

CTI 110 IT Foundations

COURSE DESCRIPTION:

Prerequisites: None

Corequisites: None

This course provides an introduction to technology concepts and current trends in IT. Topics include foundational concepts across various IT domains such as, but not limited to, artificial intelligence, database fundamentals, programming principles, and web development. Upon completion, students should be able to demonstrate knowledge in core IT areas and apply skills critical for their academic and professional success.

Course Hours per Week: Class, 2. Lab, 2. Semester Hours Credit, 3.

LEARNING OUTCOMES:

Upon completing requirements for this course, the student will be able to:

1. Apply basic principles of programming logic using Python.
2. Create a simple web page using HTML and CSS.
3. Debug basic web pages and Python programs.

OUTLINE OF INSTRUCTION:

- I. Web Page Design
 - A. HTML Basics
 - i. Creating links in HTML
 - ii. Bulleted Lists
 - iii. Formatting Text
 - iv. Adding Images
 - v. Debugging and Validation
 - B. Using Cascading Style Sheets (CSS)
 - i. CSS Basic formatting
 - ii. CSS Selectors
 - iii. CSS Debugging and Validation
 - C. Designing a Page Layout
 - i. CSS Layout and Design
 - ii. CSS Grid
- II. Programming with Python
 - A. Introduction to Python
 - i. Working with the Python Interactive Shell
 - ii. Writing and Running Simple Python Scripts
 - iii. Python Syntax
 - iv. User Input, Comments, and Indentations
 - B. Data Types
 - i. Numerical Data
 - ii. Strings

- iii. Lists
- iv. Booleans
- C. Control Statements
 - i. Program Flow
 - ii. Decision Making using the if and if/else Statements
 - iii. Loops using the while and for statements
 - iv. The range Function
 - v. Nesting Loops
 - vi. Breaking Out of Loops using the break, continue, and pass Statements)

REQUIRED TEXTBOOK AND MATERIAL:

The textbook and other instructional material will be determined by the instructor.