

TECHNOLOGY EDUCATION DEPARTMENT

Important Notice for Incoming Freshmen or students new to MCPS:

Pursuant to the revised Code of Maryland Regulations (COMAR), beginning academic year 2008, all freshmen and other students new to MCPS may take only MSDE-approved courses to earn the Basic Technology credit as required for graduation. Pending MSDE actions, this may impact some of the courses in the Technology Education Department. Please consult the MCPS website,

www.montgomeryschoolsmd.org/curriculum/coursebulletin/ for the latest information.

This course satisfies the Basic Technology Graduation requirement

This course satisfies the Advanced Technology credit requirement

FOUNDATIONS OF TECHNOLOGY

516100/516200

This course emphasizes the application of knowledge, tools and skills to solve practical problems. Students focus on the integration of technology, science principles, and mathematics to be inventive and apply their ingenuity. Students form teams and use the systems approach and design process of engineering to solve technological problems. Instruction and problem-solving experiences will center on the use of tools, machines, and materials, to design and construct models, devices, and products that creatively solve technological problems. Students will learn to communicate technical information, both oral and written, using information technology.

Grade Level: 9-10-11-12.

No repeats for credit

FOUNDATIONS OF COMPUTER SCIENCE A/B

BASIC TECH CREDIT

292400/292500

CTE PATHWAY COMPLETER

291800/291900

This course provides an engaging introduction to computing concepts. The course focuses on the conceptual ideas of computing so that students understand why computing tools and languages are used to solve problems through a study of human computer interaction, problem solving, web design, programming, data analysis and robotics. This course satisfies the technology education graduation requirement.

Grade Level: 9-10-11-12

No repeats for credit

FOUNDATIONS OF ENGINEERING & TECHNOLOGY**519100/519200**

Students will develop technological literacy while studying the evolution, systems, utilization, and impacts of technology and its integrated application of mathematics, science, and other technological areas which result in invention and innovation. An in-depth focus on engineering will ground students in the engineering design process as they learn technical drawing, modeling, reverse engineering, design, measurement, documentation, and communication. Students in this course have the opportunity to participate in an advanced computer modeling and design challenge utilizing CAD software. This course satisfies the technology education graduation requirement.

Prerequisite: None

Grade Level: 9-10-11-12

No repeats for credit.

ADVANCED DESIGN APPLICATIONS A/B ##**280800/280900**

Students will gain a deeper understanding of four human-designed world areas: Manufacturing Technologies, Energy and Power Technologies, Construction Technologies, and Transportation Technologies. Students engage in individual and group activities creating ideas; developing innovations; and designing, fabricating, and engineering practical solutions to a variety of technological problems related to the four human-designed areas.

Prerequisite: Completion of the Basic Technology Credit

Grade Level 10-11-12

No repeats for credit

ADVANCED TECHNOLOGICAL APPLICATIONS A/B ##**281000/281100**

This standards-based, technological design course provides students the opportunity to build on their existing technological literacy through a deeper understanding of Information and Communication Technologies, Medical Technologies, Agriculture and Related Biotechnologies, and Entertainment and Recreation Technologies. Students work individually and in groups to create ideas, develop innovations, design solutions, fabricate models, and engineer practical design results in a variety of technological problems.

Prerequisite: Completion of the Basic Technology Credit

Grade level: 10-11-12

No repeats for credit

AP COMPUTER SCIENCE PRINCIPLES A/B #**291800/291900**

The course provides an engaging introduction to computing concepts through a nationally-developed curriculum, offered through a unique partnership with Code.org. The course focuses on the conceptual ideas of computing so that students understand why tools and languages are used to solve problems through a study of human computer interaction, problem solving, web design, programming, data analysis, and robotics.

Freshman co-requisite: Honors Geometry

Grade Level: 9 – 10 – 11 – 12

No repeats for credit