
CREDITS: 3

COURSE DESCRIPTION: Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Support for database access via web programs. Prerequisite: CS-141 Introduction to Programming or CS-144 Computer Science I

TEXTBOOK: Web Programming Step By Step, 1st Ed., by Stepp (adopted Fall 2010)
Previous:
Core Web Programming, 2nd Ed., by Hall (adopted F03)
Beginning Java, 2nd Ed., by Horton (adopted F00)
Beginning Java, 1st Ed., by Horton (F98 - S00)

COURSE OBJECTIVES:
Upon successful completion of this course, the student will be able to:
1. Understand the general concepts of web and internet based software systems, in terms of design, development, and usage.
2. Design and program web and internet software system using current client-side and server-side programming languages.
3. Implement the process of collecting data from user and processing on the server.
4. Insert, update, and delete data in a database using the standard query language.
5. Apply a scripting language for client-side processing.

COURSE OUTLINE:
1. Fundamentals (Objective 1)
   a. Internet
   b. World Wide Web
   c. Web browsers
   d. Uniform Resource Locator (URL) domains and IP addresses
   e. Hypertext Transfer Protocol
   f. Client/server relationship
2. Client-side Programming (Objectives 2, 3, 4)
   a. Current markup language (e.g. xhtml 1.1)
   b. w3 standards
   c. Cascading style sheets
   d. Forms to collect data from users
   e. Document Object Model (DOM)
   f. Scripting language (e.g. JavaScript)
      i. Dynamic documents
      ii. Validate forms
3. Server-side Programming (Objectives 5, 6, 7)
   a. Server-side programming language (e.g. JSP, PHP)
   b. Process data submitted from a form
   c. Connection to database with server-side language
   d. Database server technology
      i. Relational database systems
      ii. Database query language
      iii. Insert, update, and delete data
      iv. Query database
   e. Dynamic web-pages with database content