

Suffolk University
College of Arts and Sciences
Mathematics and Computer Science Department

Existing Course: CMPSC 220 Web Engineering I - 4 Semester Credits

Course Description: This course is an intermediate course in website development and engineering for students with some programming experience. Topics include programmatical website design and engineering, database design and implementation, database-driven web systems, and e-commerce solutions. [4 semester credits]

Prerequisites: CMPSC 120 or 121 or 122 or 131 or 132 or equivalent [experience with HTML and PHP]

Course Syllabus:

The goal of this course will be a student project which is a functioning database-driven web store mechanism. The student will choose the type of object they wish to sell, and culminate the course with a functioning store with e-commerce capabilities.

Module 1:

Course setup. Making PHP pages. Crash course/review of HTML. Forms and PHP results pages. Variables.

Module 2:

Storing form data in MySQL database. Creating and updating database tables in PHP and shell.

Module 3:

Designing database admin areas. Setting up username/password mechanisms. Building the database content. Adding file uploads to content storage. Shell commands in PHP. Processing images using GDB.

Module 4:

Building the user experience. Creating HTML headers and footers. Extracting database data into user area. Building browse and search mechanism. Building the shopping cart.

Module 5:

Using a secure server: the checkout. Secure certificates. Storing data in the database securely using encryption.

Module 6:

Human verification testing. Hiding secure information onto web forms. Passing data forward in form chain.

Module 7:

Setting up the e-commerce solution. Processing secure transactions. Enhancing user experience through completed transaction.

Module 8:

Sewing it all together: the web store. User testing and file versioning.