

Courses

Career and Technical Education

Accounting I

Recommended Prerequisites: Algebra I, Computer Applications

SDE Course Code: 5910

MNPS Course Code: BUS7115

Accounting I introduces concepts and principles based on a double-entry system of maintaining the electronic and manual financial records for a sole proprietorship, partnership and corporation. It includes analyzing business transactions, journalizing, posting, and preparing worksheets and financial statements.

Accounting II

Recommended Prerequisites: Accounting I and Computer Applications

SDE Course Code: 5911

MNPS Course Code: BUS7125

Accounting II 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 explored.

ACE Business Management

Prerequisite:

SDE Course Code: TBD

MNPS Course Code: TBD

The goal of this course is to create a learning environment that, through a series of project and problem based activities, integrates school and workplace to enhance learning. All projects are realistic, tangible, fully designed, managed and built by the students with industry professionals serving as mentors for the duration of the course. Students will gain insight into the workforce with a clear vision of working with the process and product in architecture, construction, and engineering environments. Students will learn and apply technical and academic skills in architecture and construction to the design, development, creation, and management of authentic projects and products in a student-run business.

Administrative Management

Recommended Prerequisites: Computer Applications

SDE Course Code: 5895

MNPS Course Code: BUS7252

This course provides advanced training, including hands-on experiences, for students pursuing a career in business management & administration. Skills developed in previous courses will be incorporated and enhanced through a multi-tasking environment using a variety of input technologies. Procedures and concepts are related to information processing systems, administrative/information management, problem solving, reasoning, team-building, time management, business standards, feasibility studies, cost/budgeting, professional leadership, ethical and legal issues, mathematics, and communications. Production and administrative skills are developed to meet industry standards.

Advanced Computer Applications

Recommended Prerequisites: Computer Applications

SDE Course Code: 5904

MNPS Course Code: BUS3719

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 in the production of professional quality business documents and presentations. The course focuses on student choice, accountability, and performance. Students increase their employability by working toward the attainment of high-level skills in the areas of integrated software applications, communication skills, 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, multimedia presentations, schedule and contact management, etc. This course may articulate to post-secondary education.

Advanced Design Applications

Recommended Prerequisites: Foundations of Technology, Technological Design, Algebra I, Geometry, Physical Science

SDE Course Code: 5920

MNPS Course Code: TEE3838

This course has been designed as an advanced study for students engaged in themed academies and general technology studies that lead to the capacity to understand how technology's development, control and use is based on design constraints, and human wants and needs. The structure of the course challenges students to use design processes so that they can think, plan, design and create solutions to engineering and technological problems. Students are actively involved in the organized and integrated application of technological resources, engineering concepts, and scientific procedures.

Advanced Drafting and Design

Recommended Prerequisites: Computer Aided Drafting I & II; Algebra I, Geometry, Math and Science requirements should be obtained according to graduation requirements during and prior to the conclusion of the credits. Concurrency is acceptable.

SDE Course Code: 5927

MNPS Course Code: VOC8072

Advanced Drafting & Design is a course in which students will learn to use a software program to create engineering drawings including architectural, civil or plan drawings, assembly drawings, welding and process drawings, cross sections, 3D representations, bills of materials and schedules. Emphasis is on drawings of increasing complexity.

Advertising & Public Relations

Prerequisite: Marketing & Management I Principles

SDE Course Code: 5936

MNPS Course Code: ME8190

Advertising and Public Relations focuses on the concepts and strategies associated with promoting products, services, ideas, and events. This applied knowledge course addresses skills essential to the creative side of the industry and explores consumer behavior patterns and motivations for buying. Students will demonstrate proficiency in fundamental advertising and public relations concepts by creating an electronic portfolio of representative course projects demonstrating a progressive level of skills and knowledge.

Agriscience (HQ)

Recommended Prerequisites: None

SDE Course Code: 5957

MNPS Course Code: AGR8776

Agriscience is a laboratory science course that prepares students for biology, subsequent science courses and post-secondary pursuits. 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 as the agricultural industry moves into the 21st century. HQ-satisfies one credit of life science.

Alternative Energy Production and Development (Whites Creek only)

Recommended Prerequisites: Agriscience (HQ)

SDE Course Code: 9351

MNPS Course Code: AGR8140

This course will be the capstone course for students studying alternative energy. Students will be able to actually produce biofuels and other forms of alternative fuels as well as study alternative energy to fuel our world.

Anatomy & Physiology

Recommended Prerequisites: None

SDE Course Code: 3251/5991

MNPS Course Code: SCI6551/ HSE5509

Health Science Education Anatomy and Physiology is a course in which students will examine human anatomy and physical functions. They will analyze descriptive results of abnormal physiology and evaluate clinical consequences. A workable knowledge of medical terminology will be demonstrated. HQ-satisfies one credit of science.

Animal & Plant Biotechnology

SDE Course Code: TBD (to be created in 2015)

MNPS Course Code: AGR8121

Animal Science Biotechnology
SDE Course Code: 6116

MNPS Course Code: TBD

Animation Simulation and Motion Graphics

Recommended Prerequisites: None
SDE Course Code: 6044

MNPS Course Code: VOC8477

This course is a course that builds on foundational elements of visual communication learned in Digital Arts and Design classes. Course content is designed to develop a strong knowledge in animation and software applications, new media graphics and the latest visual communication technologies that are multi-faceted and essential to the industries. Focus will be on developing understandings of key concepts, processes and strategies that will result in realistic animated characters, digital effects, products and environments. Along with creative challenges students will leverage digital tools to gather, evaluate, and use information, encouraging higher order thinking that will translate into focused and innovation animations. Students will explore career opportunities, develop leadership, teamwork, and creative skills that are requisite in many aspects of life and industry.

Audio Production I

Recommended Prerequisites: None
SDE Course Code: 6045

MNPS Course Code: VOC9626

Audio Production 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 develop the technical skills necessary to operate the equipment to produce a finished audio product in both studio situations and live performance. Students will develop knowledge of the business of music which will include publishing and promotional issues. They will also study the language of music.

Audio Production II

Recommended Prerequisites: Audio Production I
SDE Course Code: 6047

MNPS Course Code: VOC9627

Audio Production 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.

Audio Production III

Recommended Prerequisites: Audio Production I and II
SDE Course Code: 6048

MNPS Course Code: VOC9628

Audio Production III 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 recordings sessions, as well as building skills in mix-down, mastering, and other post production techniques.

Aviation I: Principles of Flight

Prerequisite: Introduction to Aerospace
SDE Course Code: 6070

MNPS Course Code: VOC8701

Aviation I: Principles of Flight builds on the fundamental knowledge and skills learned in Introduction to Aerospace while teaching students the essential competencies needed for flight under normal conditions. Upon completion of this course, students will be able to apply knowledge, skills, and procedures in a variety of simulated flight environments. Moreover, students who complete this course will have the opportunity to move on to advanced study in Aviation II: Advanced Flight, where they will continue to prepare for the FAA Private Pilot written exam.

Aviation II: Advanced Flight

Prerequisite: Introduction to Aerospace and Aviation I: Principles of Flight
SDE Course Code: 6148

MNPS Course Code: VOC8702

This is the capstone course in the Aviation Flight program of study intended to prepare students for careers in aviation. Students in Aviation II will receive rigorous instruction in preparation to take the Federal Aviation Administration (FAA) Private Pilot written exam. This course introduces students to the troubleshooting and

diagnostic techniques used by pilots and other aircraft personnel to assess and correct for malfunctions, make adjustments in hazardous weather conditions, and perform other crucial emergency procedures. Continued emphasis is placed on maintaining the safety of flight and developing sound judgment (“judgment training”) throughout these conditions. Students will develop a keen understanding of advanced aerodynamics and the physics of flight to aid in decision-making and technical adjustments while working under simulated abnormal procedures.

Aviation Maintenance I

Recommended Prerequisites: Algebra I, Physical Science (may be concurrent)

SDE Course Code: 6060

MNPS Course Code: VOC8401

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 rotary wing aircraft, aircraft inspections and all Federal Aviation Administration (FAA) Regulations that govern technicians. FAA Regulations require 380 contact hours in maintenance toward Airframe or Power Plant certification.

Aviation Maintenance IIa & IIb

Recommended Prerequisites: Aviation Maintenance I, Algebra I, Physical Science

SDE Course Code: 6061

MNPS Course Code: VOC8501/VOC8522

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 all Federal Aviation Administration (FAA) Regulations that govern technicians.

Banking and Finance

Recommended Prerequisites: Personal Finance

SDE Course Code: 5899

MNPS Course Code: BUS3756

This course is designed to challenge students with real-world banking and financial situations through a partnership with a local financial institution. This business partnership should provide resources for faculty and students that include but are not limited to mentors, seminars, and hands-on experience with day-to-day banking operations. Completion of this course provides students with a foundation for continued education in finance and business administration, specializing in occupations that support banking and financial institutions.

Behavioral and Community Health

Prerequisite: Emergency Preparedness

SDE Course Code: 6130

MNPS Course Code: HSE8312

Behavioral and Community Health is an applied course for students interested in developing a rich understanding of the ways that communities experience and treat health-related issues. A student proficient in Behavioral and Community Health can use research and data to understand the health and wellness of his/her community, state, region, and nation. Upon completion of this course, students will be able to differentiate between health and wellness; relate that knowledge to social epidemiology and determinants of health; draw key connections between behavioral health issues and community health issues; and identify professionals who can provide care.

Biotechnology I

SDE Course Code: 3825

MNPS Course Code: AGR8500

Biotechnology I is designed to give students a comprehensive introduction to the scientific thinking, concepts and laboratory research techniques currently used in the field of biotechnology. In this course, students attain knowledge about the field of biotechnology and deeper understanding of the biological concepts used. In addition, students further develop the laboratory, critical thinking, and communication skills currently used in the biotechnology industry. Furthermore, students will explore and evaluate career opportunities in the field of biotechnology through extensive readings, laboratory experiments, class discussions, research projects, guest speakers, and workplace visits.

Biotechnology II**SDE Course Code: 3825****MNPS Course Code: AGR8501**

Biotechnology II is designed to give students a comprehensive introduction to the scientific thinking, concepts and laboratory research techniques currently used in the field of biotechnology. In this course, students attain knowledge about the field of biotechnology and deeper understanding of the biological concepts used. In addition, students further develop the laboratory, critical thinking, and communication skills currently used in the biotechnology industry. Furthermore, students will explore and evaluate career opportunities in the field of biotechnology through extensive readings, laboratory experiments, class discussions, research projects, guest speakers, and workplace visits.

Biotechnology III**SDE Course Code: 3825****MNPS Course Code: AGR8512**

Biotechnology III is designed to give students a comprehensive introduction to the scientific thinking, concepts and laboratory research techniques currently used in the field of biotechnology. In this course, students attain knowledge about the field of biotechnology and deeper understanding of the biological concepts used. In addition, students further develop the laboratory, critical thinking, and communication skills currently used in the biotechnology industry. Furthermore, students will explore and evaluate career opportunities in the field of biotechnology through extensive readings, laboratory experiments, class discussions, research projects, guest speakers, and workplace visits.

Broadcasting I**Recommended Prerequisites: None****SDE Course Code: 6049****MNPS Course Code: VOC8178**

Broadcasting I 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 just to name a few. 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.

Broadcasting II**Recommended Prerequisites: Broadcasting I****SDE Course Code: 6050****MNPS Course Code: VO8279**

This course focuses on broadcast production technologies utilizing simulated and/or real-life projects. Various broadcasting products are created including, commercials, music, news, and interactive programming. Students will gain valuable insight into the many facets of broadcast 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.

Broadcasting III**Recommended Prerequisites: Broadcasting I and II****SDE Course Code: 6083****MNPS Course Code: VOC8180**

This course focuses on simulated real-life broadcast production and management. Projects center on in-house production of newscasts, special events, and original programming. Students will gain valuable insight into both audio and video sides of the broadcasting industry. Course content is composed of scripting, 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 broadcast industry.

Business Communications**Prerequisite: None****SDE Course Code: 5888****MNPS Course Code: BUS7291**

This course prepares students for oral and electronic business communications in the 21st century including social media as well as developing skills in electronic publishing, design, layout, composition, and video conferencing. Emphasis will be placed on social media, design and digital communications. Students will review and practice successful styles and methods for professional business communications using the proper tools to deliver effective publications and presentations.

Business Economics**Recommended Prerequisites: Business Principles and/or Computer Applications****SDE Course Code: 5989****MNPS Course Code: BUS7620**

This course provides an in-depth study of fundamental concepts, free enterprise trading practices, and the various players in 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. Students will explore various careers related to the economy. International trade and economics have become an integral part of Business Economics. Satisfies one-half credit in Economics.

Business Management**Recommended Prerequisites: Computer Applications****SDE Course Code: 5889****MNPS Course Code: BUS7512**

Students in Business Management 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.

Business Principles**Recommended Prerequisites: Computer Applications****SDE Course Code: 5905/3709****MNPS Course Code: BUS7550/BUS7500**

Business Principles is a 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.

Cabling & Internetworking**Prerequisite: Algebra I and Networking****SDE Course Code: 6093****MNPS Course Code: VOC8273**

This is an advanced course intended to equip students with the conceptual and practical skills necessary to install voice and data network cabling. This course emphasizes industry standards, types of media and cabling, physical and logical networks, and signal transmission. Upon completion of this course, students will have skills in cable termination, reading network design documentation, pulling and mounting cable, setting up telecommunications rooms, basic cable testing and troubleshooting.

Cardiovascular Services**Prerequisites: Diagnostic Medicine and Anatomy and Physiology****SDE Course Code: 6131****MNPS Course Code: HSE8612**

The health-related profession of cardiovascular science is concerned specifically with the diagnosis and treatment of patients with cardiac and peripheral vascular disease. Upon completion of this course, students will be proficient in the anatomy and physiology of the heart and knowledgeable about both invasive and non-invasive cardiovascular procedures. Students will incorporate communication, goal setting, and information collection skills to be successful in the workplace.

Carpentry I**Recommended Prerequisites: Construction Core, Algebra I****SDE Course Code: 6035****MNPS Course Code: VOC5731**

Carpentry I is a course that will introduce students to basic skills and knowledge related to residential and commercial carpentry. Topics covered include wood, metal, and concrete building materials; fasteners; hand and power tools; fabrication based on construction plans; and framing of platform and post-and-beam structures, in both wood and metal. This course gives students an introduction to the skill and knowledge base typically required for apprentice carpenters.

Carpentry II**Recommended Prerequisites:** Construction Core, Carpentry I, Algebra I, Geometry, or Physical Science**SDE Course Code:** 6036**MNPS Course Code:** VOC5732

Carpentry II is a course in which students will extend their skills and knowledge related to residential and commercial carpentry. Topics covered include stairs, installation and trim of windows and doors, installation and repair of gypsum wallboard, advanced site layout, exterior finish work, thermal and moisture protection, and an introduction to welding. This course gives students a substantial skill and knowledge foundation typically required for apprentice carpenters.

Chemistry of Cosmetology**Recommended Prerequisites:** Principles of Cosmetology and Design Principles of Cosmetology**SDE Course Code:** 5984**MNPS Course Code:** VO8652

Chemistry of Cosmetology is the advanced level of cosmetology and it prepares students to perform work-related services using chemicals in the cosmetology industry. Content provides students the opportunity to acquire foundation skills in both theory and practical applications. Laboratory facilities and experiences will be used to simulate cosmetology work experiences. Students completing this portion of the course of cosmetology will acquire the necessary hours to transfer to a post-secondary course of study to complete the hours needed to be eligible to take the Tennessee State Board of Cosmetology examination for the Tennessee Cosmetology License.

Civil Engineering (PLTW)**SDE Course Code:** 6056**MNPS Course Code:** VOC9113

Students apply what they learn about various aspects of civil engineering and architecture to the design and development of a property. Working in teams, students explore hands-on activities and projects to learn the characteristics of civil engineering and architecture. In addition, students use 3D design software to help them design solutions to solve major course projects. Students learn about documenting their project, solving problems and communicating their solutions to their peers and members of the professional community of civil engineering and architecture. This course is designed for 11th- or 12th-grade students.

Clinical Internship**Recommended Prerequisites:** See Description**SDE Course Code:** 5993**MNPS Course Code:** HSE8953

Students may choose to complete a clinical internship after completing Medical Therapeutics, Diagnostic Medicine, Health Informatics, Rehabilitative Careers, Nursing Education, or Emergency Medical Services. The internships are designed to be completed in a hospital, nursing home, rehab center, medical office, or other health care facility. Class size is limited to 15.

Collision Repair: Non-Structural**Recommended Prerequisites:** Transportation Core, Algebra I, Physical Science, Principles of Welding (100 hours) (may be concurrent)**SDE Course Code:** 6062**MNPS Course Code:** VOC8602

This course 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 use 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 post-secondary education. Students completing the course are eligible to take the ASE written examination for Non-Structural Analysis and Damage Repair.

Collision Repair: Painting & Refinishing**Recommended Prerequisites:** Transportation Core, Non-Structural, Structural, Algebra I, Physical Science (may be concurrent)**SDE Course Code:** 6063**MNPS Course Code:** VOC8502

This course 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 students with training in mixing, matching, and applying paint and finish to vehicles. Course content includes the application of plastics and adhesives in the repair and refinish processes. The course prepares students for entry-level employment and advanced training in collision repair technology, and post-secondary

education. Students completing the course are eligible to take the ASE written examination for Painting and Refinishing.

Collision Repair: Structural

Recommended Prerequisites: Transportation Core, Algebra I, Physical Science, Principles of Welding (100 hours)(may be concurrent)

SDE Course Code: 6064

MNPS Course Code: VO8402/VOC8402

This course prepares students to analyze structural collision damage to a vehicle, determine the extent of the damage and direction of impact, initiate an appropriate repair plan, and correctly use equipment to fit metal to a specified dimension with tolerances. Course content includes repairs to vehicle frames and glass. The course prepares students for entry-level employment and advanced training in collision repair technology, and post-secondary education. Students completing the course are eligible to take the ASE written examination for Structural Analysis and Damage Repair.

Computer Aided Drafting I

Recommended Prerequisites: Math and science requirements should be obtained according to graduation requirements during and prior to the conclusion of the credits. Concurrency is acceptable.

SDE Course Code: 6037

MNPS Course Code: VOC8070

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 drafting (CAD). Course content will enable students to make the transition into the use of CAD software by having them make increasingly sophisticated drawings. Student work in teams will culminate in a class project to create a complete set of construction and assembly drawings for a mechanical product.

Computer Aided Drafting II

Recommended Prerequisites: Computer Aided Drafting I; Algebra I; basic experience with graphical computer interface. Math and science requirements should be obtained according to graduation requirements during and prior to the conclusion of the credits. Concurrency is acceptable.

SDE Course Code: 6039

MNPS Course Code: VOC8071

Students will learn advanced two-dimensional and basic three-dimensional concepts of scale drawings and orthographic projections using a software program. Course content will enable individual students to create increasingly sophisticated drawings using a software program and will culminate in the creation of a complete set of construction and/or assembly drawings for a mechanical project.

Computer Applications

Recommended Prerequisites: None

SDE Course Code: 5891

MNPS Course Code: BUS3718

This is a foundational course intended to teach students the computing fundamentals and concepts involved in the proficient use of common application software. Upon completion of this course, students will gain basic proficiency in word processing, spreadsheets, databases, and presentations. In addition, students will have engaged in key critical thinking skills and will have practiced ethical and appropriate behavior required for the responsible use of technology.

Computer Integrated Manufacturing (PLTW)

SDE Course Code: 6055

MNPS Course Code: VOC9133

Students answer the questions: How are things made? What processes go into creating products? Is the process for making a water bottle the same as it is for a musical instrument? How do assembly lines work? How has automation changed the face of manufacturing? As students find the answers to these questions, they learn about the history of manufacturing, a sampling of manufacturing processes, robotics and automation. The course is built around several key concepts: computer modeling, Computer Numeric Control (CNC) equipment, Computer Aided Manufacturing (CAM) software, robotics and flexible manufacturing systems. This course is designed for 10th-, 11th- or 12th-grade students.

Computer Systems**Recommended Prerequisites: Information Technology Foundations and Algebra I****SDE Course Code: 6094****MNPS Course Code: VO8185**

This course provides students the opportunity to acquire knowledge and skill in both theory and practical applications pertaining to troubleshooting, replacing, installing, and upgrading computers. Upon completion of the course students will possess a thorough knowledge of personal computer hardware. Procedures used in this course will evaluate students in theory and practical applications through written, hands-on and computer based virtual simulations. Successful mastery of the course content will prepare students to concentrate in computer support, which will prepare students with skills in PC repair, diagnostics, and installation to obtain the IT industry standard, CompTIA's A+ certification.

Concrete I**Recommended Prerequisites: Construction Core, Algebra I****SDE Course Code: 6040****MNPS Course Code: VOC5737**

Students are introduced to basic skills and knowledge related to reinforced concrete construction in residential commercial structures. Topics covered include safe practices, drawing interpretation, composition of concrete, principles of reinforcement, form construction, load analysis, and placing, curing and testing concrete. This course gives students an introduction to the skill and knowledge base typically required for apprentice concrete artisans.

Concrete II**Recommended Prerequisites: Construction Core, Concrete I, Algebra I, Geometry, or Physical Science****SDE Course Code: 6041****MNPS Course Code: VOC5738**

Students will learn and practice intermediate skills related to reinforced concrete construction in residential and commercial structures. Topics covered include safe practices, advanced construction drawing interpretation and site layout, lightweight concrete, design of concrete mixes, and design of reinforced concrete members. This course gives students a substantial skill and knowledge foundation typically required for apprentice concrete artisans.

Construction Core**Recommended Prerequisites: None****SDE Course Code: 6073****MNPS Course Code: VOC8714**

This course 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.

Court Systems and Practices**Prerequisite: Principles of Law, Corrections and Security and Criminal Justice I****SDE Course Code: 6150****MNPS Course Code: VOC5192/VOC5292**

This is the final course in the Legal and Correctional Services program of study for those students who are interested in the legal aspects of law, public safety, and corrections. This course can be taught for one or two credits, at the discretion of the instructor. Students who complete this course can identify careers in legal and correctional services, evaluate legal documents as they pertain to the rights of citizens outlined in the U.S. Constitution, and analyze the criminal court system process from arrest to parole.

Criminal Justice I**Prerequisite: Principles of Law, Corrections and Security****SDE Course Code: 5987****MNPS Course Code: VO5330**

This course is a comprehensive survey of how the law enforcement, legal, and correctional systems interact with each other in the United States. Current issues will be researched in context of local, state, and federal laws. Investigative skills will be developed in the areas of drug use, incident documentation and basic crime scene investigation.

Criminal Justice II**Prerequisite: Criminal Justice I****SDE Course Code: 5988****MNPS Course Code: VO5331**

Criminal Justice II is an integrated survey of the law and justice systems for students interested in pursuing careers in law enforcement and legal services. From initial crisis scenario management to arrest, transport, trial, and corrections, procedures and laws governing the application of justice in the United States are examined in detail, with special emphasis on the best practices and professional traits required of law enforcement and legal professionals. This course prepares students for advanced work in crime scene analysis and forensic science, and offers strong knowledge and skill preparation for postsecondary or career opportunities in associated fields.

Criminal Justice III: Investigations**Prerequisite: Criminal Justice I and II****SDE Course Code: 5989****MNPS Course Code: VO5332**

This course equips students with the knowledge and skills to be successful in the sciences of criminal investigations. Students will learn terminology and investigation skills related to the crime scene, aspects of criminal behavior, and applications of the scientific inquiry to solve crimes. By utilizing the scientific inquiry method, students will obtain and analyze evidence through simulated crime scenes and evaluation of case studies. Upon completion of this course, proficient students will be able to identify careers in forensic science and criminology, summarize the laws that govern the application of forensic science, and draw key connections between the history of the forensic science system and the modern legal system.

Culinary Arts I**Recommended Prerequisites: None****SDE Course Code: 5979****MNPS Course Code: VOC8151**

This course prepares students for gainful employment and/or entry into post-secondary education in the food production and service industry. Designed to introduce students to food preparation concepts, terminology and practices in the modern commercial kitchen, the content provides students the opportunity to acquire marketable skills by examining both the industry and its career opportunities and by developing food preparation and service and interpersonal skills. Fundamental techniques and skills are taught with an emphasis on safety, sanitation, and proper equipment operation and maintenance. Laboratory facilities and experiences, which simulate commercial food production and service operations, offer school-based learning opportunities.

Culinary Arts II**Recommended Prerequisites: Culinary Arts I****SDE Course Code: 5980****MNPS Course Code: FCS8251/VOC8251**

This course prepares students for gainful employment and/or entry into post-secondary education in the food production and service industry. Content provides students the opportunity 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. Laboratory facilities and experiences, which simulate commercial food production and service operations, offer school-based and work-based learning opportunities.

Culinary Arts III**Recommended Prerequisites: Culinary Arts I and II****SDE Course Code: 5981****MNPS Course Code: FCS8351/VOC8351**

This course prepares students for gainful employment and/or entry into post-secondary education in the food production and service industry. Content provides students the opportunity to apply the marketable culinary arts skills they have acquired by assuming increasingly responsible positions including participation in work based learning experiences.

Dental Science**Prerequisite: Health Science Education****SDE Course Code: 6134****MNPS Course Code: HSE5182**

This is an applied course intended to prepare students with an understanding of the roles and responsibilities of the dental health care professional within the application of dental care. Upon completion of this course, students will be able to differentiate the many careers in dentistry assess, monitor, evaluate, and report on the dental health of

patients/clients and relate this information to overall health, apply appropriate dental terminology, and perform clinical supportive skills. Proficient students will incorporate communication, goal setting, and critical thinking skills to be successful in the workplace.

Design Principles of Cosmetology

Recommended Prerequisites: Principles of Cosmetology
SDE Course Code: 5986

MNPS Course Code: VO8552

This course 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, which duplicates cosmetology industry standards.

Diagnostic Medicine

Recommended Prerequisites: Health Science Education
SDE Course Code: 5994

MNPS Course Code: HSE8453

Diagnostic medicine creates a picture of an individual's health status at a single point in time. This could include the following careers and career areas: audiologist, cardiology, imaging, medical laboratory, radiography, nuclear medicine, stereotactic radiosurgery, cytotechnology, clinical laboratory technician, pathologists, medical physician, histotechnologist.

Digital Arts & Design I

Recommended Prerequisites: None
SDE Course Code: 6084

MNPS Course Code: VO8177

This course provides a foundation in visual communication concepts and design strategies. Course content is designed to foster skills and understanding that are essential in modern digital graphics, motion graphics, publishing, Web, film/video, photography, and animation graphic industries. Focus will be on developing understanding of key design concepts and strategies, along with design challenges that translate into creative communication solutions which accurately and effectively reach targeted audiences. Along with study of design principles, conceptualization processes and techniques, students will explore various applications of design through extensive study of typography, style, composition, visual elements, color, creative technical software and various problem-solving tasks, that encourages higher order thinking. Exploration of career opportunities, development of leadership, teamwork, collaborative and technical skills requisite in many aspects of life and industry which are creative and multi-faceted will be developed.

Digital Arts & Design II

Recommended Prerequisites: Digital Arts & Design I
SDE Course Code: 6086

MNPS Course Code: VO8277

This course is designed to reinforce skills and support understanding that are essential in modern digital graphics, motion graphics, publishing, Web, film/video, photography, and animation graphic industries. Focus will be on developing understanding of key design concepts and strategies, along with design challenges that translate into creative communication solutions which accurately and effectively communicate. Along with continued study of design principles, conceptualization processes and techniques, students will gain mastery of various applications of design through continued study of typography, style, composition, visual elements, color, creative technical software and more focused problem-solving tasks, that encourages higher order thinking. Exploration of career opportunities, development of leadership, teamwork, collaborative and technical skills requisite in many aspects of life and industry which are creative and multi-faceted will be developed.

Digital Arts & Design III

Recommended Prerequisites: Digital Arts & Design I and II
SDE Course Code: 6087

MNPS Course Code: VO8377

Digital Arts and Design III, with the confluence of technologies, visual arts and creative practices has changed dramatically over the past several years. Increasingly, the design studio functions as a dynamic and vital space for learning, exploring, and innovation. Negotiating complex relationships, developing communication strategies that leverage new technologies and provide robust opportunities for the application of knowledge, skills, and critical thinking associated with an array of contemporary creative and studio practices is the new industry standard. Course content is selected to broaden the foundation of design concepts and understanding related to modern communication design. This course will foster advanced integrated skills that are essential in digital graphics, motion

graphics, publishing, web, film/video, photography, and animation graphic industries. Students will be exposed to real world design challenges in a laboratory facility through projects that simulate industry objectives.

Digital Electronics

Prerequisite: Algebra I

SDE Course Code: 5925

MNPS Course Code: IND3821

Students will construct and test fundamental digital logic circuits such as gates, counters, oscillators, and switches. A/D and D/A convertors 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.

Digital Electronics (PLTW)

Prerequisite: Algebra I

SDE Course Code: 6053

MNPS Course Code: VOC9123

This course provides a foundation for students who are interested in electrical engineering, electronics, or circuit design. Students study topics such as combinational and sequential logic and are exposed to circuit design tools used in industry, including logic gates, integrated circuits, and programmable logic devices.

Electrical I

Recommended Prerequisites: Construction Core, Algebra I (may be concurrent)

SDE Course Code: 6074

MNPS Course Code: VOC5733

Electrical I will provide basic skills and knowledge related to residential and commercial electrical systems. Course content includes leadership development, safe practices, Ohm's law, installing conduit, conductors, residential and commercial electrical systems and services according to National Electrical code (NEC) and local codes. This course gives students an introduction to the skill and knowledge base typically required for apprentice electricians.

Electrical II

Recommended Prerequisites: Construction Core, Electrical I, Algebra I, Physical Science, Geometry

SDE Course Code: 6075

MNPS Course Code: VOC5734

Electrical II is a course in which students will learn and practice intermediate skills related to electrical systems, with emphasis on commercial systems. Topics covered include over current protection; sizing conductor; lighting system; three-phase motor; motor control circuit; sizing raceways, boxes, and fittings; and connecting distribution transformers, including a laboratory experience conducted in a shop environment that supports electrical assembly projects by students. This course gives students a substantial skill and knowledge foundation typically required for apprentice electricians.

Emergency Medical Services

Recommended Prerequisites: Health Science Education, Emergency Preparedness

SDE Course Code: 5995

MNPS Course Code: HSE8853

Emergency Medical Service is designed for students interested in a career in pre-hospital or emergency patient care. Career options may include emergency room physician, emergency medical technician, paramedic, or emergency room nurse. If students plan to sit for First Responders Certification Test, class is limited to 12.

Emergency Preparedness

Recommended Prerequisite: None

SDE Course Code: 6151

MNPS Course Code: HSE8162

Emergency Preparedness provides an overview of the involvement of public safety professionals and healthcare professionals in the response to various natural and unnatural emergencies. Upon completion of this course, a proficient student will be able to identify the magnitude of a natural or unnatural disaster and its effects on the many facets of communities. This course equips students with the skills and knowledge surrounding a Community Emergency Response Team (CERT) and teaches them how to apply those skills in a mock disaster scenario.

Energy & Power Distribution Technology I (Maplewood Only)**SDE Course Code: 5744/5930****MNPS Course Code: AEP5744**

The course is designed to develop competencies in electric power transmission and distribution systems; electrical grounding practices; installation of fuses and circuit breakers; analyzing risks when working with electrical systems; and demonstrating teamwork, employability, entrepreneurship, leadership, and citizenship skills.

Energy & Power Distribution Technology II (Maplewood Only)**Prerequisite: Energy & Power Distribution Technology I****SDE Course Code: 5745/5930****MNPS Course Code: AEP5745**

The course is designed to develop competencies in electric power transmission and distribution systems; electrical grounding practices; installation of fuses and circuit breakers; analyzing risks when working with electrical systems; and demonstrating teamwork, employability, entrepreneurship, leadership, and citizenship skills.

Energy Foundations (Maplewood Only)**SDE Course Code: 5744****MNPS Course Code: AEP5743**

The course introduces students to the history of energy development, generation and distribution and the global impact of renewable and non-renewable resources. Students will develop an understanding of electrical systems and electric power generation, transmission, and distribution. They will analyze alternative energy sources and will apply math, science, technology, and communication skills to hands-on projects. This first-level course leads to Energy and Power Distribution Technology.

Engineering Design**Recommended Prerequisites: Algebra 2 or higher math, Foundation of Technology, Technological Design, Advanced Design Applications or Advanced Technological Applications****SDE Course Code: 5921****MNPS Course Code: TEE3839**

Engineering scope, content and professional practices are presented through practical application. Students in engineering teams apply technology, science, and mathematical concepts and skills to solve engineering design problems and project-based learning. Students research, develop, test, and analyze engineering designs using criteria such as design effectiveness, public safety, human factors, and ethics. This course will maintain a focus on how engineers apply their creativity, resourcefulness, mathematical, scientific, and technical knowledge and skills in the creation or refinement of technological products/systems. A key approach will be the employment of a sophisticated, sequential, and iterative design and development process to solve authentic engineering tasks/problems using project-based learning.

Engineering Design and Development (PLTW)**Prerequisite: Introduction to Engineering (PLTW), Principles of Engineering (PLTW)****SDE Course Code: 6059****MNPS Course Code: VOC9143**

The knowledge and skills students acquire throughout PLTW Engineering come together in this course as they identify an issue and then research, design, and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards.

Engineering Software Applications**Prerequisite:****SDE Course Code: 5930****MNPs Course Code: IND3840**

Students explore the nature of engineering and the computer skills fundamental to engineering fields. Emphasis is placed on actual projects and presentations and the use of modern tools (e.g., CAD, ArcGIS). The course can be enhanced by cooperation with local construction sites, Architecture and Engineering design firms, which can provide real measurement data and opportunities for on-site visits to witness engineering tasks and projects, and quality-control data collection.

Entrepreneurship

Recommended Prerequisites: Exploration of Organizational Leadership & Marketing; Marketing & Management I Principles
SDE Course Code: 5934

MNPS Course Code: ME8172

The course includes enhanced marketing information as it relates to entrepreneurial activities. Subject matter includes introductory entrepreneurial concepts, business plan development, management responsibilities, and legal and ethical issues of business ownership.

Entrepreneurship is also available to twelfth-grade students who have completed at least one year of related study in another Career and Technical Education area, and have an interest in owning their own business. This course will satisfy the Economics credit.

Exploration of Organizational Leadership & Marketing

Recommended Prerequisite: None
SDE Course Code: 5941

MNPS Course Code: VO8122

This course is designed to introduce and provide an overview of marketing and organizational leadership, as well as employment opportunities available in these fields. Students will explore important marketing concepts, personality traits, and communication skills. Students will also develop skills in teamwork, conflict resolution, and group problem solving techniques used in business.

Family Studies

Recommended Prerequisite: None
SDE Course Code: 6136

MNPS Course Code: FCS8683

Family Studies is an applied knowledge course that examines the diversity and evolving structure of the modern family. Course standards focus on the demographic, historical, and social changes of interpersonal relationships, as well as parenting, and the effect of stressors on the family.

Financial Planning

Recommended Prerequisites: Computer Applications, Personal Finance, Accounting I
SDE Course Code: 5890

MNPS Course Code: BUS7514

Financial Planning is a course 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 finance and credit institutions on the business community and impact of financial decisions on the consumer market. Ethical issues will be presented in this course.

Foundations of Technology

Recommended Prerequisites: Algebra I or currently enrolled
SDE Course Code: 5917

MNPS Course Code: TEE3835

Foundations of Technology prepare students to understand and apply technological concepts and processes that are the cornerstone for the high school technology program. Group and individual activities engage students in creating ideas, developing innovations, and engineering practical solutions. Technology content, resources, and laboratory/classroom activities apply student applications to science, mathematics, and other school subjects in authentic situations. This course will focus on the three dimensions of technological literacy: knowledge, ways of thinking and acting, and capabilities, with the goal of students developing the characteristics of technologically literate citizens. It will employ teaching/learning strategies that enable students to build their own understanding of new ideas. It is designed to engage students in exploring and deepening their understanding of engineering and makes use of a variety of assessment instruments to reveal the extent of understanding.

Game Programming

Recommended Prerequisites: Computer Programming II, Geometry
SDE Course Code: 5908

MNPS Course Code: VO8102

The Game Programming course is intended for students who have displayed a mastery of programming fundamentals such as HTML and Java. It is project-based where the student explores the entire game production process and gains experience working on a collaborative programming project. At the end of the course, each team of students should have participated in an entire game development cycle resulting in a complete, fully-functional game.

Global Health and Epidemiology

Prerequisite: Behavioral and Community Health

SDE Course Code: 6132

MNPS Course Code: HSE5442

Global Health and Epidemiology investigates the patterns, causes, and effects of diseases in a variety of populations, and how the provision of healthcare has changed in response to global needs. Successful international strategies and programs will be examined. Upon completion of this course, students will be able to interpret and communicate statistical information relating to the distribution of disease and mortality/morbidity in the United States and globally, determine national and international health disparities, analyze national and international health policies, and evaluate outcomes from a range of health interventions.

Global Marketing and Logistics

Prerequisite: Marketing/Management I

SDE Course Code: 5942

MNPS Course Code: BUS7292

This course is designed to provide students the opportunity to develop skills needed to live and work in a global market place. The student will acquire the attitudes, knowledge and skills for entry-level international marketing, logistics, and supply chain occupations. This will include but is not limited to political, legal, financial, economic, ethical, and social/cultural considerations.

Greenhouse Management

Recommended Prerequisites: Agriscience or Principles of Plant Science and Hydroculture

SDE Course Code: 5954

MNPS Course Code: AGR8675

Greenhouse Management is an applied-knowledge course designed to prepare students to manage greenhouse operations. This course covers principles of greenhouse structures, plant health and growth, growing media, greenhouse crop selection and propagation, and management techniques. It provides students with the technical knowledge and skills needed to prepare for further education and careers in horticulture production. Greenhouse Management is a dual credit course with statewide articulation.

Health Information Technology

Prerequisite: Health Science Education, Medical Terminology

SDE Course Code: 5997

MNPS Course Code: HSE8653

Health Information Technology is a third-level applied course in the Health Informatics program of study intended to prepare students with an understanding of the changing world of health care information. With the inclusion of electronic medical records, electronic billing, and electronic prescriptions, students in all healthcare professions must increasingly demonstrate competency in health information and health informatics. Upon completion of this course, students will be able to differentiate among the types of health information/informatics, code and manage medical records, retrieve crucial data from health information systems and indexes, and understand the implications for careers in a range of health care fields.

Health Science Education

Recommended Prerequisites: None

SDE Course Code: 5998

MNPS Course Code: HSE8153

Health Science Education is an introductory course designed to prepare students to pursue careers in the fields of biotechnology research, therapeutics, health informatics, diagnostics, and support services. Upon completion of this course, a student proficient in Health Science Education will be able to identify careers in these fields, compare and contrast the features of healthcare systems, explain the legal and ethical ramifications of the healthcare setting, and begin to perform foundational healthcare skills. This course will serve as a strong foundation for all of the Health Science programs of study.

Healthcare Administration I

SDE Course Code: 5913

MNPS Course Code: HSE8670

This is the first level course designed to introduce the students to the business and administrative areas of healthcare. It provides an overview of healthcare and patient accounting terminology, the healthcare delivery system, general accounting and patient accounting.

Healthcare Administration II**Prerequisite: Healthcare Administration I****SDE Course Code: TBD****MNPS Course Code: HSE9670**

This course builds on the accounting and healthcare concepts and terminology foundations established in Healthcare Administration I. This junior level course allows the student to explore, learn, and apply information related to the revenue cycle in the healthcare setting. Students will cover in-depth the areas of patient access, patient billing accounts receivable, and billing compliance. Preparation will include coverage of the details of third party payment and billing. This is primarily a business course but clinical healthcare related terminology will be co-taught with the academy business partners and the health science teachers.

Heating Ventilation Air Conditioning/Refrigeration (HVAC/R) I**Recommended Prerequisites: Construction Core****SDE Course Code: 6076****MNPS Course Code: VOC8411**

HVAC/R I is a course that will introduce students to basic to entry-level 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/R) II**Recommended Prerequisites: Construction Core; HVAC/R I****SDE Course Code: 6077****MNPS Course Code: VOC8511**

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 knowledge foundation typically required for apprentice HVAC/R technicians.

Hospitality Management**Recommended Prerequisites: Marketing and Management I Principles****SDE Course Code: 5940****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 post-secondary 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.

Information Technology Foundations**Recommended Prerequisites: None****SDE Course Code: 6095****MNPS Course Code: VOC8271/VO8170**

Information Technology Foundations is designed to prepare students with work-related skills for advancement in the 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), 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. Standards 11 through 13 stress 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.

Interactive Multimedia Presentations**Recommended Prerequisites: Computer Applications****SDE Course Code: 5897****MNPS Course Code: BUS7617**

Students 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 also be stressed as students work on multimedia projects. Laboratory facilities and experiences simulate those found in business and industry.

Introduction to Aerospace**Recommended Prerequisites: None****SDE Course Code: 6068****MNPS Course Code: VOC8601**

Introduction to Aerospace is a comprehensive foundations course for students interested in pursuing careers in aviation. This course covers the basic principles governing flight and the regulation of flight that every aviation professional must know regardless of his or her occupation—as a pilot or an engineer, a salesperson or a specialist, a mechanic or a statistician. In addition to acquiring foundational knowledge of safety procedures and industry regulations, students will also gain essential understanding of aircraft structures, the flight environment, basic procedures, and navigation in preparation for further study in advanced Aviation Flight and/or Aviation Maintenance courses.

Introduction to Engineering (PLTW)**SDE Course Code: 6054****MNPS Course Code: VOC9103**

Designed for 9th or 10th grade students, the major focus of the IED course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards and technical documentation. Students use 3D solid modeling design software to help them design solutions to solve proposed problems and learn how to document their work and communicate solutions to peers and members of the professional community.

Introduction to Human Studies**Prerequisite: None****SDE Course Code: 6137****MNPS Course Code: VOC9762**

Introduction to Human Studies is a foundational course for students interested in becoming a public advocate, social worker, dietician, nutritionist, counselor, or community volunteer. This course covers the human needs, overview of social services, career investigation, mental health and communication.

Large Animal Science (CASE Biotech)**SDE Course Code: 6116****MNPS Course Code: AGR8875**

Large Animal Science is an applied course in veterinary and animal science for students interested in learning more about becoming a veterinarian, vet tech, vet assistant, or pursuing a variety of scientific, health, or agriculture professions. This course covers anatomy and physiological systems of different groups of large animals, as well as careers, leadership, and history of the industry.

Lifespan Development**Prerequisite: None****SDE Course Code: 6013****MNPS Course Code: FCS5610**

This course builds basic knowledge in human growth and development. The course standards include developmental theory, principles of growth, behavior of children from conception through adolescence, adult development and aging, and death and dying. Artifacts will be created for inclusion in a portfolio, which will continue to build throughout the program of study.

Maintenance and Light Repair I**Recommended Prerequisites: None****SDE Course Code: 5879****MNPS Course Code: VOC8102**

The Maintenance and Light Repair I (LMR I) course prepares students for entry into Maintenance and Light Repair II. 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, basic engine fundamentals, and basic technician skills. Upon completing all of the Maintenance and Light Repair courses, students may enter automotive service industry as an ASE Certified MLR Technician.

Maintenance and Light Repair II**Recommended Prerequisites: Maintenance and Light Repair I****SDE Course Code: 5880****MNPS Course Code: VOC8202**

The Maintenance and Light Repair II (MLR II) course prepares students for entry into Maintenance and Light Repair III. Students study automotive general electrical systems, starting and charging systems, batteries, lighting, and electrical accessories. Upon completing all of the Maintenance and Light Repair courses, students may enter automotive service industry as an ASE Certified MLR Technician.

Maintenance and Light Repair III**Recommended Prerequisites: Maintenance and Light Repair I and II****SDE Course Code: 5881****MNPS Course Code: VOC8302**

The Maintenance and Light Repair III (MLR III) course prepares students for entry into Maintenance and Light Repair IV. Students study and service suspension and steering systems and brake systems. Upon completing all of the Maintenance and Light Repair courses, students may enter automotive service industry as an ASE Certified MLR Technician.

Maintenance and Light Repair IV**Recommended Prerequisites: Maintenance and Light Repair I, II, and III****SDE Course Code: 5882****MNPS Course Code: VOC8412**

The Maintenance and Light Repair IV (MLR IV) course prepares students for entry into the automotive workforce or into post-secondary training. Students study and service automotive HVAC systems, engine performance systems, automatic and manual transmission/transaxle systems, and practice workplace soft skills. Upon completing all of the Maintenance and Light Repair courses, students may enter automotive service industry as an ASE Certified MLR Technician.

Marketing Research & Analysis**Recommended Prerequisite: Marketing and Management I Principles****SDE Course Code: 5937****MNPS Course Code: ME8191**

Marketing Research and Analysis is a course of study that focuses on the system (planning, collecting, processing information, and implementing information) for conducting research to determine marketing strategies. The course is targeted at students who need a basic understanding of research procedures, data interpretations, and communication of findings.

Marketing and Management I Principles**Recommended Prerequisites: None****SDE Course Code: 5931****MNPS Course Code: ME8169**

Marketing and Management I Principles focuses on the study of marketing concepts and their practical application. Students will examine risks and challenges marketers face to establish a competitive edge. Subject matter includes economics, marketing foundations/functions, and human resource and leadership development. Skills in communication, mathematics, economics and psychology are reinforced in this course. HQ – satisfies one-half credit in Economics.

Marketing and Management II Advanced Strategies**Recommended Prerequisites: Marketing and management I Principles****SDE Course Code: 5932****MNPS Course Code: ME8269**

Marketing & Management II: Advanced Strategies is a study of marketing concepts and principles used in management. Students will examine the challenges, responsibilities, and risks managers face in today's workplace. Subject matter includes finance, business ownership, risk management, marketing information systems, purchasing, promotion, and human resource skills.

Media Publishing I**SDE Course Code: 6042****MNPS Course Code: VOC8211**

The primary goal of Media Publishing I is for students to improve oral and written communication skills to be used in a Media Publishing environment. Students study how all aspects of the entertainment industry integrate in order to deliver new products to the public and how creative efforts and works are produced, funded, marketed, and distributed for financial profit. They will learn the history of the modern commercial entertainment industry through technology, social change, and law.

Media Publishing II**SDE Course Code: 6042****MNPS Course Code: VOC8292**

The primary goal of Media Publishing II is for students to improve oral and written communication skills to be used in a Media Publishing environment. Students study how all aspects of the entertainment industry integrate in order to deliver new products to the public and how creative efforts and works are produced, funded, marketed, and distributed for financial profit. They will learn the history of the modern commercial entertainment industry through technology, social change, and law.

Medical Terminology**Recommended Prerequisites: Health Science Education****SDE Course Code: 5883****MNPS Course Code: HSE8690**

Medical Terminology is designed to develop a working knowledge of the language of health professions. Students acquire word-building skills by learning prefixes, suffixed, roots, combining forms, and abbreviations. Utilizing a body systems approach, students will define, interpret, and pronounce medical terms relating to structure and function, pathology, diagnosis, clinical procedures, and pharmacology. Students will use problem-solving techniques to assist in developing an understanding of course concepts.

Medical Therapeutics**Prerequisite: Health Science Education****SDE Course Code: 5999****MNPS Course Code: HSE8253**

Medical Therapeutics is an applied course designed to prepare students to pursue careers in therapeutic services. Upon completion of this course, a proficient student will be able to identify careers in therapeutics services; assess, monitor, evaluate, and report patient/client health status; and identify the purpose and components of treatments. The student will incorporate communication, goal setting, and information collection skills to be successful in the workplace..

Music Industry Survey**SDE Course Code: 6042****MNPS Course Code: VOC8200**

Music Industry Survey is designed to give students a broad base of knowledge, including technical skills, vocabulary, practices, and the legal and commercial structure of the entertainment business needed to prepare them for more in-depth instruction in the Recording Industry and Media Publishing Pathways, for post-secondary study, or entry level employment in the entertainment industry. Students study how all aspects of the entertainment industry integrate in order to deliver new products to the public and how creative efforts and works are produced, funded, marketed, and distributed for financial profit. They will learn the history of the modern commercial entertainment industry through technology, social change, and law. Students will explore contemporary issues facing the industry and apply concepts to new model solutions.

Networking**Recommended Prerequisites: Information Technology Foundations, Computer Systems****SDE Course Code: 6097****MNPS Course Code: VOC8172**

Networking stresses the conceptual and practical skills necessary to design, manage, and diagnose network hardware and software. Course content, which is of the project-based format, allows students to interconnect workstations, peripherals, terminals, servers, and other networking hardware devices creating a typical infrastructure where all components communicate using the same language or protocols. This course will help prepare students to design, build, and maintain computer networks. The networking sub-cluster will help prepare students for the CompTIA Network + examination (2009 objectives) and cover the Cisco Certified Networking Associates (CCNA) Essentials exam. Mastery of course competencies will prepare students for successful completion of the Network + exam and promote fundamental skills for employment as a Network Administrator or Network Engineer.

Nursing Education**Recommended Prerequisites: Health Science Education****SDE Course Code: 6000****MNPS Course Code: HSE8353**

This course consists of 18 units of study dealing with direct bedside nursing care. Clinical experience will consist of supervised practice in the nursing home as well as demonstrations in the classroom. Students can be registered by the Tennessee Department of Health after the completion of the course; 100 hours clinical and theory, passing a state test (both written and skills); and will be job ready. Students may complete a clinical internship following this course. Jobs include registered nurse, clinical nurse, specialist, nurse practitioner, nurse midwife, nurse anesthetist, forensic nurse and others. Class size is limited to 15.

Personal Finance**SDE Course Code: 5901****MNPS Course Code: FCS5613**

Personal Finance is a foundational course designed to inform students how individual choices directly influence occupational goals, future earning potential, and long term financial well-being. The standards in this course cover decision-making skills related to goal setting, earning potential, budgeting, saving, borrowing, managing risk, and investing. The course helps students meet the growing complexities of personal financial management and consumer decision making.

Pharmacological Science**Prerequisites: Health Science Education and Chemistry****SDE Course Code: 6133****MNPS Course Code: SCI6991**

Pharmacological Science prepares students with an understanding of the roles and responsibilities of the healthcare worker in a pharmacy setting. This course equips students with the communication, goal-setting, and information-processing skills to be successful in the workplace, in addition to covering key topics in pharmacology, pharmacy law and regulations, sterile and non-sterile compounding, medication safety, quality, assurance, and more. Students who complete this course and a Clinical Internship can apply to sit for the Pharmacy Technician Certification Board examination immediately after high school graduation.

Principles of Cosmetology**Recommended Prerequisites: None****SDE Course Code: 5983****MNPS Course Code: VO8452**

Principles of Cosmetology is the first level of cosmetology, and it 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 the principles of hair design, nail structure, and cosmetic procedures. Laboratory facilities and experiences simulate those found in the cosmetology industry.

Principles of Engineering (PLTW)**Recommended Prerequisites: Computer Aided Drafting, Algebra I, Geometry, Algebra II****SDE Course Code: 6052****MNPS Course Code: VOC9203**

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, which can provide real measurement data and opportunities for on-site visits to witness engineering tasks and projects, and quality control data collection.

Principles of Plant Sciences and Hydroculture CASE

Prerequisite: Agriscience

SDE Course Code: 6119

MNPS Course Code: AGR5199

Principles of Plant Science and Hydroculture focuses on essential knowledge and skills related to the science of plant growth. This course covers principles of plant health, growth, reproduction, and biotechnology, as well as fundamental principles of hydroponics and aquaponics.

Problems and Solutions in Web Management

Prerequisite: Web Design I Foundations, Web Design II Site Designer

SDE Course Code: TBD

MNPS Course Code: VOC9791

The course covers a wide range of technologies including 2D design and animation, multimedia authoring, digital audio and video editing/production, Web Site development and E-Commerce. In this project-based course, students will analyze customer needs, message content, audience, context, and constraints to create a product that satisfies established criteria developed from customer consultation.

Programming & Logic I

Prerequisite: Algebra I, Information Technology Foundations

SDE Course Code: 6098

MNPS Course Code: VOC8183/VO8183

Programming & Logic I is a course intended to teach students the basics of computer programming. The course places emphasis on practicing standard programming techniques and learning the logic tools and methods typically used by programmers to create simple computer applications. Upon completion of this course, students proficient in programming and logic can solve problems by planning multistep procedures. They are able to write, analyze, review, and revise programs, converting detailed information from workflow charts and diagrams into coded instructions in a computer language. Students completing this course will be able to troubleshoot/debug programs and software applications to correct malfunctions and ensure their proper execution.

Programming & Logic II

Prerequisite: Algebra I, Information Technology Foundations, Programming & Logic I

SDE Course Code: 6099

MNPS Course Code: VOC8293

Programming & Logic II challenges students to develop advanced skills in problem analysis, construction of algorithms, and computer implementation of algorithms as they work on programming projects of increased complexity. In so doing, they develop key skills of discernment and judgment as they must choose from among many languages, development environments, and strategies for the program life cycle. Students will enhance their foundation skills learned in earlier courses in object-oriented programming language skills using high-level languages such as FOCUS, Python, or SAS. Course content is reinforced through numerous short- and long-term programming projects, accomplished both individually and in small groups. These projects are meant to hone the discipline and logical thinking skills necessary to craft error-free syntax for the writing and testing of programs.

Recording Industry I

SDE Course Code: 6042

MNPS Course Code: VOC8201

This course takes the technical skills, vocabulary, and practices of the recording industry, including the legal and commercial structure of the entertainment business learned in the survey, and puts them into practice. Students work in a real-world environment in order to deliver new creative products to the public and are integral in the production, funding, marketing and distribution of creative works. They will take their knowledge of the history of the modern commercial entertainment industry; from technology, social change, and law and examine contemporary issues facing the industry and apply these concepts to new model solutions. These skills will allow students to enter post-secondary study at an advanced level, or as entry level employees in the entertainment industry.

Recording Industry II

SDE Course Code: 6042

MNPS Course Code: VOC8262

This course takes the technical skills, vocabulary, and practices of the recording industry, including the legal and commercial structure of the entertainment business learned in the survey, and puts them into practice. Students work in a real-world environment in order to deliver new creative products to the public and are integral in the production, funding, marketing and distribution of creative works. They will take their knowledge of the history of the modern

commercial entertainment industry; from technology, social change, and law and examine contemporary issues facing the industry and apply these concepts to new model solutions. These skills will allow students to enter post-secondary study at an advanced level, or as entry level employees in the entertainment industry.

Rehabilitation Careers

Recommended Prerequisites: Health Science Education
SDE Course Code: 5990

MNPS Course Code: HSE8753

Rehabilitation Careers is an applied course designed to prepare students to pursue careers in rehabilitation services. Upon completion of this course, a proficient student will be able to identify careers in rehabilitation services. The successful student will recognize diseases, disorders or injuries related to rehabilitation services and correlate the related anatomy and physiology then develop a plan of treatment with appropriate modalities. The student will incorporate communication, goal setting, and information collection skills to be successful in the workplace.

Retail Operations

Recommended Prerequisites: Exploration of Organizational Leadership & Marketing, Marketing and Management I Principles
SDE Course Code: 5938

MNPS Course Code: ME8186

This course offers a comprehensive view of retail from general information about retailers, consumers and buying behavior to specific management, buying, systems and retail strategy. This course will satisfy the Economics credit.

Robotics & Automated Systems

Recommended Prerequisites: Principles of Engineering & Technology; Digital Electronics; Algebra I; Geometry; Physical Science; Chemistry or Physics
SDE Course Code: 6143

MNPS Course Code: VOC9652

Robotics & Automated Systems is an applied course for students who wish to explore how robots and automated systems are used in industry. Building on the content and critical thinking frameworks of Principles of Engineering and Digital Electronics, this course asks students to follow the engineering design process and apply basic programming skills to complete assignments and projects. Upon completion of this course, proficient students will have an understanding of the historical and current uses of robots and automated systems; programmable circuits, interfacing both inputs and outputs; ethical standards for engineering and technology professions; and testing and maintenance of robots and automated systems.

Small Animal Science

Recommended Prerequisites: Agriscience (HQ)
SDE Course Code: 5958

MNPS Course Code: AGR8375

Small Animal Science is an applied course in animal science and care for students interested in learning more about becoming a veterinarian, vet tech, vet assistant, or pursuing a variety of scientific, health, or agriculture professions. This course covers anatomy and physiological systems of different groups of small animals, as well as careers, leadership, and history of the industry.

Sports & Entertainment Marketing

Recommended Prerequisites: Marketing and Management I Principles
SDE Course Code: 5939

MNPS Course Code: ME8184

Sports and Entertainment is a specialized course designed to offer students an opportunity to gain knowledge and develop skills related to the growing sports and entertainment industry. Students will 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.

Teaching as a Profession I

Recommended Prerequisites: Fundamentals of Education
SDE Course Code: 6010

MNPS Course Code: FCS5622

Teaching as a Profession I (TAP I) is an applied-knowledge course for students interested in learning more about becoming a school counselor, teacher, librarian, or speech-language pathologist. This course covers the components of instruction, teaching strategies, types of assessments, student learning, special populations, and educational technology. Students in this course will conduct observations of educators at work and create artifacts for a course portfolio.

Teaching as a Profession II**Prerequisite: Teaching as a Profession I****SDE Course Code: 6125****MNPS Course Code: FCS5690**

Teaching as a Profession II (TAP II) is an applied knowledge course for students interested in learning more about becoming a teacher, school counselor, librarian, or speech-language pathologist. This course covers classroom management, concepts of higher order thinking, differentiating instruction, and strategies of effective classroom planning. Students in this course will demonstrate their skills in laboratory settings while building a course portfolio of work.

Teaching as a Profession III**Prerequisite: Teaching as a Profession II****SDE Course Code: 6126****MNPS Course Code: FCS5742**

Teaching as a Profession III (TAP III) is a capstone course in the Education and Training career cluster for students interested in learning more about becoming a teacher, school counselor, librarian, or speech-language pathologist. The course covers classroom professionalism, ethics, policies, communications, and career requirements in education fields. In addition, students will complete an internship and continue to create artifacts for their student portfolios.

Technological Design**Recommended Prerequisites: None****SDE Course Code: 5885****MNPS Course Code: VOC8152**

In Technological Design, engineering scope, content, and professional practices are presented through practical applications. Students in engineering teams apply technology, science, and mathematics concepts and skills to solve engineering design problems and innovate designs. Students research, develop, test, and analyze engineering designs using criteria such as design effectiveness, public safety, human factors, and ethics. This course is an essential experience for students who are interested in technology, innovation, design, and engineering.

Therapeutic Exercise**Recommended Prerequisites: Health Science Education, Rehabilitation Careers****SDE Course Code: 6001****MNPS Course Code: HSE8263**

This course will describe and discuss a collection of materials, skills and values that a rehabilitation professional must possess to plan, implement, document, and evaluate the efficacy of therapeutic exercise programs for the rehabilitation and reconditioning of the injuries and illnesses of athletes and others involved in physical activities.

Transportation Core**Recommended Prerequisites: None****SDE Course Code: 6071****MNPS Course Code: VO8165**

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, basic engine fundamentals, and basic technician skills. Upon completing this course students may enter automotive service technology, diesel equipment maintenance technology, 2 & 4 engine service technology, collision repair and refinish technology, or aviation maintenance.

Travel and Tourism**Recommended Prerequisite: Marketing and Management I Principles****SDE Course Code: 5931****MNPS Course Code: ME8271**

Travel and Tourism is a growing industry encompassing a variety of businesses and employment opportunities. This course prepares students for gainful employment and/or post-secondary training in the industry of travel and tourism. Content provides students the opportunity to acquire marketable skills by examining both the industry and its career opportunities and by developing the human relations, communications and technical skills needed for advancement.

Veterinary Science**Prerequisite: Agriscience**

SDE Course Code: 5961**MNPS Course Code: AGR8374**

Veterinary Science is an advanced course in animal science and care for students interested in learning more about becoming a veterinarian, vet tech, vet assistant, or pursuing a variety of scientific, health, or agriculture professions. This course covers principles of health and disease, basic animal care and nursing, clinical and laboratory procedures, and additional industry-related career and leadership knowledge and skills..

Virtual Enterprise**Recommended Prerequisite: Business Management or Marketing and Management I Principles****SDE Course Code: 5900****MNPS Course Code: BUS3762**

Virtual Enterprise (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. The goal is to create a learning environment that, through a series of activities, integrates school and workplace to enhance learning. Laboratory facilities and experiences simulate those found in business and industry. HQ – satisfies one-half credit in Economics

Web Page Design I Foundations**Recommended Prerequisites: Computer Applications, Algebra I****SDE Course Code: 6100****MNPS Course Code: BUS3769**

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 networking/internetworking, Web hosting and Web design in eCommerce. 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: Algebra I; Web Page Design I Foundations****SDE Course Code: 6101****MNPS Course Code: BUS3768**

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 eCommerce. 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. This course maps to the Certified Internet Webmaster "Site Designer" national certification examination.

Web Page Designer III eCommerce**Recommended Prerequisites: Algebra I; Web Page Design II Site Designer****SDE Course Code: 6092****MNPS Course Code: VOC8381**

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. This course correlates to the CIW certification "Web eCommerce".

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