



TECH WORKS

TECH-100: Introduction to Engineering & Technology

An introduction to the history, philosophy and methodology of engineering and technology related professions. The disciplines of computer, electrical and mechanical engineering and technology are introduced. Basic mathematical, graphical and analytic skills are developed as well as experimentation and data analysis techniques. The analysis and presentation of engineering data and designs, as well as ethical and professional considerations, are considered.

ET-710 Web Technology: Building and Maintaining Web Sites

ET 710 focuses on the skills needed to build, maintain, and administrate a website. At the beginning of the courses, students will learn how to construct and test code in different interfaces such as HTML, CSS, and HTML5. After that, the course will teach students how to explore different libraries and frameworks, customize existing routines or procedures in their code, and leverage code from past projects to develop code for a new one. At the end, students will demonstrate their coding skills by translating design requirements and instructions into a responsive implementation using different interfaces and frameworks.

ET-712 Web Client Programming

Students will learn to write interactive front-end Web Client programs using JavaScript and JQuery. The course will start teaching the basic programming concepts of JavaScript and how to apply them into a project. Later, JQuery will be introduced as a feature-rich JavaScript library that will help students in the process of writing scripts such as HTML and JavaScript, faster and easier. Also, students will learn how to implement and manipulate different web development techniques and frameworks such as Ajax, JSON, APIs, how to manage data stored in relational databases using SQL and PHP, and how to apply cyber-security technology to keep information safe on the network. At the end, students will learn how to manage project individually and as part of a team. At the projects, students will learn how to deal with error-handling and debugging, filter and sort data and images, and enhance forms to validate user entries.

ET-570 Creating Smartphone Applications

This course introduces the use and features of smartphones in modern life and how to create working applications. Students will create apps using existing modules and building blocks. No prior programming knowledge is necessary. After this initial experience, basics of the javascript programming language will be introduced along with a minimum of HTML programming to introduce the student to the needs of more advanced apps. Software development kits (SDK), along with the development environment will also be covered. In addition, students will have the opportunity to distribute apps into the Marketplace.

ET-575: Introduction to C++ Programming Design and Implementation

This foundation course provides a general understanding of the use and development of computer software applications in fields such as science, mathematics, and business using a high level computer language. The course will concentrate on assessing the practical requirements of a software package and developing applications in C++, which is a high level computer language that teaches the basic skills necessary for implementing it in a variety of real world applications. Topics include the analysis and use of concepts such as: primitive data types and their operators, basic I/O, control statements, decision making, looping, subprograms, arrays, strings and computer ethics. Each student will have a computer platform at his/her disposal from which he/she will design, develop, implement and test programs, while evaluating the interactions between a user and the computer.