

## Courses

# CAREER/TECHNICAL

### Agricultural Education

All Agricultural Education federally funded programs must have an active, nationally affiliated career and technical student organization (CTSO). Future Farmers of America is the recognized CTSO for MNPS.

Agricultural Education courses are divided into five sub-clusters. Please refer to the table below for the sub-clusters, course sequence information and prerequisite.

<b>Sub-Cluster</b>	<b>Fundamental</b>	<b>Intermediate</b>	<b>Advanced</b>
<b>Horticulture</b>	Fundamentals of Greenhouse Management Nursery Production Floral Design Turfgrass Management Aquaculture	Hydroponics Exterior/Interior Landscaping	Horticulture Technology
<b>Natural Resources</b>	Agriscience Fundamentals of Agriculture Forestry Wildlife Management	Soil and Land Management	Crop Science
<b>Animal Science</b>	Agriscience Fundamentals of Agriculture Small Animal Care Horse Science	Livestock Management	Principles of Veterinary Science
<b>Agricultural Mechanics</b>	Agriscience Fundamentals of Agriculture	Agricultural Power and Equipment	Principles of Agricultural Engineering
<b>Agribusiness</b>	Agriscience Fundamentals of Agriculture Leadership	Agricultural Sales and Service	Agricultural Business/Economics

All intermediate courses have a prerequisite of one fundamental course in the same sub-cluster. All advanced courses have a prerequisite of one fundamental and one intermediate course in the same sub-cluster.

***Agricultural Power and Equipment***

**Recommended Prerequisite:**  
**See sub-cluster chart at the beginning of this section**  
**Grades Offered:** 9 - 12  
**Credit:** ½ - 2  
**SDE Course Code:** 5102  
**MNPS Course Code:** AGR8276

Agricultural Power and Equipment includes basic information and laboratory activities on small engines, tractors and agricultural equipment maintenance, repair and overhaul. The standards address competencies for electrical motors, hydraulic systems and fuel powered engines.

***Agriscience***

**Recommended Prerequisite:**  
**None**  
**Grades Offered:** 9 - 12  
**Credit:** ½, 1  
**SDE Course Code:** 5121  
**MNPS Course Code:** AGR8776 or SCI6616

Agriscience consists of standards to prepare students for biology and subsequent sciences for the university bound student. The content area covers ecology, biological processes, sexual and asexual reproduction, and a study of the chemical and physical laws that govern life. This course helps students understand the important role science serves in the agricultural industry.

***Aquaculture***

**Recommended Prerequisite:**  
**None**  
**Grades Offered:** 9 - 12  
**Credit:** ½, 1  
**SDE Course Code:** 5109  
**MNPS Course Code:** AGR8973

Aquaculture includes standards on career choices, history, species, anatomy, management, nutrients, health, water quality, production, marketing and leadership skills needed to help students better prepare for careers in this area of agriculture. As space for agriculture diminishes and food requirements increase, new methods of production will be necessary for adequate food production and food quality.

***Exterior and Interior Landscaping***

**Recommended Prerequisite:**  
**Refer to sub-cluster chart at the beginning of this section**  
**Grades Offered:** 9 - 12  
**Credit:** ½, 1  
**SDE Course Code:** 5113  
**MNPS Course Code:** AGR8673

Exterior and Interior Landscaping includes standards to prepare students for creating aesthetic environments for homes and industries. As the population expands and economies grow, the demand for planned and creative exterior and interior landscapes increases.

***Floral Design***

**Recommended Prerequisite:**  
**None**  
**Grades Offered:** 9 - 12  
**Credit:** ½, 1  
**SDE Course Code:** 5114  
**MNPS Course Code:** AGR8676

This course concentrates on knowledge, principles and techniques needed for successful employment in a floriculture enterprise including: handling and care of flowers, design of floral arrangements, design of specialty pieces, displays of floral products, sales and sales techniques, inventories, deliveries, business operations and employer/employee relations.

***Fundamentals of Agriculture***

**Recommended Prerequisite:**  
**None**  
**Grades Offered:** 9 - 12  
**Credit:** ½, 1  
**SDE Course Code:** 5104  
**MNPS Course Code:** AGR8100

Fundamentals of Agriculture is designed to develop the basic theories and principles involved in animal science, agribusiness, agricultural mechanics and natural resource management. The standards prepare students to choose among agricultural careers for the 21st century.

***Greenhouse Management***

**Recommended Prerequisite:**  
**None**  
**Grades Offered:** 9 – 12  
**Credit:** ½ - 2  
**SDE Course Code:** 5117  
**MNPS Course Code:** AGR8675

Greenhouse Management sets a foundation for progress in the horticulture sub-cluster area. As populations continue to expand, the importance of food productions in a condensed, climate controlled environment increases. Understanding the integrated principles needed for the successful management of a greenhouse will allow the agricultural industry to continue to produce the quality and quantity of food and fiber needed in the 21st century.

***Horticulture Technologies***

**Recommended Prerequisite:**  
**Refer to sub-cluster chart at the beginning of this section**  
**Grades Offered:** 9 - 12  
**Credit:** ½, 1  
**SDE Course Code:** 5125  
**MNPS Course Code:** AGR8120

Horticulture Technologies includes standards that challenge students to plan for future food needs using advanced technologies. These technologies are becoming increasingly important as populations grow and farmland is consumed by urban growth. This will emphasize the benefits of these technologies and how to blend their use with environmental conservation.

***Hydroponics***

**Recommended Prerequisite:**  
**Refer to sub-cluster chart at the beginning of this section**  
**Grades Offered:** 9 - 12  
**Credit:** ½, 1  
**SDE Course Code:** 5129  
**MNPS Course Code:** AGR8140

Hydroponics includes standards that challenge students to plan for future food needs using advanced technologies and less space. Soil less media are becoming increasingly important as populations grow and farmland is consumed by urban growth. Understanding how the benefits of hydroponics blend with

environmental conservation will be emphasized in this course.

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### **Leadership Development (Vocational/Technical)**

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 – 12**

**Credit: ½, 1**

**SDE Course Code: 5119**

**MNPS Course Code: AGR8977**

This course concentrates on understanding the competencies and basic principles of leadership including: public speaking, effective leadership and employability skills that will enable the student to advance in an agricultural career.

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### **Nursery Production**

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5120**

**MNPS Course Code: AGR8674**

Nursery Production includes standards that challenge students to plan for needs in the production of ornamental products. As the urban society continues to expand to other regions, nursery production is important to provide aesthetic landscaping for various cultures and desires.

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### **Principles of Agricultural Engineering**

**Recommended Prerequisite:**

**Refer to sub-cluster chart at the beginning of this section**

**Grades Offered: 9 - 12**

**Credit: ½ - 2**

**SDE Course Code: 5128**

**MNPS Course Code: AGR8130**

Principles of Agricultural Engineering includes standards on metal fabrication and agriculture structures. Subject matter will include hot/cold metalwork, cost and material computation, electrical wiring and codes, engine service and repair, blueprint reading and drawing, and selection of appropriate materials for projects.

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### **Principles of Veterinary Science**

**Recommended Prerequisite:**

**Refer to sub-cluster chart at the beginning of this section**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5126**

**MNPS Course Code: AGR8374**

Principles of Veterinary Science challenges students to use advanced technologies and medical treatments to maintain the health of animals. The animal health industry continues to grow in importance and prominence as more people purchase animals for pleasure and sustenance. This course includes the standard principles of veterinarian medicine and new methods of treatment.

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### **Small Animal Care**

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5122**

**MNPS Course Code: AGR8375**

Small Animal Care contains objectives to prepare students for careers in managing and caring for specialty and pet animals. As the demand increases for more specialty animals and pets for production purposes and personal value, careers that work with these animals in a safe environment will continue to expand.

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### **Soil and Land Management**

**Recommended Prerequisite:**

**Refer to sub-cluster chart at the beginning of this section**

**Grades Offered: 9 – 12**

**Credit: ½, 1**

**SDE Course Code: 5112**

**MNPS Course Code: AGR8110**

Soil and landscape management address the concerns dealing with soil conservation and appropriate use. As the urban expansion consumes tillable acres, the need for improved soil management becomes critical. The standards of this course

prepare students to demonstrate practices for wise land use.

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### **Turfgrass Management**

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5123**

**MNPS Course Code: AGR8677**

Turfgrass is the most widely used ornamental crop in this country and is a multimillion-dollar a year business. This course will cover the history of turfgrass in the country and the management techniques utilized today in various turfgrass applications. Students will apply these techniques as they prepare for a career in turfgrass management.

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### **Wildlife Management and Recreation**

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5124**

**MNPS Course Code: AGR8772**

Wildlife Management and Recreation emphasizes the awareness of conservation and preservation management practices utilized to ensure the sustainability of our outdoor resources. Integrated academics and experiential learning will build conservation awareness among students. This will, in turn, generate career interests and more responsible land ownership in the community.

## Business Technology

All Business Technology federally funded programs must have an active, nationally affiliated career and technical student organization (CTSO). Business Professionals of America (BPA) is the recognized Business Technology CTSO for Metropolitan Nashville Public Schools. The integration of BPA into the course content provides students with opportunities for leadership development, personal growth and school/community involvement.

### **Accounting I**

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 3779**

**MNPS Course Code: BUS7115**

This full-year course introduces concepts and principles based on a double-entry system of maintaining the financial records of a sole proprietorship, partnership and corporation. It includes analyzing business transactions, journalizing, posting, and preparing worksheets and financial statements.

### **Accounting II**

**Recommended Prerequisite:**

**Accounting I**

**Grades Offered: 10 - 12**

**Credit: ½ - 2**

**SDE Course Code: 3780**

**MNPS Course Code: BUS7215**

This full-year course is an advanced study of concepts, principles and techniques that build on the competencies acquired in Accounting I used in keeping the electronic and manual financial records of a sole proprietorship, partnership and corporation. Departmental management, cost and not-for-profit accounting systems are also covered. To receive two credits, one credit must be obtained through work-based learning (WBL). All WBL experiences must adhere to the Tennessee Department of Education policies and procedures.

### **Administrative Management**

**Recommended Prerequisite:**

**Document Creation Design**

**Grades Offered: 11 - 12**

**Credit: ½ - 2**

**SDE Course Code: 3737**

**MNPS Course Code: BUS7252**

This capstone course provides advanced training, including hands-on

experiences, for students pursuing a career in business technology. Skills developed in previous courses will be incorporated and enhanced through a multi-tasking environment using a variety of input technologies. Procedures and concepts related to information processing systems, administrative/information management, problem solving, reasoning, teambuilding, time management, business standards, feasibility studies, cost/budgeting, professional leadership, ethical and legal issues, mathematics and communications. Production and administrative skills will be developed to meet industry's standards. Students will play a variety of roles in completing tasks. Team activities will be evaluated as a group. Collaboration with other courses can enhance a student's learning and expand their experiences. This course may articulate to a post-secondary program. To receive two credits, one credit must be obtained through work-based learning (WBL). All WBL experiences must adhere to the Tennessee Department of Education policies and procedures.

### **American Business Legal Systems**

**Recommended Prerequisite:**

**None**

**Grades Offered: 11 - 12**

**Credit: ½**

**SDE Course Code: 3726**

**SDE Course Code: 3719**

**MNPS Course Code: BUS7509**

**\*Satisfies half credit in Government but does not satisfy NCAA requirements.**

This course provides students with an understanding of the legal framework in which an American business functions. The students will evaluate the influence a free enterprise system in a democratic society has on one's daily decisions. Students will analyze the alliance between capital-

ism and democracy and be better prepared to influence the future decisions in the public and private sectors of the United States. American Business Legal System satisfies the Government credit for graduation.

### **Banking and Finance**

**Recommended Prerequisite:**  
**Accounting I and/or Financial Planning**

**Grades Offered: 11-12**

**Credit: ½, 1**

**SDE Course Code: 3756**

**MNPS Course Code: BUS3756**

This course is designed to challenge the student with real banking and financial situations through a partnership with a local financial institution that would bring resources of mentors, seminars, and hands on experience with day-to-day operations. Completion of this course will provide students with a basis for secondary education in finance and special job skills in banking and financial institutions. Ethical issues will be presented in the course. Students earning two credits in Bank and Finance should have a school-based enterprise experience. If this course is part of an Academy curriculum, it is recommended that an internship experience be provided.

### **Business Economics**

**Recommended Prerequisite:**

**None**

**Grades Offered: 11 - 12**

**Credit: ½**

**SDE Course Code: 3765**

**SDE Course Code: 3755**

**MNPS Course Code: BUS7620**

**\*Satisfies half credit in Economics but does not satisfy NCAA requirements.**

This course provides an in-depth study of fundamental concepts, free enterprise trading practices and the various components of the economic

system. Topics include the production, marketing, and distribution of goods and services, as well as the roles of financial institutions, the government and the individual within the free enterprise system; and international trade. Students will explore various careers related to the economy. International trade and Economics have become an integral part of business economics. Business Economics satisfies the Economics credit for graduation.

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### ***Business Management***

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 3707**

**MNPS Course Code: BUS7512**

Students will develop a foundation in the many activities, problems and decisions that are intrinsic to the management of a successful business, as well as an appreciation for the importance of these responsibilities. Areas to be examined include business organization, ethical and legal responsibilities, communication, decision-making, personnel, safety, professional development and related careers. By gaining an understanding of these areas, students will be better prepared to enhance the business decisions of tomorrow.

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### ***Business Principles***

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 3709**

**MNPS Course Code: BUS7500**

This core course in which students are introduced to all aspects of business: the domestic and international economies, financial principles, management strategies, administrative and information systems, ethics, and organizational and professional leadership. Students will analyze the elements of the business environment, and focus on attitudinal and problem-solving skills inherent to success. This is a non-vocational course.

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### ***Business Technology Work-Based Learning (WBL)***

**Recommended Prerequisite: Must be enrolled in a related class**

**Grades Offered: 11 - 12**

**Credit: ½ - 2**

**SDE Course Code: 3798**

**MNPS Course Code: BUS3798**

In accordance with the Tennessee Department of Education's Work-Based Learning (WBL) Manual, students have an opportunity to extend their education beyond the classroom and into the workplace. To participate in a WBL experience, the students must be enrolled in a course related to the WBL experience for at least one hour of the regular school day. The course must follow the State standards and competencies as well as include instruction in on-the-job skills. The student will then have an opportunity to earn one or two additional credits in the related course for a WBL experience. All WBL experiences must follow the Tennessee Department of Education guidelines and be supervised by a teacher who has completed 40 hours of State approved WBL training.

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### ***Case Studies in Business***

**Recommended Prerequisite:**

**None**

**Grades Offered: 12**

**Credit: ½**

**SDE Course Code: 3795**

**MNPS Course Code: BUS7192**

In this capstone course, students will solve real life problems in all areas of the business world. Skills developed in previous business courses will be incorporated. Students will examine the "case study" methodology of learning. Casework in management, business law, accounting, marketing, computer technology/information systems, human relations, quality product improvement and global competitiveness will be emphasized. Students will develop skills in communication and apply all skills to real-life business problems.

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### ***Computer Applications***

**Recommended Prerequisite:**

**Keyboarding/Document Formatting**

**Grades Offered: 9 - 10**

**Credit: ½, 1**

**SDE Course Code: 3718**

**MNPS Course Code: BUS3718**

This course is designed to develop computer technology skills. Students will use a variety of computer software and hardware tools and features of an electronic information network. Students will explore the historical, social and ethical issues of using computer technology. The students will develop skills that will assist them with efficient production, accurate production analysis, management of information, and design and presentation of a multimedia project.

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### ***Computer Operating Systems***

**Recommended Prerequisite:**

**Accounting I and/or Financial Planning**

**Grades offered: 10 - 11**

**Credit: ½, 1**

**SDE Course Code: 3763**

**MNPS Course Code: BUS3763**

This course is designed to allow students to develop work related skills and prepare for certification in the computer architecture career path. Content provides students the opportunity to acquire knowledge and skill in both theory and practical applications pertaining to installing, upgrading and troubleshooting computer operating systems. Procedures used in the course may be hardware oriented, software oriented, or programming oriented. Upon completion of the course, students will possess a thorough knowledge of modern personal computer operating systems and be able to take the A+ Certification exam.

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### ***Database Design/ Management***

**Recommended Prerequisite:**

**Keyboarding**

**Grades Offered: 10 - 12**

**Credit: ½**

**State Code: 3735**

**MNPS Course Code: BUS7191**

The students will analyze and apply database design techniques and management methods for organizing and maintaining files. The student will apply keying, typography, and layout and design skills in creating, designing, entering data, importing and exporting data, and printing

database object and data. At the completion of the course, students will have database management skills enabling them to design and implement a relational database application. Student proficiency could lead to software certification.

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**Desktop Publishing**

**Recommended Prerequisite:**

**Keyboarding**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 3741**

**MNPS Course Code: BUS7184**

The student will apply keying, formatting, typography, and layout and design skill in developing electronic publishing documents. The student will develop skills in electronic publishing design, layout, composition, and photo journalism. Content provides the opportunity to acquire marketable skills and to prepare for gainful employment and or entry into postsecondary education in the graphic communications industry. Laboratory facilities and experiences simulate those found in the graphic communications industry.

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**E-Business Communications**

**Recommended Prerequisite:**

**Keyboarding/Document Layout and Design**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 3704**

**MNPS Course Code: BUS7291**

This course is the study of oral, written and electronic communications in a global society. Components of communications include the sender, the message, the receiver, the feedback, and the channel. The purposes of communication are to build goodwill, persuade, obtain or share information, and build self-esteem. The Internet will be used to develop concepts related to web browsers, navigators, search engines, on-line communication methods, home and website design concepts, transfer of data, downloading files, security procedures and Internet navigational tools. The student will choose and use the appropriate tools when completing Internet applications using the Internet for research and validation of research data for written and oral business

communications. Emphasis will be placed on electronic research, security issues, ethics business report writing, business correspondence, enhancement of oral presentations with electronic media and communications applying current technology.

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**Financial Planning**

**Recommended Prerequisite:**

**Business Economics or Economics**

**Grades Offered: 9 - 12**

**Credit: ½**

**SDE Course Code: 3717**

**MNPS Course Code: BUS7514**

This course is designed to develop skills in the use of financial principles in making business decisions. Students will research job qualifications and employment opportunities in finance. The course includes a study of the allocation of financial resources, the effects of the finance and credit institutions on the business community, and the impact that financial decisions have on the consumer market. Ethical issues will be presented in this course.

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**Information Technology Foundations**

**Recommended Prerequisite:**

**Keyboarding**

**Grades Offered: 10-11**

**Credit: ½ - 2**

**SDE Course Code: 3764**

**MNPS Course Code: BUS3764**

Information Technology Fundamentals is designed to prepare students with work-related skills for advancement in the telecommunication and computer architecture career paths. Content provides students the opportunity to acquire basic foundational knowledge and skills in both theory and practical applications in direct current, alternating current, digital and power supply circuits. Course content includes fundamentals for personal computer (PC), networking, determining system requirements, setting up equipment, and performing installation tests for the end user. Content provides the opportunity to evaluate and install peripheral devices. Course content will be delivered through virtual training and hands-on methods. Competencies mastered during this course help prepare students toward acquiring

basic electronics and/or A+ certifications.

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**Integrated Input Technologies**

**Recommended Prerequisite:**

**Keyboarding**

**Grades Offered: 9 - 12**

**Credit: ½ - 2**

**SDE Course Code: 3730**

**MNPS Course Code: BUS7185**

This is a capstone course in which students will learn necessary skills in problem solving using current and emerging integrated technology to include a variety of input technologies such as advanced keyboarding, scanning, speech recognition, handwriting recognition, and the use of a mouse in the production of mailable business documents. The course focuses on student choice, accountability and competency. Students work toward the attainment of high-level employable competencies in areas which may include (but are not limited to) integrated software applications, computer systems, communication systems, networking, ethical issues, human relations, leadership self-management, and workplace management. Students may choose areas of specialization and achieve industry certification in areas such as word processing, spreadsheet applications, database design and management, multimedia presentations, schedule and contact management, etc. This course may articulate to post-secondary education. All work-based learning (WBL) experiences must adhere to the Tennessee Department of Education policies and procedures.

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**Interactive Multimedia Presentations**

**Recommended Prerequisite:**

**Keyboarding**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 3746**

**MNPS Course Code: BUS7617**

The student will apply keying, typography, layout and design skills in this course. The student will be proficient in using interactive multimedia tools to develop electronic presentations. Creative design, persuasive communications, and language arts skills are applied through research, evaluation, validation, written, and

oral communication. Typography, layout and design guidelines are applied. Copyright laws and ethical practices are reinforced in creating and formatting various presentations that require imported data/graphics, digital, audio, and video clips. Team development will be stressed as students work on multimedia project(s). Laboratory facilities and experiences simulate those found in business and industry.

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### ***International Business/ Marketing***

**Recommended Prerequisite:**  
**Business Economics or Management**

**Grades Offered:** 12

**Credit:** ½ - 3

**SDE Course Code:** 3754

**MNPS Course Code:** BUS7506

This full-year course is designed to provide students the opportunity to develop skills needed to live and work in a global marketplace. The student will acquire the attitudes, knowledge and skills needed for international business and marketing occupations. This will include (but is not limited to) political, legal, financial, economic and social/cultural considerations. Up to three credits may be earned if a paid, credit generating work-based learning (WBL) component is included for advanced students. All WBL experiences must adhere to the Tennessee Department of Education policies and procedures. International Business/Marketing satisfies one-half credit in Economics.

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### ***Keyboarding***

**Recommended Prerequisite:**

**None**

**Grades Offered:** 9 - 12

**Credit:** ½

**SDE Course Code:** 3710

**MNPS Course Code:** BUS7317

The student will apply basic skills in operating a computerized keyboard by using the touch system and other input technologies to produce mailable business and academic documents. Student will prepare business and academic report, etc. Mailability standards relate to keying, formatting, grammar, punctuation, capitalization, spelling, content, typography and layout and design. Using special features of the software, the student

will be able to format academic and business reports.

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### ***Keyboarding/Document Formatting***

**Recommended Prerequisite:**

**Keyboarding**

**Grades Offered:** 9 - 12

**Credit:** ½

**SDE Course Code:** 3775

**MNPS Course Code:** BUS7318

This course is a continuation of the Keyboarding course. Student will prepare business and academic report, etc. The student will demonstrate a combination of input skills (advanced keyboarding, scanning, speech recognition, handwriting recognition, and the use of a mouse) in the production of mailable business documents. Industry production standards are emphasized. Formatting, typography, layout and design concepts will be applied in document preparation of business letters, forms, invoices, manuscripts, and tabulated and columnar information. Proofreading and editing skills are applied.

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### ***Keyboarding/ Document Layout and Design***

**Recommended Prerequisite:**

**Keyboarding**

**Grades Offered:** 9 - 12

**Credit:** ½

**SDE Course Code:** 3727

**MNPS Course Code:** BUS7155

This course builds on Keyboarding/Document Formatting course. Student proficiency can lead to software certification. The student will use a hands-on approach to develop proficiency in document creation and design. Emphasis is on production of business applications including design and layout, speed and accuracy. Concepts, capabilities, procedures, and legal responsibilities of word processing and information processing will be applied. Simulated real projects from rough draft copy and/or transcription magnetic media are used for problem solving and business document preparation.

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### ***Network Essentials***

**Recommended Prerequisite:**

**Keyboarding**

**Grades Offered:** 9 - 12

**Credit:** ½, 1

**SDE Course Code:** 3778

**MNPS Course Code:** BUS7616

This course is designed to teach the fundamentals of networking through the use of lecture, multimedia, and hands on training. Students will be introduced to the terminology, concepts and industry standards that govern how computers and other devices communicate with each other. This course will provide students with a good working knowledge of the hardware and software being used today in multi vendor networks throughout the business world. This course will particularly help prepare students who are planning to pursue international technology certifications such as the Microsoft Certified Systems Engineer/Administrator (MCSE) MCSA, CompTIA Network +, or Certified Novell Engineer (CNE).

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### ***Spreadsheet Applications***

**Recommended Prerequisite:**

**Keyboarding**

**Grades Offered:** 9 - 12

**Credit:** ½

**SDE Course Code:** 3729

**MNPS Course Code:** BUS7186

The course content involves the use of electronic worksheets to perform business calculations. This course will apply keying, typography, layout and design skills in designing worksheets, writing formulas, analyzing data, charting data and managing data. Team development will also be stressed as students work on spreadsheet project(s).

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### ***Strategies for Success***

**Recommended Prerequisite:**

**Keyboarding**

**Grades Offered:** 9 - 12

**Credit:** ½

**SDE Course Code:** 3795

**MNPS Course Code:** BUS7503

This course is designed to orient students to the world of work and school. It addresses the needs of students to develop good work and study habits. Students will prepare portfolios, learn about school resources, develop career plans, start preparing for college and develop solid interpersonal skills. The one semester Keyboarding course

should be completed before enrolling in Strategies for Success.

**Virtual Enterprise International**

**Recommended Prerequisite:**

**Business Management**

**Grades Offered: 11 - 12**

**Credit: ½ - 2**

**SDE Course Code: 3762**

**MNPS Course Code: BUS3762**

Virtual Enterprise International (VE) is a simulated business environment. The VE students will be involved in actual on the job work experiences, including accounting, personnel administration, management, and marketing. The only difference between the VE and an actual business is that no material goods are produced or legal tender exchanged. However, services will be provided. Working in a team, the student will develop and enhance oral and written communication skills through initiative, responsibility, and creativity. The VE experience will weave together several academic disciplines and occupational subjects, thereby overcoming fragmentation of subjects. The course will link learning to application and real life experiences. Laboratory facilities and experiences simulate those found in business and industry. The Virtual Enterprise International course may substitute for Economics credit.

**Website Fundamentals**

**Recommended Prerequisites:**

**Keyboarding/Keyboarding Applications and Algebra I**

**Grades Offered: 10 - 12**

**Credit: ½, 1**

**SDE Course Code: 3758**

**MNPS Course Code: BUS3758**

This course prepares students with work-related skills for advancement into postsecondary education or industry. Course content includes exposure to basic Web design and the dynamics of network-ing/internetworking, Web hosting and Web design in e-commerce. The course content provides students the opportunity to acquire fundamental skills in both theory and practical application of Web design and of leadership and interpersonal skill development. Laboratory facilities and experiences simulate those found in the Web Page Design and construction industry.

**Webpage Design – Site Designer**

**Recommended Prerequisite:**

**Keyboarding/Keyboarding Applications and Algebra I**

**Grades Offered: 11 - 12**

**Credit: ½, 1**

**SDE Course Code: 3759**

**MNPS Course Code: BUS3759**

This course prepares students with work-related skills for advancement into postsecondary education or industry. Course content includes exposure to basic and advanced Web design, pixelated and vector-based Web graphics, Web animations, dynamics of Web hosting, and Web design in E-commerce. The course content provides students the opportunity to acquire fundamental

skills in both theory and practical application of Web design and of leadership and interpersonal skill development. Laboratory facilities and experiences simulate those found in the Web page design and Web page construction industry. Further, this course provides for and directly maps to the Certified Internet Webmaster “Site Designer” national certification examination.

**Webpage Design – eCommerce**

**Recommended Prerequisites:**

**Keyboarding/Keyboarding Applications and Algebra I**

**Grades Offered: 11 - 12**

**Credit: ½, 1**

**SDE Course Code: 3760**

**MNPS Course Code: BUS3760**

This course prepares students with work-related skills for advancement into postsecondary education or industry. Course content includes exposure to Web design in eCom-merce with marketing, customer relations, and commercial Web site publication. The course content provides students the opportunity to acquire fundamental skills in practical application of Web development leadership, and interpersonal skill development. Laboratory facilities and experiences simulate those found in the Web page design and Web page construction industry. This course correlates to the CIW certification “Web eCommerce.”

**Business Technology – Special Programs**

The courses listed below have been approved by the State Department of Education and are to be taught only at Pearl Cohn High School.

**International Finance – Pearl-Cohn Business Magnet**

**Recommended Prerequisites:**

**Strategies for Success & Information Management Systems**

**Grades Offered: 12**

**Credit: ½**

**SDE Course Code: 3790**

**MNPS Course Code: BUS7507**

International Finance explores the major components of the international financial system. It includes

the study of foreign trade, the international monetary system, foreign exchange rates, foreign exchange markets, international financial markets, international banking and a multinational corporation. This course is one of the required courses for the Academy of Finance.

### **Family and Consumer Sciences**

All Family and Consumer Sciences (FACS) federally funded programs must have an active, nationally affiliated career and technical student organization (CTSO). Family, Career and Community Leaders of America (FCCLA) is the recognized Family and Consumer Sciences CTSO for Metro Nashville Public Schools. The integration of FCCLA is an integral part of FACS and provides students with opportunities for leadership development, personal growth and school/community involvement.

#### **Adult Living**

**Recommended Prerequisite:**  
**None**

**Grades Offered:** 9 - 12

**Credit:** ½, 1

**SDE Course Code:** 5600

**MNPS Course Code:** FCS8381

Adult Living is a course designed to empower students to take action for the well being of themselves and others as they effectively manage the roles and responsibilities created by families, career and community interactions. Focusing on the young adults, the course content includes skills and knowledge to enable students to maintain an optimum living environment by making responsible young adult decisions. Students learn to plan and set goals for a career, manage multiple roles, maintain respectful and caring relationships with improved communication skills, understand the responsibilities of parenting, cope with stress and crisis situations, provide for health and well-being, and function as informed consumers.

#### **Career Connections**

**Recommended Prerequisite:**  
**Interpersonal Communications or Career Management Success**

**Grades Offered:** 9 - 12

**Credit:** ½

**SDE Course Code:** 5620

**MNPS Course Code:** FCS8190

Career Connections is designed to provide students with an understanding of how to plan for and manage careers in a continuously changing workplace. Students will learn the importance of exploring multiple career paths. Instruction will include strategies for engaging in life-long learning, addressing the continuous process of learning new skills, adapting decision-making and problem-solving skills to changing conditions, managing work and family responsibilities, and working with diverse populations. This course will encompass an individual's total lifestyle

- education, occupation, social responsibility and leisure.

#### **Child Development**

**Recommended Prerequisite:**

**None**

**Grades Offered:** 9 - 12

**Credit:** ½, 1

**SDE Course Code:** 5601

**MNPS Course Code:** FCS8684

This semester or full-year specialized course prepares students to understand the physical, social, emotional, and intellectual growth and development of children. The course is designed to help young people acquire knowledge and skills essential to the care and guidance of children as parent or caregiver. Laboratory observations, job shadowing, or laboratory participation may be included if opportunities are available.

#### **Consumer Economics**

**Recommended Prerequisite:**

**None**

**Grades Offered:** 11 - 12

**Credit:** ½, 1

**SDE Course Code:** 5602

**MNPS Course Code:** FCS8780

**\*satisfies one-half credit in Economics for graduation. Athletes should check NCAA requirements.**

This semester or full-year specialized course is designed to prepare students to understand the United States economic system and how it affects individuals as consumers, producers and citizens. Students will integrate knowledge, skills and practices required for management of resources in a technologically expanding global economy. Consumer practices and decision-making, problem solving, critical thinking, goal setting, management of multiple roles, and using technology are integrated into course content. This course satisfies the Economics credit for graduation.

#### **Family and Consumer Sciences**

**Recommended Prerequisite:**

**None**

**Grades Offered:** 9 - 12

**Credit:** ½, 1

**SDE Course Code:** 5603

**MNPS Course Code:** FCS8180

Family and Consumer Sciences is a comprehensive course designed to develop the core knowledge and skills needed for students to manage their lives. Emphasis is on leadership, human development, family and parenting education, consumer economics and resource management, housing and living environments, nutrition and foods, textiles and apparel, and career preparation. Critical skills are reinforced through authentic experiences in decision-making, problem solving, critical thinking, technology, work and family management, and workplace readiness. The course allows students to select specific areas for future concentrated study and should be the foundation course for all vocational Family and Consumer Sciences programs.

#### **Family and Consumer Sciences**

**Work-Based Learning (WBL)**

**Recommended Prerequisite: Must be enrolled in a related class**

**Grades Offered:** 11 - 12

**Credit:** ½ - 2

**SDE Course Code:** 5698

**MNPS Course Code:** FCS5698

In accordance with the Tennessee Department of Education's Work-Based Learning (WBL) Manual, students have an opportunity to extend their education beyond the classroom and into the workplace. In order to participate in a WBL experience, the students must be enrolled in a course related to the WBL experience for at least one hour of the regular school day. The course must follow the State standards and competencies as well as include instruction in on-the-job skills. The student

will then have an opportunity to earn one or two additional credits in the related course for a WBL experience. All WBL experiences must follow the Tennessee Department of Education guidelines and be supervised by a teacher who has completed 40 hours of State approved WBL training.

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***Family and Parenting Education***

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5606**

**MNPS Course Code: FCS8683**

Family and Parenting Education is a semester or full-year course that emphasizes the significance of the family as a basic unit of society and its impact on the well-being of individuals and society. The major focus of this course is preparation for marriage, parenthood and the responsibilities for successful management of family life.

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***Housing and Interior Design***

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½**

**SDE Course Code: 5607**

**MNPS Course Code: FCS8689**

Housing and Interior Design prepares students to understand the physical, psychological and social influences pertaining to housing decisions. It includes instruction in the human and environmental factors influencing the form and use of housing, varied types of housing, housing costs, interior and exterior design, home furnishings and equipment. The selection, use and care of available resources for achieving improved living space to

meet individual and family needs will be included in this course.

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***Interpersonal Communications***

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½**

**SDE Course Code: 5608**

**MNPS Course Code: FCS8686**

This specialized course is designed to focus on communications within the areas of personal life, family life, community and workplace. The role of communication in establishing and maintaining healthy interpersonal relationships is emphasized. Communication skills in decision making, problem solving, critical and creative thinking, technology, and workplace readiness practiced in this course will empower students to function effectively as a member of a rapidly changing global community.

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***Nutrition and Foods***

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5609**

**MNPS Course Code: FCS8585**

This semester or full-year course prepares students to understand the principles of nutrition; the relationship of nutrition to health and well-being; the selection, preparation, and care of food; meal management to meet individual and family food needs and patterns of living; and optimal use of the food dollar.

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***Nutrition Science***

**Recommended Prerequisite:**

**A credit in Physical Science or Biology is recommended**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5615**

**MNPS Course Code: FCS8587**

This course creates interest in science by focusing on the practical application of scientific concepts and processes to nutrition and foods. It includes the science of the production, processing, preparation, evaluation and utilization of foods. Students use scientific methods in laboratory experiments to facilitate the understanding of the human body, food and nutrition and science. The course is designed to be team-taught by a Family and Consumer Sciences teacher, and either a Chemistry or Biology teacher. Nutrition Science satisfies either one credit of biological science (if team-taught with a Biology teacher) or physical science (if team-taught with a Chemistry teacher). However, it can not replace Biology.

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***Textiles and Apparel***

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5612**

**MNPS Course Code: FCS8582**

This semester or full-year specialized course prepares students to understand the social, psychological and physiological aspects of textiles and apparel products. Instruction in how to select, produce, maintain, and alter textile and apparel products as well as the effect of consumer choices on the needs of the individual and family are included in this course.

**Culinary Arts**

Students can receive a maximum of six (6) credit hours toward graduation in this occupational education area. This program is designed to prepare students for post-secondary education and/or for gainful entry-level employment in the food production and service industry.

**Culinary Arts I**  
**Recommended Prerequisite:**  
**None**  
**Grades Offered: 9 - 11**  
**Credit: ½, 1**  
**SDE Course Code: 5656 (FACS) or 5381 (T & I)**  
**MNPS Course Code: FC8151 or VO8151**

This course content provides students the opportunity to acquire marketable skills in food preparation and food service. Students will learn and apply the basic principles of safety and sanitation. Instruction will include theory and laboratory work that relate to planning, selecting, purchasing, storing, preparing, and serving food and food products. Laboratory facilities and experiences, which simulate commercial food production and service operations, offer school-based learning opportunities.

**Culinary Arts II**  
**Recommended Prerequisite:**  
**Culinary Arts I**  
**Grades Offered: 10 - 11**  
**Credit: ½ - 2**  
**SDE Course Code: 5657 (FACS) or 5382 (T & I)**

**MNPS Course Code: FCS8251 or VO8251**

Culinary Arts II provides students the opportunities to acquire marketable skills by demonstrating the principles of safety and sanitation, food preparation skills and teamwork to manage an environment conducive to quality food production and service operations. Additional learning experiences will include a study of foods and their nutritional values, quantity cooking, storing equipment, sanitation in food handling and management. Laboratory facilities and experiences, which simulate commercial food production and service operations, offer school-based learning and work-based opportunities.

**Culinary Arts III**  
**Recommended Prerequisite:**  
**Culinary Arts II**  
**Grades Offered: 11 - 12**  
**Credit: ½ - 3**  
**SDE Course Code: 5658 (FACS) or 5383 (T & I)**  
**MNPS Course Code: FCS8351 or VO8351**

This capstone course provides students the opportunity to apply the

marketable culinary arts skills they have acquired by assuming increasingly responsible positions including participation in a work-based learning (WBL) experience. Emphasis will be placed on food services required in establishments such as restaurants, cafeterias, tearooms, bakeries, retail food shops, hotels, clubhouses and catering shops.

**Foundations of the Hospitality Industry**  
**Recommended Prerequisite:**  
**None**  
**Grades Offered: 9 - 10**  
**Credit: ½, 1**  
**SDE Course Code: 5655 (FACS) or 5380 (T & I)**  
**MNPS Course Code: FCS8588 or VO8588**

This course introduces students to the hospitality industry, its various components and available career opportunities. Content will provide a foundation for further study in the areas of culinary arts, lodging, travel, and tourism. This course should be taught prior to students entering a more specialized area of study and is recommended that the course be offered at the 9<sup>th</sup> grade level.

**Early Childhood Education Careers (ECEC)**

Students can receive a maximum of six credit hours toward graduation in this occupational education area. This program is designed to prepare students for post-secondary education and/or for gainful entry-level employment. An Early Childhood Education Careers program including teen learning centers, laboratory nursery schools, etc., must operate within the standards and guidelines of the Tennessee Department of Education and other agencies governing the industry. ECEC II and III may include a paid, credit generating work-based learning (WBL) component for advanced students to earn up to two credits above the required one classroom credit. All WBL experiences must adhere to the Tennessee Department of Education policies and procedures.

**Early Childhood Education Careers I**  
**Recommended Prerequisite:**  
**None**  
**Grades Offered: 9 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5650**  
**MNPS Course Code: FC8188**

Course content provides students a foundation in the concepts of child development theory, and affords

them the opportunity to integrate knowledge, skills, and practices required for careers in early childhood education and related services. Laboratory experiences will be offered. Students must spend a minimum of 20 percent and a maximum of 30 percent of instructional time in a laboratory environment.

**Early Childhood Education Careers II**  
**Recommended Prerequisite:**  
**Early Childhood Education Careers I**  
**Grades Offered: 10 - 12**  
**Credit: ½ - 3**  
**SDE Course Code: 5660**  
**MNPS Course Code: FC8288**

Course content provides students the opportunity to apply child development theory; develop and implement learning activities for young children; and integrate knowledge, skills and practices required for careers in early childhood education related services. Laboratory experiences will be offered. Students must spend a minimum of 30 percent and a maximum of 50 percent of instructional time in a laboratory environment.

**Early Childhood Education Careers III**

**Recommended Prerequisite:**  
**Early Childhood Education Careers II**

**Grades Offered:** 11 - 12

**Credit:** ½ - 3

**SDE Course Code:** 5661

**MNPS Course Code:** FC8388

This capstone course content provides students the opportunity to study administration and manage-

ment issues and special needs children. Students will apply the early childhood education knowledge and skills previously acquired in increasingly responsible positions. Laboratory experiences will be offered. Students must spend a minimum of 30% and a maximum of 50% of instructional time in a laboratory environment.

**Health Science Education**

All Health Science Education federally funded programs must have an active, nationally affiliated career and technical student organization (CTSO). Health Occupations Students of America is the recognized CTSO for Metro Nashville Public Schools.

**Biomedical Applications**

**Recommended Prerequisites:**

**None**

**Grades Offered:** 11 - 12

**Credit:** ½, 1

**SDE Course Code:** 5513

**MNPS Course Code:** HSE5513

The course will include information and laboratory skills required by the biomedical industry. Subject matter will include career choices, skill development, and application of scientific concepts relative to becoming a biomedical research professional. This course also is an overview of biomedical research applications. Topics covered will include recombinant DNA, protein purification, cell and tissue culture. Additional topics include communication skills, the history and development of the field of biomedical research and understanding the legal environment and technology transfer aspects of biomedical research.

Upon completion of the course, job shadowing, "virtual" job shadowing, or clinical internship, opportunities may be available through the Biotechnology companies in Tennessee, Orchid Diagnostics, local universities, medical schools, diagnostic laboratories and placement through organizations such as the Nashville Health Coalition, Tennessee Biotechnology Association and Tennessee Academy of Science.

**Clinical Internship**

**Recommended Prerequisite:**

**Sub-cluster course in the internship area**

**Grades Offered:** 11 - 12

**Credit:** ½, 1

**SDE Course Code:** 5501

**MNPS Course Code:** HSE8953

This is a full-year course for students who choose to complete a clinical internship after completing Diagnostic Medicine, Emergency Medical Services, Medical Therapeutics, Health Information, or Rehabilitative Therapies. The internship is designed to be completed in a hospital, nursing home, rehab center, medical office or other health care facility. The Clinical Internship includes a variety of knowledge and skills necessary to become a health care worker. The skills include verbal and non-verbal communication, assessments, patient/client care, emergency medical techniques and team membership. The student will apply skills for successful entrance into postsecondary education and a career in health care.

**Diagnostic Medicine**

**Recommended Prerequisite:**

**None**

**Grades Offered:** 12

**Credit:** ½, 1

**SDE Course Code:** 5511

**MNPS Course Code:** HSE8453

This course includes a variety of diagnostic procedures commonly used for assessing client health status at a single point in time. This could include but is not limited to cardiology, imaging, medical laboratory, radiology, and other forms of diagnostic medicine. Students will identify procedures, equipment, supplies and protocol for diagnosing illness or injury.

**Emergency Medical Services**

**Recommended Prerequisite:**

**None**

**Grades Offered:** 11 - 12

**Credit:** ½, 1

**SDE Course Code:** 5510

**MNPS Course Code:** HSE8853

Emergency Medical Services (EMS) teaches knowledge of the emergency medical field, including duties, responsibilities and legal aspects, as well as skill development in patient assessment, communication, first aid measures, and the use of emergency medical equipment. Students may be eligible to certify as First Responders if the instructor and the course meet requirements of the Tennessee Department of Health. Emergency Medical Service (EMS) is designed for students interested in pre-hospital or emergency patient care. Career options may include emergency medical technicians, paramedics, and emergency room nurses.

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**Forensic Science**

**Recommended Prerequisite:**  
**None**  
**Grades Offered: 11 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5514**  
**MNPS Course Code: HSE5514**

This course is an overview of how science is applied to solving crimes. Topics including history of forensic sciences, collecting evidence, analyzing results and hands-on application of many laboratory techniques used in solving crimes and identifying people and future careers. Students will participate in a mock (staged) crime scene to apply knowledge and skills gained.

Upon completion of the course, job shadowing or “virtual” job shadowing opportunities, which may be available through the Tennessee court systems, Orchid Diagnostics, Test America, sheriffs departments, local universities, American Academy of Forensic Science, and dental schools.

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**Health Infomatics**

**Recommended Prerequisite:**  
**None**  
**Grades Offered: 11 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5505**  
**MNPS Course Code: HSE8653**

This course will provide knowledge on ways to document an individual's care in the home, hospital, long-term care facility, outpatient and others. The documentation could include activities as databases, medical records, health management, risk management, health insurance, doctor's, dental, and vet offices. Such record keeping affords clients a history that supports health care problem solving and decision making. Careers could include medical records, health management, unit coordinator, computer operator and others.

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**Health Science Education**

**Recommended Prerequisite:**  
**None**  
**Grades Offered: 9 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5504**  
**MNPS Course Code: HSE8153**

This course serves as a foundation of all health science courses. It is suggested this elective course be implemented at the ninth grade. The course includes basic health care information on services/products related to the health of people or animals. Subject matter will include career choices, skill development and application of health concepts relative to becoming a health care professional. Health Science Education includes a variety of standards necessary for competent health care workers. Integrated academics combined with health care knowledge and skills will provide a strong health care delivery system in the 21<sup>st</sup> century.

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**Medical Therapeutics**

**Recommended Prerequisite:**  
**None**  
**Grades Offered: 9 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5506**  
**MNPS Course Code: HSE8253**

In this course, the students will evaluate the ways therapeutic medicine is used to focus on direct patient care. Topics include pharmacology, nursing, medicine, dentistry, social support and a multitude of other allied health careers. Therapeutic functions involve a variety of treatments or changes in the health status of the client over time. These regimes are designed to help clients get well, manage a handicap or maintain their health. Upon completion of this course, a student may enroll in a clinical internship which can articulate to post-secondary education or entry-level positions in therapeutics.

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**Nursing Education**

**Recommended Prerequisite:**  
**None**  
**Grades Offered: 9 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5507**  
**MNPS Course Code: HSE8353**

Nursing education includes a variety of knowledge and skills necessary to become a health care worker. This course meets all federal and state requirements for a certified nurse's aid. The skills include verbal and non-verbal communication, psycho-

logical and physical assessments, direct patient care, emergency medical techniques and team membership. Clinical experience will consist of supervised practice in a nursing home as well as demonstrations in the classroom. Students may be registered for employment with the Tennessee Department of Health after the completion of the course and passing a State prepared credentialing examination. The clinical internship is incorporated into this course. A total of 100 hours are required for the Tennessee state test for nurses' aide. This clinical internship must be completed in a long-term care facility. Additional hours are implemented in the classroom and clinical settings upon completion of this course. A student may enroll in postsecondary education or enter the work force in an entry-level position.

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**Rehabilitative Therapies**

**Recommended Prerequisite:**  
**None**  
**Grades Offered: 11 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5503**  
**MNPS Course Code: HSE8753**

This course focuses on therapies that enable a person to live to the fullest capacity possible. The student will learn to differentiate between therapeutic career options, diagram human structure and describe human functions, organize and assess patient history and apply appropriate multidisciplinary therapies for medical conditions. This course discusses the legal and ethical issues related to patient care and health care delivery. Students learn how to incorporate professional behavior and medical terminology into patient assessment and treatment planning and implementation. Units will include sports medicine, physical therapy, occupational therapy, speech/language therapy, music and dance therapy.

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**Support Services**

**Recommended Prerequisite:**  
**None**  
**Grades Offered: 10 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5500**  
**MNPS Course Code: HSE8553**

In this full-year course, students in grades 10-12 gain knowledge, skills, and attitudes necessary for quality services in a safe and professional manner. These include food service

training, patient transportation, facilities management, and medical equipment management.

### Jobs for Tennessee Graduates

**Jobs for Tennessee Graduates**  
**Recommended Prerequisite:**

**None**

**Grades Offered: 12**

**Credit: ½, 1**

**SDE Course Code: 5371**

**MNPS Course Code: IND8001**

This course offers a school-to-work transition curriculum for seniors. The focus includes career exploration, job attainment, job survival, leader-

ship, and self-development skills. Assistance with job placement upon graduation and a nine-month follow-up is a vital part of the program.

### Marketing Education

All Marketing Education federally funded programs must have an active, nationally affiliated career and technical student organization (CTSO). Distributive Education Clubs of America (DECA) is the recognized Marketing Education CTSO for Metro Nashville Public Schools.

Students enrolled in cooperative education training (work-based learning--WBL) must be 16 years of age or older and in the 11th or 12th grade. A maximum of 3 credits may be earned in any one year (on a block schedule, one WBL credit plus one class credit). Students must be enrolled in the related course concurrently (at the same time) with the WBL experience with a minimum of 5 periods per week of classroom instruction for which the student will receive one credit. The WBL experience cannot replace, supersede or supplant the classroom instruction. Students must complete a minimum of 10 hours per week to earn an additional credit in marketing for the WBL method (the same applies on block scheduling).

To earn a second credit, the student must complete a minimum of 20 hours per week. Both the classroom performance and the WBL experience are evaluated in determining a student's composite grade. One grade should be given for both methods, not two separate grades.

#### **Advertising and Public Relations**

**Recommended Prerequisite:**  
**Marketing and Management I - Principles**

**Grades Offered: 10 - 12**

**Credit: ½ - 3**

**SDE Course Code: 5016**

**MNPS Course Code: ME8190**

This semester or full-year course focuses on the concepts and strategies associated with the dynamic and changing means of communication in order to promote products, services, ideas and/or images. This course encourages students to examine this field from the viewpoints of the creative staff, business person, and consumer.

**Credit: ½ - 3**

**SDE Course Code: 5005**

**MNPS Course Code: ME8172**

This semester or full-year course will provide students with the opportunity to analyze and evaluate the various aspects of business ownership in today's marketplace. The student will also be involved in the actual process of developing a business plan and then determining its opportunities for success. Throughout this course the student will relate the foundations of marketing and business management to real-life entrepreneurial endeavors. This course satisfies the Economics credit for graduation.

**Credit: ½, 1**

**SDE Course Code: 5014**

**MNPS Course Code: ME8175**

This course is designed to introduce and provide an overview of marketing and management as well as employment opportunities available in these fields. Students will explore important marketing concepts, functions, personality traits, and communication skills, necessary for marketing and management careers.

#### **Entrepreneurship**

**Recommended Prerequisite:**  
**Marketing and Management I - Principles**

**Grades Offered: 11 - 12**

#### **Exploration of Marketing and Management**

**Recommended Prerequisite:**  
**None**

**Grades Offered: 9 - 10**

#### **Hospitality Management**

**Recommended Prerequisite:**  
**Marketing and Management I - Principles**

**Grades Offered: 10 - 12**

**Credit: ½ - 3**

**SDE Course Code: 5026**

**MNPS Course Code: ME8188**

The changing hospitality industry encompasses growing and varied

employment and career advancement opportunities. This course prepares students for gainful employment and/or postsecondary training in the hospitality industry. Content provides students the opportunity to acquire marketable skills by examining the industry, exploring career opportunities and developing the interpersonal and technical skills.

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### ***Marketing and Management I - Principles***

**Recommended Prerequisite:**

**None**

**Grades Offered: 10 - 12**

**Credit: ½ - 3**

**SDE Course Code: 5000**

**MNPS Course Code: ME8169**

This full-year course focuses on the study of marketing concepts and principles, and their practical application. Students will examine risk and challenges marketers face to establish a competitive edge. Subject matter includes economics, marketing foundations/functions and human resource leadership development. Skills in communication, mathematics and psychology are reinforced in this course. This course satisfies the Economics credit for graduation.

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### ***Marketing and Management II - Advanced Strategies***

**Recommended Prerequisite:**

**Marketing and Management I - Principles**

**Grades Offered: 10 - 12**

**Credit: ½ - 3**

**SDE Course Code: 5001**

**MNPS Course Code: ME8269**

This full-year advanced course emphasizes marketing concepts and management functions performed by professionals. It also emphasizes the development of decision-making skills so that students understand the impact of management-oriented challenges. Students will examine challenges, responsibilities and risks managers face in today's workplace. Subject matter includes finance, entrepreneurship, risk management, marketing information systems, purchasing, human resource skills, and leadership development. Communication, interpersonal, and mathematics skills are reinforced in this course.

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### ***Marketing Work-Based Learning (WBL)***

**Recommended Prerequisite: Must be enrolled in a related class**

**Grades Offered: 11 - 12**

**Credit: ½ - 2**

**SDE Course Code: 5098**

**MNPS Course Code: ME5098**

In accordance with the Tennessee Department of Education's Work-Based Learning (WBL) Manual, students have an opportunity to extend their education beyond the classroom and into the workplace. In order to participate in a WBL experience, the students must be enrolled in a course related to the WBL experience for at least one hour of the regular school day. The course must follow the State standards and competencies as well as include instruction in on-the-job skills. The student will then have an opportunity to earn one or two additional credits in the related course for a WBL experience. All WBL experiences must follow the Tennessee Department of Education guidelines and be supervised by a teacher who has completed 40 hours of State approved WBL training.

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### ***Retail Operations***

**Recommended Prerequisite:**

**Marketing and Management I - Principles**

**Grades Offered: 11 - 12**

**Credit: ½ - 3**

**SDE Course Code: 5022**

**MNPS Course Code: ME8186**

This semester or full-year course offers students the opportunity to learn marketing skills needed in the fast-paced world of retailing. In this course, the student will learn that retailing is a significant and vital component to the United States economy and is quickly becoming an integral part of the global economy. Throughout the course the students will be made aware of the importance of retailing in its various forms as the final step in getting products and service to consumers in the marketplace. This course may be specialized to a specific area, such as fashion retailing. Retail Operations satisfies the Economics credit for graduation.

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### ***Sales Management***

**Recommended Prerequisite:**

**Marketing and Management I - Principles**

**Grades Offered: 11 - 12**

**Credit: ½ - 3**

**SDE Course Code: 5018**

**MNPS Course Code: ME8182**

This semester or full-year course will provide the student with the opportunity to analyze and evaluate the various aspects of sales in today's marketplace. Students will study concepts needed to respond to customer wants and needs through planned personalized communication that influences purchase decisions, ensures satisfaction and enhances future business opportunities. Sales Management will include advanced selling concepts, investigation of career opportunities, and the technological influences on sales and sales management.

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### ***Sports and Entertainment Marketing***

**Recommended Prerequisite:**

**Marketing and Management I - Principles**

**Grades Offered: 11 - 12**

**Credit: ½ - 3**

**SDE Course Code: 5023**

**MNPS Course Code: ME8184**

Sports and entertainment marketing is a specialized course designed to offer students an opportunity to gain knowledge and develop skills in the areas of facility design, merchandising, advertising, public relations/publicity, event marketing, sponsoring, ticket distribution, and career opportunities as they relate to the sports and entertainment industry.

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### ***Travel and Tourism Operations***

**Recommended Prerequisite:**

**Marketing and Management I - Principles**

**Grades Offered: 11 - 12**

**Credit: ½ - 3**

**SDE Course Code: 5003**

**MNPS Course Code: ME8271**

This course is a study of the various components of the travel and tourism industry. Subject matter will include human relations and communication, economics, career paths, marketing

strategies, business operations, and | organizational and leadership skills.

**Technology Engineering Education (TEE)**

All Technology Education federally funded programs must have an active, nationally affiliated career and technical student organization (CTSO). Technology Students of America is the recognized CTSO for Metro Nashville Public Schools.

**Advanced Computer Aided Drafting**

**Recommended Prerequisites:**  
**Computer Aided Drafting and Algebra I**  
**Grades Offered:** 11 - 12  
**Credit:** ½ - 2  
**SDE Course Code:** 5789 (T & I) or 3824 (TEE)  
**MNPS Course Code:** VO8431 or IND3824

Computer-Aided Design is a course in which students will learn to use a CAD program to create engineering drawings including: plan drawings, assembly drawings, welding and process drawings, cross sections, 3D representations and bills of materials. This course consists primarily of individual drawing projects, with some group projects. Emphasis is on drawing projects of increasing complexity.

**Computer Aided Drafting**

**Recommended Prerequisite:**  
**None**  
**Grades Offered:** 10 - 12  
**Credits:** ½ - 2  
**SDE Course Code:** 5788 (T & I) or 3823 (TEE)  
**MNPS Course Code:** VO8531 or IND3823

Engineering Design/CAD is a course in which students learn the basic concepts of scale drawings and orthographic projections by making simple two-and three-dimensional drawings using manual drafting tools and computer-aided design (CAD). Course content will enable students to make the transition into the use of CAD software by having them make increasingly sophisticated drawings. Students will work in teams and will culminate in a class project to create a complete set of construction and assembly drawings for a mechanical product.

**Digital Electronics**

**Recommended Prerequisite:**  
**Algebra I**  
**Grades Offered:** 9 – 12  
**Credit:** ½, 1  
**SDE Course Code:** 5783 (T & I) or 3821 (TEE)  
**MNPS Course Code:** VO8148 or IND3821

Digital Electronics is a course where students will construct and test fundamental digital logic circuits such as gates, counters, oscillators and switches. A/D and D/A converters will be applied to signal processing. Microcontroller programs will be modified and microcontrollers applied to closed circuit control systems. The course culminates in a group project to create a digital servo control loop. Emphasis is on hands-on activities, real-world equipment and current technology.

**Engineering Processes**

**Recommended Prerequisites:**  
**Algebra I, Geometry**  
**Grades Offered:** 11 - 12  
**Credit:** ½, 1  
**SDE Course Code:** 3812  
**MNPS Course Code:** IND3812

This is an overview course that introduces students to the concepts and practices that underlie careers in engineering and engineering technology. The course integrates STEM (Science, Technology Engineering and Mathematics) into pre-engineering activities. Students acquire knowledge and skills in engineering problem solving and explore requirements for engineering careers.

The purpose of Engineering Processes is to expose students to project-based learning activities using advanced mathematics, design, pre-engineering concepts, use of time studies and problem solving using both classroom and on-line materi-

als. Students will also be required to perform research and upper level literacy in technology engineering education. This course is designed to provide information and experiences to help students adapt themselves to the workforce and the changing demands that will be placed on the engineering workforce in the 21<sup>st</sup> century. It will help students develop skills in problem solving, teamwork, time management, computer skills, and engineering systems.

**Innovations and Inventions**

**Recommended Prerequisite:**  
**None**  
**Grades Offered:** 9  
**Credit:** ½, 1  
**SDE Course Code:** 3810  
**MNPS Course Code:** IND8192

This course will enable students to further develop technological literacy skills and should be offered as an integral component of the core school curriculum. Integrated academics combined with hands-on program of study teaches about the development and applications of technology, and the effects technology has on individuals, society and the environment. This course teaches students how to use, manage, process and assess technology in a contextual learning environment. This course integrates the three (3) Gateway courses throughout the learning expectations and is articulated in all of the sample performance tasks. It is designed as a foundations problem-solving course for students in the ninth grade.

**Manufacturing Applications**

**Recommended Prerequisites:**  
**Algebra I, Principles of Manufacturing, Principles of Machining and Manufacturing, or Principles of Engineering**  
**Grades Offered:** 12  
**Credit:** ½ - 2

**SDE Course Code: 5785 (T & I) or 3822 (TEE)**  
**MNPS Course Code: VO8154 or IND3822**

Manufacturing Applications is a senior level course for students interested in entering the workforce or pursuing higher education in the manufacturing area. The course requires students to solve problems in a real-world manufacturing context. Problems address critical areas identified by industry and supported by relevant national standards. This course is structured as a series of simulation units. The simulations require students to identify problems in a manufacturing company based on data supplied in typical management reports. Students work in teams of four to six. Teams test and refine proposed solutions with computer simulations. All teams work on the same problem concurrently. At the end of each unit, students present team findings and recommendations to the class and to a panel of manufacturing industry representatives which acts as the board of directors.

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### ***Principles of Engineering***

**Recommended Prerequisites:**  
**Engineering Design/CAD, Algebra I and Geometry**  
**Grades Offered: 9 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5784 (T & I) or 3820 (TEE)**  
**MNPS Course Code: VO8150 or IND3820**

Principles of Engineering is a course in which students explore the nature of engineering and the skills fundamental to all engineering fields, as well as the role of quality-assurance and quality control procedures in manufacturing. Emphasis is placed on actual projects and presentations and the use of modern tools (e.g., CAD). The course can be enhanced by cooperation with local manufacturing facilities that can provide real measurement data and opportunities for on-site visits to witness engineering tasks, projects and quality-control data collection.

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### ***Principles of Machining and Manufacturing***

**Recommended Prerequisite:**  
**Career Management Success**  
**Grades Offered: 9 - 12**  
**Credit: ½ - 2**  
**SDE Course Code: 5782 (T & I) or 3819 (TEE)**  
**MNPS Course Code: VO8442 or IND3819**

Principles of Machining and Manufacturing focuses on the concepts and practices that support careers in manufacturing, industrial maintenance, metrology, automation, industrial design or industrial support. This course introduces the technology of machining and manufacturing processes. While working as team members, students will apply leadership and organizational skills relating to designing, producing and maintaining a product. Emphasis is placed on quality control, codes and standards, and production systems. The course is contextual by design and connects what is being learned to the student's current experience, past knowledge and future conduct. Laboratory exercises provide active and cooperative learning opportunities.

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### ***Principles of Manufacturing***

**Recommended Prerequisite:**  
**None**  
**Grades Offered: 9 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5781 (T & I) or 3818 (TEE)**  
**MNPS Course Code: VO8184 or IND3818**

Principles of Manufacturing focuses on the essential principles that must be mastered for a person to be effective in manufacturing production work. The course is intended for students more interested in production than engineering. The course covers customers, quality principles and processes, systems, information in the workplace, the business of manufacturing and statistical process control. The course is contextual by design and connects what is being learned to the student's current experience, past knowledge and future conduct. Wherever possible, real-world or simulated hands-on experiences become the context in which instruction is delivered.

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### ***Problems and Solutions in Technology***

**Recommended Prerequisites:**  
**Two sequential courses and have passed Gateway English**  
**Grades Offered: 11 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 3813**  
**MNPS Course Code: IND3813**

Problems and Solutions in Technology is a research course which allows students to develop advanced technical knowledge and skills by solving problems in one or more of the technology systems: communication, computer applications, construction, energy, power, transportation, manufacturing, and bio-related technology. In this research course, students develop and apply the knowledge and skills gained in previous courses to identify and resolve relevant problems.

This course is designed to give students the opportunity to synthesize and apply knowledge and skills gained in several courses and apply the skills to new situations. The course integrates mathematics, science, language arts, and social studies competencies in a contextual setting using Project-Based Learning Activities as performance tasks. A culminating research/project report is required to satisfactorily complete this research course.

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### ***Technological Systems***

**Recommended Prerequisite:**  
**Innovations and Inventions**  
**Grades Offered: 10 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 3811**  
**MNPS Course Code: IND3811**

This is an overview course designed to introduce students to the application of technology to solve problems and meet human needs and wants. Laboratory experiences are focused on the technology systems of bio-related technology, communication, computer applications, construction, energy, power, transportation, and manufacturing. Students will study concepts about technological systems and influences these systems have at home, in communities, and at work. The content of the course includes, but is not limited to the study of systems of technology,

application of technology, design/problem solving, evolving technologies, safety, maintenance, en-

trepreneurship, leadership, careers, and marketing.

### Trade and Industrial Education

All federally funded programs must have an active and nationally affiliated career and technical student organization (CTSO). Skills USA is the recognized Trade and Industrial Education CSTO for MNPS.

#### **Career Management Success** **Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5701**

**MNPS Course Code: VOC8160**

Career Management Success is a core course for career clusters. The course provides students with the tools for achieving success in their academic, work and personal lives. Course content emphasizes the basic skills and knowledge needed for employment success as identified by industry and supported by relevant national standards. All course content is presented in a real-world context, providing concrete opportunities for developing personal and career goals, effective communica-

tion skills, teamwork abilities and successful work attitudes. Upon completion of the course, students will be able to complete Professional Development Program Level I and Level II of Skills USA or other degree programs in other career and technical youth organizations.

#### **Trade and Industrial (T & I) Education Work-Based Learning (WBL)**

**Recommended Prerequisite:**

**Must be enrolled in a related class**

**Grades Offered: 11 - 12**

**Credit: ½ - 2**

**SDE Course Code: 5398**

**MNPS Course Code: VOC5398**

In accordance with the Tennessee Department of Education's Work-Based Learning (WBL) Manual,

students have an opportunity to extend their education beyond the classroom and into the workplace. In order to participate in a WBL experience, the students must be enrolled in a course related to the WBL experience for at least one hour of the regular school day. The course must follow the State standards and competencies as well as include instruction in on-the-job skills. The student will then have an opportunity to earn one or two additional credits in the related course for a WBL experience. All WBL experiences must follow the Tennessee Department of Education guidelines and be supervised by a teacher who has completed 40 hours of State approved WBL training.

### Arts and Communication Cluster

#### **Audio Technology I**

**Recommended Prerequisites:**

**None**

**Grades Offered: 9 - 10**

**Credit: ½, 1**

**SDE Course Code: 5770**

**MNPS Course Code: VO9626**

Audio Technology I is designed to give students the basic knowledge and technical skills needed to prepare them for post-secondary study or entry level employment in the audio industry. The students will study the language of music in its written form. Students will develop knowledge of the business of music which will include legal and marketing issues. They will also develop the technical skills to operate the equipment necessary to produce a finished audio product in both live performance and studio situations. In all situations, students will present themselves with integrity and professional behavior.

#### **Audio Technology II**

**Recommended Prerequisite:**

**Audio Technology I**

**Grades Offered: 10 - 12**

**Credit ½ - 2**

**SDE Course Code: 5771**

**MNPS Course Code: VO9627**

Audio Technology II is designed to give students the advanced knowledge and technical skills needed to prepare them for post-secondary study or entry level employment in the audio industry. Students will develop skills in which to conduct complete recording sessions as well as building skills in mix-down, mastering, and other post production techniques. In all situations, students will present themselves with integrity and professional behavior.

#### **Cabling Technology**

**Recommended Prerequisite:**

**Information Technology Foundations**

**Grades Offered: 11 - 12**

**Credit: ½, 1**

**SDE Course Code: 5758**

**MNPS Course Code: VO8173**

This course, which is a part of the Information Technology Infrastructure sub-cluster, is designed to equip technicians with the fundamental knowledge, skills and abilities necessary to install, troubleshoot and maintain today's networks. Course content presents the principles which govern the architecture and design of systems and networks for connectivity of video, voice and data communications. Course content and skill development is delivered by the use of training centers and training aids in the class laboratory on which students complete training exercises.

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**Computer Operating Systems and Hardware****Recommended Prerequisite:**  
**Information Technology Foundations****Grades Offered:** 9 - 12**Credit:** ½, 1**SDE Course Code:** 5756**MNPS Course Code:** VO8185

This course is designed to allow students to develop work-related skills and prepare for certification in the computer service technician career path. Content provides students the opportunity to acquire knowledge and skill in both theory and practical applications pertaining to troubleshooting, replacing, installing and upgrading computers. Procedures used in the course may be hardware oriented, software oriented or programming oriented. Upon completion of the course, students will possess a thorough knowledge of modern personal computer hardware and software structure and be able to take the A+ Certification exam.

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**Digital Design and Imaging****Recommended Prerequisite:**  
**Visual Communications or Graphic Communications I****Grades Offered:** 9 - 12**Credit:** ½ - 2**SDE Course Code:** 5762**MNPS Course Code:** VO8177

This level of the Graphic Communications sub cluster covers the principles of design and general layout procedures. Content will cover electronic systems and software programs used in graphic design, page composition, image conversion and digital printing. Advanced knowledge and skill in digital design and digital imaging will be enhanced in a graphic communications production laboratory facility through experiences that simulate the graphic communications industry and school/work-based learning opportunities.

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**Electronic Media Management and Operations****Recommended Prerequisites:**  
**Media Concepts and Electronic Media Production****Grades Offered:** 11 - 12**Credit:** ½ - 3**SDE Course Code:** 5765**MNPS Course Code:** VO8180

This course is offered in the Journalism and Broadcasting sub-cluster to students who have completed Electronic Media Concepts and Electronic Media Production, or obtained the instructor's approval. This course focuses on simulated real-life electronic broadcasting media production and management activities and productions. Projects center on in-house productions of newscasts, special events and original programming. The student will gain valuable insight into both audio and video sides of the electronic media industry. Course content is composed of scripting, broadcasting, reporting, directing, editing, budgeting and producing, as well as cameras, lights, sound and set design. This course will explore the latest digital technology and applications, research and future trends in the electronic media industry. Upon completion of this course students will be prepared to pursue postsecondary education or enter the electronic media industry in an entry-level position. The educational laboratories will assimilate broadcast facilities in the electronic media industry.

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**Electronic Media Production****Recommended Prerequisite:**  
**Media Concepts****Grades Offered:** 10 - 12**Credits:** ½ - 3**SDE Course Code:** 5764**MNPS Course Code:** VO8179

This course is offered in the audio and video technology sub-cluster to students who have completed Media Concepts or obtained instructor's approval. Course content focuses on electronic media production (EMP) technologies utilizing simulated and/or real-life projects. This course centers on production of various EMP products, including commercials, news, music, and interactive and industrial programming. The student will gain valuable insight into the many facets of EMP production, including but not limited to, concept creation, scripting, sound design, visual design, engineering, editing, budgeting and producing, as

well as exploring some of the latest advances in industry technology.

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**Graphic Communications I****Recommended Prerequisite:**  
**None****Grades Offered:** 9 - 12**Credit:** ½, 1**SDE Course Code:** 5760**MNPS Course Code:** VO8175

This course is the first in a series that prepares students for gainful employment and/or entry into post-secondary education in the graphic communications industry. Content provides the opportunity to acquire marketable skills by examining both the industry and its career opportunities, and by developing leadership, teamwork and industry skills. Laboratory facilities and experiences simulate those found in the graphic communications industry.

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**Graphic Communications II****Recommended Prerequisite:**  
**Graphic Communications I****Grades Offered:** 11 - 12**Credit:** ½ - 4**SDE Course Code:** 5761**MNPS Course Code:** VO8176

This course is the second level of Graphic Communications. It prepares students for work-related and advancement into graphic design and digital imaging for gainful employment and/or post-secondary education in the graphic communications industry. Content provides students the opportunity to acquire marketable skills in both theory and practical application. Advanced knowledge and skills in the printing industry will be enhanced in a laboratory setting that duplicates the printing industry and offers school/work based learning opportunities.

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**Information Technology Foundations****Recommended Prerequisite:**  
**None****Grades Offered:** 9 - 12**Credit:** ½ - 2**SDE Course Code:** 5755**MNPS Course Code:** VO8170

This course is designed to prepare students with work-related skills for

advancement in telecommunication and information technology career paths. Content provides students the opportunity to acquire basic foundational knowledge and skills in both theory and practical applications in direct current, alternating current and power supply circuits. Course content includes fundamentals of networking concepts for personal computers (PC), networking, determining system requirements, setting up equipment and performing installation tests for the end user. Content provides the opportunity to evaluate and install peripheral devices and become familiar with operating systems. Course content provides students the opportunity to acquire basic fundamental skills in both theory and practical applications of language, structure and typography. The course also stresses layout and design guidelines as applied in the design of markup language documents. Course content will be delivered through virtual training and hands-on methods. Competencies mastered during this course help prepare students toward acquiring A+ and/or Net+ certification and/or Web design employment.

**Media Concepts**

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 10**

**Credit: ½, 1**

**SDE Course Code: 5763**

**MNPS Course Code: VO8178**

This course is offered for students interested in either the Audio and Video Technologies sub-cluster, or the Journalism and Broadcasting sub-cluster of the Arts and Communication cluster. The overlap in these industries is extensive as can be witnessed in television, film, music, radio, newspaper, Web-cast and entertainment. This course is the entry-level course to prepare students for the media industry. Course content provides a broad-based exposure to audio, video, and journalism and broadcasting within the media industry. Upon completion of this course students will be prepared to pursue advanced coursework in either audio and video technology or journalism and broadcasting.

**Networking**

**Recommended Prerequisite: Information Technology Foundations**

**Grades Offered: 10 - 12**

**Credit: ½, 1**

**SDE Course Code: 5757**

**MNPS Course Code: VO8172**

This course stresses the conceptual and practical skills necessary to design and manage networks. Course content, which is of the project-based format, allows the students to interconnect workstations, peripherals, terminals and other networking devices creating an integrated system where all devices speak the same language or protocol. The course will help prepare students to design, build and maintain computer networks. The networking sub-cluster will help prepare students for the Network + examination and cover many areas of the Cisco Certified Networking Associates exam.

**Visual Communications**

**Recommended Prerequisite:**

**None**

**Grades Offered: 9 - 10**

**Credit: ½, 1**

**SDE Course Code: 5759 (T & I) or 3814 (TEE)**

**MNPS Course Code: VO8174 or TEE3814**

This course provides a foundation in aesthetic concepts and applies these concepts to the visual art, design, printing and photography industries. Course content provides the opportunity to acquire marketable skills by examining both the visual communications industry, and its career opportunities by developing leadership, teamwork and technical skills. Varying degrees of aesthetics are required along with the ability to interpret many aspects of life and technology.

**Web Site I - Fundamentals**

**Recommended Prerequisite: Information Technology Foundations**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5766 (T & I) or 3815 (TEE)**

**MNPS Course Code: VO8181 or TEE3815**

This course, which is the first level of Web Page Design, prepares students with work-related skills for advancement into post-secondary education of industry. Course content includes exposure to basic Web design and the dynamics of networking/internetworking, Web hosting and Web design in e-commerce. The course content provides students the opportunity to acquire fundamental skills in both theory and practical application of Web design and of leadership and interpersonal skill development. Laboratory facilities and experiences simulate those found in the Web page design and construction industry.

**Web Page Design II- Site Designer**

**Recommended Prerequisites:**

**Web Site I and Algebra I**

**Grades Offered: 9 - 12**

**Credit: ½, 1**

**SDE Course Code: 5767 (T & I) or 3816 (TEE)**

**MNPS Course Code: VO8281 or TEE3816**

This course, which is the second level of Web Page Design concentration, prepares students with work-related skills for advancement into postsecondary education or industry. Course content includes exposure to basic and advanced Web design, pixelated and vector-based Web graphics, Web animations, and the dynamics of Web hosting and Web design in e-commerce. The course content provides students the opportunity to acquire fundamental skills in both theory and practical application of Web design, and of leadership and interpersonal skill development. Laboratory facilities and experiences simulate those found in the Web page design and construction industry. Further, this course provides for and directly maps to the Certified Internet Webmaster "Site Designer" national certification examination.

**Web Page Design III- eCommerce**

**Recommended Prerequisites:**

**Web Site I – Foundations, Web**

**Page Design II – Site Designer,**

**and Algebra I**

**Grades Offered: 11 - 12**

**Credit: ½, 1**

**SDE Course Code: 5769 (T & I) or 3817 (TEE)**  
**MNPS Course Code: VO8381 or TEE3817**

Web Page Design III – eCommerce corresponds to the CIW certification “Web eCommerce” which is the third level of Web Page Design. This

course prepares students with work-related skills for advancement into postsecondary education or industry. Course content includes exposure to Web design in eCommerce with marketing, customer relations, and commercial Web site publication. The course content provides students the opportunity to acquire

fundamental skills in practical application of Web development, leadership, and interpersonal skill development. Laboratory facilities and experiences simulate those found in the Web page design and Web page construction industry.

**Construction Cluster**

**Construction Core**  
**Recommended Prerequisite:**  
**None**  
**Grades Offered: 9 - 11**  
**Credit: ½, 1**  
**SDE Course Code: 5730**  
**MNPS Course Code: VO8714**

Construction Core is a course that will introduce students to basic skills and knowledge applicable to all construction trades. Topics covered include safety, construction drawings, site layout, hand and power tools, linear and angular measurements, and application of algebraic and geometric principles to construction problems.

**Heating, Ventilation, Air Conditioning/Refrigeration (HVAC) I**  
**Recommended Prerequisite:**  
**Construction Core**  
**Grades Offered: 10 - 12**  
**Credit: ½ - 2**  
**SDE Course Code: 5741**  
**MNPS Course Code: VO8411**

HVAC/R I is a course that will introduce students to basic skills and knowledge related to residential and commercial heating, ventilation, air conditioning and refrigeration (HVAC/R). Topics covered include tools and equipment, safety, hazards unique to HVAC/R work, physics principles, mechanical refrigeration cycle, and installation and servicing of HVAC/R systems. Course content provides students with skill and knowledge to advance to HVAC/R II. Students completing HVAC/R I will be eligible to take the Core, Type I and Type II technician certification of the EPA Proper Refrigerant Usage and Handling examination.

**Heating, Ventilation, Air Conditioning/Refrigeration (HVAC) II**  
**Recommended Prerequisites:**  
**HVAC I, Algebra I and Geometry**  
**Grades Offered: 11 - 12**  
**Credit: ½ - 2**  
**SDE Course Code: 5742**

**MNPS Course Code: VO8511**

HVAC/R II is a course in which students will extend their skills and knowledge related to residential and commercial heating, ventilation, air conditioning and refrigeration (HVAC/R). Topics covered include electricity, thermodynamics, psychometrics, diagnostic, forced air furnaces, air distribution systems and heating/cooling load analysis. This course gives students a substantial skill and knowledge foundation typically required for apprentice HVAC/R technicians. Course content provides school based and work based learning opportunities for students. Course content prepares students for entry-level employment, advanced training in HVAC/R and entry into postsecondary education.

**Culinary Arts**

**Culinary Arts I**  
**Recommended Prerequisite:**  
**None**  
**Grades Offered: 9 - 11**  
**Credit: ½, 1**  
**SDE Course Code: 5656 (FACS) or 5381 (T & I)**  
**MNPS Course Code: FC8151 or VO8151**  
*\*See course description on page 41*

**Culinary Arts II**  
**Recommended Prerequisite:**  
**Culinary Arts I**  
**Grades Offered: 10 - 11**  
**Credit: ½ - 2**

**SDE Course Code: 5657 (FACS) or 5382 (T & I)**  
**MNPS Course Code: FCS8251 or VO8251**  
*\*See course description on page 42*

**Culinary Arts III**  
**Recommended Prerequisite:**  
**Culinary Arts II**  
**Grades Offered: 11 - 12**  
**Credit: ½ - 3**  
**SDE Course Code: 5658 (FACS) or 5383 (T & I)**  
**MNPS Course Code: FCS8351 or VO8351**

*\*See course description on page 42*

**Foundations of the Hospitality Industry**  
**Recommended Prerequisite:**  
**None**  
**Grades Offered: 9 - 10**  
**Credit: ½, 1**  
**SDE Course Code: 5655 (FACS) or 5380 (T & I)**  
**MNPS Course Code: FCS8588 or VO8588**  
*\*See course description on page 42*

**Human Services Cluster**

**Chemistry of Cosmetology**

**Recommended Prerequisites:**  
Principles of Cosmetology and Design Principles of Cosmetology  
**Grades Offered:** 11 - 12  
**Credit:** ½ - 3  
**SDE Course Code:** 5340  
**MNPS Course Code:** VO8652

This course, which is the advanced level of Cosmetology, prepares students to perform work-related services using chemicals in the cosmetology industry. Laboratory facilities and experiences will be used to simulate cosmetology work experiences. Upon completion and acquisition of 1500 hours, students are eligible to take the Tennessee State Board of Cosmetology examination for a Tennessee Cosmetology License. Upon completion and acquisition of 600 hours, students are eligible to take the Tennessee State Board of Cosmetology Manicuring examination for a Tennessee Manicuring License.

**Design Principles of Cosmetology**

**Recommended Prerequisite:**  
Principles of Cosmetology  
**Grades Offered:** 10 - 12  
**Credit:** ½ - 3  
**SDE Course Code:** 5339  
**MNPS Course Code:** VO8552

This course, which is the second level of Cosmetology, prepares students for work-related skills and advancement into the Chemistry of Cosmetology course. Content provides students the opportunity to acquire knowledge and skills in both theory and practical application. Advanced knowledge and skills in hair design, nail artistry and cosmetic applications will be enhanced in a laboratory setting that duplicates cosmetology industry standards. Upon completion and acquisition of 600 hours, students are eligible to take the Tennessee Board of Cosmetology Manicuring examination for a Tennessee Manicure License.

**Principles of Cosmetology**

**Recommended Prerequisite:**  
None  
**Grades Offered:** 9 - 12  
**Credits:** ½ - 2  
**SDE Course Code:** 5338  
**MNPS Course Code:** VO8452

This course, which is the first level of Cosmetology, prepares students with work-related skills for advancement into the Design Principles of Cosmetology course. Content provides students the opportunity to acquire basic fundamental skills in both theory and practical applications of leadership and interpersonal skill development. Content stresses safety, environmental issues, and protection of the public and designers as integrated with principles of hair design, nail structure and cosmetic procedures. Laboratory facilities and experiences simulate those found in the cosmetology industry.

**Manufacturing Cluster**

**Advanced Computer Aided Drafting**

**Recommended Prerequisites:**  
Computer Aided Drafting and Algebra I  
**Grades Offered:** 11 - 12  
**Credit:** ½ - 2  
**SDE Course Code:** 5789 (T & I) or 3824 (TEE)  
**MNPS Course Code:** VO8431 or IND3824  
*\*See page 47 for description*

**Computer Aided Drafting**

**Recommended Prerequisite:**  
None  
**Grades Offered:** 10 - 12  
**Credits:** ½ - 2  
**SDE Course Code:** 5788 (T & I) or 3823 (TEE)  
**MNPS Course Code:** VO8531 or IND3823  
*\*See page 47 for description*

**Digital Electronics**

**Recommended Prerequisites:**  
Algebra I  
**Grades Offered:** 9 – 12  
**Credit:** ½, 1

**SDE Course Code:** 5783 (T & I) or 3821 (TEE)  
**MNPS Course Code:** VO8148 or IND3821  
*\*see page 47 for description*

**Manufacturing Applications**

**Recommended Prerequisites:**  
Algebra I, Principles of Manufacturing, Principles of Machining and Manufacturing, or Principles of Engineering  
**Grades Offered:** 12  
**Credit:** ½ - 2  
**SDE Course Code:** 5785 (T & I) or 3822 (TEE)  
**MNPS Course Code:** VO8154 or IND3822  
*\*See page 47 for description*

**Principles of Engineering**

**Recommended Prerequisites:**  
Engineering Design/CAD, Algebra I and Geometry  
**Grades Offered:** 9 - 12  
**Credit:** ½, 1  
**SDE Course Code:** 5784 (T & I) or 3820 (TEE)

**MNPS Course Code:** VO8150 or IND3820  
*\*See page 48 for description*

**Principles of Machining and Manufacturing**

**Recommended Prerequisite:**  
Career Management Success  
**Grades Offered:** 9 - 12  
**Credit:** ½ - 2  
**SDE Course Code:** 5782 (T & I) or 3819 (TEE)  
**MNPS Course Code:** VO8442 or IND3819  
*\*See page 48 for description*

**Principles of Manufacturing**

**Recommended Prerequisite:**  
None  
**Grades Offered:** 9 – 12  
**Credit:** ½, 1  
**SDE Course Code:** 5781 (T & I) or 3818 (TEE)  
**MNPS Course Code:** VO8184 or IND3818  
*\*See page 48 for description*

**Programming and Logic**

**Recommended Prerequisite:**  
**Career Management Success**  
**Grades Offered: 9 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5780**  
**MNPS Course Code: VO8183**

Programming and Logic is a course in which students will develop skills in problem analysis, construction of algorithms, and computer implementation of algorithms as they work on programming projects of increasing complexity. The recommended programming environment is Dr. Scheme, as it permits an emphasis

on development of analytic skills rather than a particular language syntax or vocabulary. Emphasis is on actual programming projects, both individual and group. Course content should be repeatedly applied to increasingly complex projects.

**Transportation Cluster****Automotive: Brake Systems**

**Recommended Prerequisites:**  
**Transportation Core and Algebra I**  
**Grades Offered: 10 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5712**  
**MNPS Course Code: VO8109**

Automotive: Brake Systems course offers training in the diagnosis and repair of hydraulic, mechanical, and electrical systems used in standard and anti-lock brake systems. Course content includes diagnosis, repair, and/or service technology of hydraulic and anti-lock brake systems to original equipment manufacturer (OEM) specifications. Educational experiences simulate automotive service industry operations through training aids and modules and school-based learning opportunities. Course content prepares students for the Automotive Service Excellence (ASE) Brake System test, for entry-level placement in the workforce and for entry into post-secondary education. A minimum of 100 hours must be dedicated to brake systems to meet minimum standards set by NATEF.

the use of digital and analog voltmeters, ohmmeters, and amp-meters, as well as oscilloscopes, test-lights, load-testers and specialized electrical test equipment. Educational experiences simulate automotive service industry operations through the use of training aids and modules and school-based learning opportunities. Course content prepares students for the Automotive Service Excellence (ASE) Electrical and Electronics test. A minimum of 200 hours must be dedicated to electrical and electronics to meet minimum standards set by NATEF.

**Automotive: Engine Performance**

**Recommended Prerequisites:**  
**Transportation Core and Algebra I**  
**Grades Offered: 10 - 12**  
**Credit: ½ - 2**  
**SDE Course Code: 5711**  
**MNPS Course Code: VO8108**

Automotive: Engine Performance is a course that prepares students for entry-level positions or advanced training in engine performance. The course covers electronic ignition and distributor ignition systems, fuel management, exhaust emission control, and computer input and output signals. It will also identify the different types of sensors used by automotive engine computers. Students will perform inspections, tests, and measurements for diagnosis and perform needed repairs. Education and experiences simulate automotive service industry operations through the use of training aids and modules and offer school-based learning opportunities. Course content prepares students for the Automotive Service Excellence (ASE) Engine performance test. A minimum of 250 hours must be dedicated to engine performance to meet minimum standards set by NATEF.

**Automotive: Suspension and Steering**

**Recommended Prerequisites:**  
**Transportation Core and Algebra I**  
**Grades Offered: 10 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5710**  
**MNPS Course Code: VO8107**

Automotive: Suspension and Steering is a course that prepares students for entry-level positions or advanced training in automotive suspension and steering systems. Course material covers the principles of automotive suspension/steering systems and four-wheel suspension alignment. Course content provides the student with the opportunity to acquire marketable skills by training in wheel alignment and the testing, diagnosis and repair of steering and suspension systems. Lab facilities and experiences simulate automotive service industry operations through the use of training aids and modules and school-based learning opportunities. Course content also prepares students for the Automotive Service Excellence (ASE) Suspension and Steering test. A minimum of 100 hours must be dedicated to suspension and steering to meet minimum standards set by NATEF.

**Automotive: Electrical/Electronic Systems**

**Recommended Prerequisites:**  
**Transportation Core and Algebra I**  
**Grades Offered: 10 - 12**  
**Credit: ½ - 2**  
**SDE Course Code: 5713**  
**MNPS Course Code: VO8106**

Automotive: Electronic Systems is a course that prepares students for entry-level positions, or advanced training in automotive electrical and electronic systems. Students apply the principles of electronics to automotive technology and develop diagnostic skills. The course provides students the opportunity to acquire marketable skill training in

**Aviation Maintenance I**

**Recommended Prerequisite:**  
**None**  
**Grades Offered: 10 - 12**  
**Credit: ½ - 2**  
**SDE Course Code: 5703**  
**MNPS Course Code: VO8401**

Aviation Maintenance I offers the first part of the general aviation maintenance content common to Airframe and Power Plant Maintenance Technology. The course prepares students for Aviation Maintenance II, and subsequent gainful employment

or further study leading to Federal Aviation Administration (FAA) certification in Airframe and/or Power Plant certification. Students are introduced to career opportunities and paths within the Aviation Maintenance Industry. Course content includes math and basic physics as applied to aviation, basic aerodynamics, aircraft structures, sheet metal, aircraft wood and fabric, avionics, assembly and rigging of rotary wing aircraft, aircraft inspections and all FAA Regulations that govern technicians. FAA regulations require 380 contact hours in maintenance toward Airframe or Power Plant certification.

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**Aviation Maintenance II**  
**Recommended Prerequisites:**  
**Aviation Maintenance I, Algebra I and Physical Science**  
**Grades Offered: 11 - 12**  
**Credit: ½ - 2**  
**SDE Course Code: 5704**  
**MNPS Course Code: VO8501**

Aviation Maintenance II continues the general aviation maintenance content begun in Aviation Maintenance I. The course prepares students for gainful employment or further study leading to Federal Aviation Administration (FAA) certification in Airframe and/or Power Plant certification. Course content includes sheet metal, aircraft wood and fabric, avionics, assembly and rigging of rotary wing aircraft, aircraft inspections and a review of FAA regulations that govern technicians.

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**Collision Repair: Non-Structural**  
**Recommended Prerequisites:**  
**Transportation Core, Algebra I, Physical Science and Principles of Welding (100 hours) may be concurrent**  
**Grades Offered: 10 - 12**  
**Credit: ½ - 2**  
**SDE Course Code: 5707**  
**MNPS Course Code: VO8602**

Collision Repair: Non-Structural is a course that prepares students to analyze non-structural collision damage to a vehicle, determine the extent of the damage and the direction of impact, initiate an appropriate repair plan, and correctly uses equipment to fit metal to a specified dimension within tolerances. Course

content includes metal finishing, body filling and glass panel replacements. The course prepares students for entry-level employment and advanced training in collision repair technology, and postsecondary education. Students completing the Collision Repair: Non-Structural are eligible to take the Automotive Service Excellence (ASE) written examination for Non-Structural Analysis and Damage Repair.

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**Collision Repair: Painting and Refinishing**  
**Recommended Prerequisites:**  
**Transportation Core and Algebra I**  
**Grades Offered: 11 - 12**  
**Credit: ½ - 3**  
**SDE Course Code: 5709**  
**MNPS Course Code: VO8502**

Collision Repair: Painting and Refinishing is a course that prepares students to use plastics and adhesives in the repair and refinish processes and to apply automotive paint to a vehicle. Students learn to diagnose automotive paint finish problems, and to perform the appropriate manufacturer-required techniques and processes to refinish the affected area or the complete vehicle. Course content provides the student with training in mixing, matching and applying paint and finish to vehicles. The course prepares students for entry-level employment, advanced training in collision repair technology and postsecondary education. Students completing this course are eligible to take the Automotive Service Excellence (ASE) written examination for Paint and Refinish, and for Plastics and Adhesives.

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**Collision Repair: Structural**  
**Recommended Prerequisites:**  
**Transportation Core, Algebra I, Physical Science and Principles of Welding (100 hours) may be concurrent**  
**Grades Offered: 10 - 12**  
**Credit: ½ - 2**  
**SDE Course Code: 5708**  
**MNPS Course Code: VO8402**

Collision Repair: Structural is a course that prepares students to analyze structural collision damage to a vehicle, determine the extent of the damage and the direction of impact, initiate an appropriate repair

plan, and correctly uses equipment to fit metal to a specified dimension within tolerances. Course content includes repairs to vehicle frames and glass. The course prepares students for entry-level employment, advanced training in collision repair technology and postsecondary education. Students completing the Collision Repair: Structural are eligible to take the Automotive Service Excellence (ASE) written examination for Structural Analysis and Damage Repair.

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**Introduction to Aerospace**  
**Recommended Prerequisite:**  
**None**  
**Grades Offered: 9 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5719**  
**MNPS Course Code: VO8601**

Introduction to Aerospace is a course that introduces students to the knowledge and procedures required for the ground school (knowledge) portion of the Federal Aviation Administration (FAA) private pilot license examination. Students explore the history of aviation, career opportunities and paths within aviation and the regulations governing these careers. The course also introduces principles of aeronautical decision-making, airplane systems and aerodynamics while preparing students for the course in Flight Theory. Course content prepares students for postsecondary and advancement in the aerospace industry.

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**Theory of Flight**  
**Recommended Prerequisite:**  
**Introduction to Aerospace**  
**Grades Offered: 10 - 12**  
**Credit: ½, 1**  
**SDE Course Code: 5720**  
**MNPS Course Code: VO8701**

Theory of Flight is a course that continues and completes the presentation of knowledge and procedures required for the ground school (knowledge) portion of the Federal Aviation Administration (FAA) private pilot license begun in Introduction to Aerospace. Students will explore the flight environment and weather formation, and assess how weather data and other factors impact safety and flight operations. The course

also covers FAA regulations affecting private pilot operations; predicting aircraft performance, weight and balance; types of navigation in pilotage and dead reckoning; aviation physiology and aeronautical decision-making; and cross-country flying.

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**Transportation Core****Recommended Prerequisites:****None****Grades Offered: 9 – 10****Credit: ½, 1****SDE Course Code: 5702****MNPS Course Code: VOC8165**

The Transportation Core course prepares students for entry into all subsequent transportation courses. Students explore career opportunities and requirements of a professional service technician. Content emphasizes beginning transportation service skills and workplace success skills. Students study safety, tools, equipment, shop operations and basic technician skills. Upon completion of this course students may enter automotive service technology, diesel equipment maintenance technology, leisure craft service technology, collision repair and refinish technology, or aviation maintenance.