

MCHS Career and Technical Education Pathways 21-22

Courses and Descriptions

Certifications

Architecture & Engineering

Drafting 1 - Architectural

Autodesk Certified User AutoCAD

This course introduces students to the use of simple and complex graphic tools used to communicate and understand ideas, concepts and trends found in the areas of architecture, manufacturing, engineering, science, and mathematics, sketching and computer assisted design (CAD) skills and techniques. English language arts, mathematics, and science are reinforced.

Drafting II - Architectural Honors

Autodesk Certified User Revit

This course focuses on the principles, concepts of architectural design, and use of Building Information Modeling (BIM), used in the field of architecture. An emphasis is placed on the use of 3D CAD tools in the design and execution of floor plans, foundation plans, wall sections, and elevation drawings. An understanding of 3D CAD concepts and terms, and the use of 3D CAD software such as REVIT, are essential to this course, and the required method of producing finished drawings. English language arts, mathematics, and science are reinforced

PLTW Civil Engineering and Architectural Design

In this specialization Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students learn important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3-D architectural design software. Art and English language arts are also reinforced.

Advanced Manufacturing and Engineering

PLTW Introduction to Engineering

In this foundation Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students are exposed 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 peer and members of the professional community. Art, English, language arts, mathematics and science are reinforced.

PLTW Principles of Engineering

In this specialization Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students learn important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3-D architectural design software. Art and English language arts are also reinforced.

PLTW Computer Integrated Manufacturing

In this specialization Project Lead the Way (PLTW) Pathway to Engineering (PTE) course, students discover and explore manufacturing processes, product design, robotics, and automation, and then they apply what they have learned to design solutions for real-world manufacturing problems. Art, English language arts, mathematics and science are reinforced.

Apparel and Textile Production Pathway

Apparel 1

In this course students are introduced to the apparel and textile industry in the area of design, textiles and apparel engineering. Emphasis is placed on students applying these design and engineering skills to create and produce apparel products. Art, literacy, mathematics, and science are reinforced. *For safety reasons, enrollment is not to exceed 20 in this course

Apparel II Honors

Pre-Professional Certification in Fashion, Textile and Apparel

Students in this course will gain a deeper understanding of design principles, engineering, fabrication and global needs of an ever-changing apparel and textile industry. The course provides a major focus on textile design, textile science, product construction, global manufacturing, and the apparel/textile market while incorporating and scaffolding prerequisite concepts. Emphasis is placed on application of design and engineering skills used to create, produce, and prepare a product for market. Students will also gain the entrepreneurial skills, necessary for successful marketing and distribution of an apparel product. Art, literacy, mathematics, science, and social studies are reinforced throughout. *For safety reasons, enrollment is not to exceed 20 in this course

Career Management

Microburst

This course prepares students to locate, secure, keep, and change careers. Emphasis is placed on self assessment of characteristics, interests, and values; education and career exploration; evaluation of career information and creation of a career plan. Based on the National Career Development Guidelines, skills learned in this course include, but are not limited to communications, interpersonal skills, problem solving, personal management and teamwork. English language arts is reinforced. Student participation in Career and Technical Student Organization (CTSO) competitive events, community service, and leadership activities provide the opportunity to apply essential standards and workplace readiness skills through authentic experiences.

Entrepreneurship

Venture Entrepreneurial Expedition

In this course, students evaluate the concepts of going into business for themselves and working for or operating a small business. Emphasis is on the exploration of feasible ideas of products/services, research procedures, business financing, marketing strategies, and access to resources for starting a small business. Students develop components of a business plan and evaluate startup requirements. English language arts and social studies are reinforced.

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Courses and Descriptions

Certifications

Business Management

Principles of Business

This course is designed to introduce students to core management concepts. The experience includes how managers plan, organize, staff, and direct the business's resources that enhance the effectiveness of the decision-making process. Also the experience includes students working through ethical dilemmas and problem-solving situations with customer service while academic and criticalthinking skills. English language arts is reinforced.

Business Management I

This course is designed to introduce students to core management concepts. The experience includes how managers plan, organize, staff, and direct the business's resources that enhance the effectiveness of the decision-making process. Also the experience includes students working through ethical dilemmas and problem-solving situations with customer service while academic and criticalthinking skills. English language arts is reinforced

Business Management II

This course is designed to enable students to acquire, understand, and appreciate the significance of management to business organizations. Understanding how managers control financial resources, inventory, ensure employee safety, and protect customer data enhances the effectiveness of their decision making. Students will work through ethical dilemmas, practice problem solving, and enhance their teamwork skills. English language arts and mathematics are reinforced .

Accounting I Honors

Intuit Quickbooks

This course is designed to help students understand the basic principles of the accounting cycle. Emphasis is placed on the analysis and recording of business transactions, preparation, and interpretation of financial statements, accounting systems, banking and payroll activities, basic types of business ownership, and an accounting career orientation. Mathematics is reinforced and entrepreneurial experiences are encouraged.

Biomedical Science

PLTW - Principles of Biomedical Science

This course allows students to apply their knowledge and skills to answer questions or solve problems related to biomedical sciences. Students design innovative solutions to the health care challenges of the 21st century. Students work on independent projects and may work with a mentor in the healthcare industry. English language arts and science are reinforced in this course.

PLTW - Human Body Systems

CPR/AED

In this course students examine the human body systems, design experiments and use data acquisition software to monitor body functions and often play the role of the biomedical professional. English language arts and science are reinforced in this course

PLTW - Medical Interventions

This course allows students to investigate the interventions involved in the prevention, diagnosis and treatment of disease. It is a "How-To" manual for maintaining overall health. English language arts and science are reinforced in this course.

PLTW - Biomedical Innovations - only on 11th and 12th grade card

This course allows students to apply their knowledge and skills to answer questions or solve problems related to biomedical sciences. Students design innovative solutions to the health care challenges of the 21st century. Students work on independent projects and may work with a mentor in the healthcare industry. English language arts and science are reinforced in this course.

Sports Partners & Influencer Marketing

Sports & Entertainment Marketing I

In this course, students are introduced to the industry of sports, entertainment, and event marketing. Students acquire transferable knowledge and skills among related industries for planning sports, entertainment, and event marketing. Topics included are branding, licensing, and naming rights, business foundations, concessions and on-site merchandising, economic foundations, human relations, and safety and security. Mathematics and social studies are reinforced.

Sports & Entertainment Marketing II Honors

Customer Service & Sales Certification

In this course, students acquire an understanding of selling, promotion, and market planning of sports, entertainment, and event marketing. Emphasis is on business management, career development, client relations, contracts, ethics, event management, facilities management, legal issues, and sponsorships. English/language arts, mathematics and Social studies are reinforced.

Digital Marketing

Charlotte Mecklenburg Schools (CMS) has created this course due to demand in the industry for marketing students who have conceptual knowledge and technical skills in digital marketing. Digital marketing is an industry worth over \$100+ billion a year in the U.S. alone and climbing. Simply put, students who don't have access to learning these skills are at a serious disadvantage to their peers who do. This course seeks to fill that void by exposing students to the basic principles, strategy, career opportunities, and technical skills necessary to compete in the marketplace.

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Courses and Descriptions

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Travel & Tourism Career Pathway

Sports & Entertainment Marketing I

In this course, students are introduced to the industry of sports, entertainment, and event marketing. Students acquire transferable knowledge and skills among related industries for planning sports, entertainment, and event marketing. Topics included are branding, licensing, and naming rights, business foundations, concessions and on-site merchandising, economic foundations, human relations, and safety and security. Mathematics and social studies are reinforced.

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Microsoft Excel Honors

Students in Microsoft Imagine Academies benefit from world-class Microsoft curriculum and cutting-edge software tools to tackle real-world challenges in the classroom environment. This class is designed to help you use the newest version of Microsoft Excel interface, commands, and features to present, analyze, and manipulate various types of data. Students will learn to manage workbooks as well as how to manage, manipulate, and format data. Mathematics is reinforced.

Software Development

AP Computer Science Principles

AP Computer Science Principles is an introductory college-level computing course that introduces students to the breadth of the field of computer science. Students learn to design and evaluate solutions and to apply computer science to solve problems through the development of algorithms and programs.

AP Computer Science A

AP Computer Science A is an introductory college-level computer science course. Students cultivate their understanding of coding through analyzing, writing, and testing code as they explore concepts like modularity, variables, and control structures.

Python Programming I

This course is designed to introduce Python as a beginning course (not intended for experienced programmers). The course is designed for students to learn and practice coding in an online environment that requires only a modern web browser and Internet connection. No special software is required to complete this course. The course includes video content, practice labs, and coding projects. Mathematics is reinforced.

Software Development Fundamentals

You gain a deep understanding of software development through exposure to the fundamentals of computer science in this class. After a grounding in basic concepts of computer science and how it is embedded into our everyday lives, you shift up to specific areas of focus in computer programming.

Customer Relations Management

Marketing

This course is designed to introduce students to the dynamic processes and activities in marketing. The experience includes students developing an understanding and skills in the areas of distribution, marketing-information management, market planning, pricing, product/service management, promotion, and selling. Also students develop an understanding of marketing functions applications and impact on business operations. English language arts, mathematics, and social studies are reinforced.

Marketing Applications

Fundamental Marketing Concepts

In this course, students will apply an understanding of marketing functions and impact of the functions on business decisions. Through problem solving and critical thinking, students will apply knowledge and skills in the areas of customer relations, economics, financial analysis, channel management, marketing-information management, marketing planning, products and services management, and selling. Relative opportunities are available for students to use technology to acquire and use marketing information. English, language arts, and social studies are reinforced.

Introduction to Salesforce CRM 1 Honors

SalesForce Administration

This course is part of a CRM career pathway that starts with an introduction to marketing applications and ends with a CRM certification and capstone projects. The teachers will partner with industry resources to provide students with relevant topics of discussion, projects, and access to opportunities. The pathway directly prepares students to start relevant internships while in high school and start jobs as sales, service, or marketing coordinators right out of high school and CRM administrator roles shortly after that.

Customer Relationship Management 1 Honors

This second course builds upon that knowledge to teach them use cases for marketing and sales automation and equip them with skills to configure, use, and administer marketing and sales automation tools that are integrated with the CRM. This course also teaches students methods of project planning and progress tracking as well as project management tools so they can effectively ideate and implement a CRM strategy for an organization.