CLASSES THAT MEET THE BASIC TECHNOLOGY EDUCATION (TECH) GRADUATION REQUIREMENTS (1.0 credit)

Hands on type classes, project-oriented

Engineering Design Concepts 0.5 credit

Learn how professionals in engineering fields use a project-based approach to solve engineering challenges. We will discover, practice, and refine the use of all the steps in the Engineering Design Process. Students will design prototypes of devices, engage in hands-on exploratory labs that explore various manufacturing processes such as rapid prototyping. Students will gain confidence by solving problems in team structured environments.

Practical Programming 0.5 credit

Build and test working models of real-world robotic challenges with 'drag and drop' programming software.

Energy/Power/Transportation 0.5 credit

This course develops a depth of understanding about a wide array of energy sources and controls by engaging students in hands-on, project- based activities in mechanical power, fluid power, and electrical power. Students will construct and test a variety of transportation systems, participate in reverse engineering activities, and developing skill working with the tools, equipment, and measurement devices used by engineers and technologists.

Technological Design 1 0.5 credit

Students experience exciting activities in the areas of entertainment, recreation and information technologies. Students work in engineering teams to apply technology, science, and mathematics concepts and skills to solve design problems and create innovative solutions. Students will use criteria such as design effectiveness, public safety, and ethics to evaluate their designs.

Technological Design 2 0.5 credit

This course provides the student with the opportunity to use the engineering design process to solve complex issues in the areas of medical and biotechnology fields. Working in teams, students will identify the problem, engineer a solution and report findings. The activities allow students to choose their place on an engineering team and contribute their talents to accomplish the ultimate goal. Prerequisite: *Technological Design 1*

Manufac & Constr Tech 0.5 credit

This course focuses on hands-on, problem-based activities to introduce manufacturing and construction concepts related to the Standards for Technological Literacy. During each Learning Unit, students are asked to use a four-phase learning cycle to develop plausible solutions to related Primary Challenges. Designing a Custom Family Home for a Client is one example of a Primary Challenge experienced in this course.

Computer Science classes

Foundations of Computer Science 1.0 credit

This course is designed to introduce students to the breadth of the field of computer science through an exploration of engaging and accessible topics. Rather than focusing the entire course on learning particular software tools or programming languages, this course is designed to focus on the conceptual ideas of computing and help students understand how certain tools or languages are utilized to solve particular problems. This course covers a broad range of topics in computing such as software & app development, data theory & analysis, cryptography, computer hardware, web development and the global impacts of computing. **Can be used for Basic Technology if not used for Computer and Information Sciences Completer.**

AP Computer Science: Principles 1.0 credit

AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. This course introduces students to a wide range of computational topics in 7 categories: Algorithms, Abstraction, Data & Information, Programming, Global Impact of Digital Technology, Creativity, & The Internet. AP Computer Science Principles will give students the opportunity to use current technologies to solve problems and create meaningful computational artifacts. Together, these aspects of the course make up a rigorous yet manageable curriculum that aims to broaden participation in computer science. This course is intended to prepare students for the AP Computer Science Principles Exam. **Prerequisite(s): *Algebra 1 is recommended***

AP Computer Science A 1.0 credit (not available to freshmen)

This course serves as an introduction to object-oriented programming using the Java programming language. Topics covered include input/ output, conditionals, loops, functions/methods, basic data structures, and advanced object-oriented programming concepts. The course is intended to prepare students for the AP Computer Science A Exam for college credit. **Prerequisite(s): Algebra2(B or better) or concurrent enrollment in Algebra 2 Recommended: AP Computer Science Principles**