Technology
Collision Repair Technology	Electronics & Robotics Technology
Machine Tool Technology	Welding Technology

**Level I Students:** (students entering program whether or not have been enrolled at MATC previously):- the previous year's attendance rate will be utilized to determine priority enrollment with the following exceptions: Architectural & Engineering Design, Automotive Technology, and Building Technology will utilize a basic test.

**Level II Students:** (students returning to same program): Students must successfully complete Level 1 with a 'C-' or better each semester to continue to Level 2 regardless of enrollment.