

## STANDARDIZED COURSE OUTLINE

### SECTION I

**SUBJECT AREA AND COURSE NUMBER:** CST 258

**COURSE TITLE:** Fundamentals of Internet Programming

**COURSE CATALOG DESCRIPTION:**

A comprehensive introduction to the server-side programming techniques used to develop interactive web sites. Using technologies such as PHP and MySQL, students learn to create web sites that interact with web servers, manage user sessions, and store and retrieve data from databases. Course content is continually updated to reflect the current state of the art in Internet computing.

**LECTURE HOURS PER WEEK:** 3

**CREDIT HOURS:** 3

**LAB HOURS PER WEEK (if applicable):** n/a

**PREREQUISITE(S):** CST 150 Web Design and Development I

### SECTION II

**A. SCOPE:**

Students in Fundamentals of Internet Programming will extend their knowledge of HTML and webpage design to create web applications that interact with server-side scripts. Students will learn about the architecture of web applications and setup and configure a development web server and database server. Students will use server-side scripts to create data-driven web applications.

**B. REQUIRED WORK:**

Will vary by instructor. Students will be expected to do all required readings, assignments, tests, and quizzes as outlined by their instructor.

**C. ATTENDANCE AND PARTICIPATION:**

Regular attendance, assignment submission timeliness, promptness and class/lab participation will be expected. Instructors will include specific attendance and participation policies requirements in their class syllabi.

**D. METHODS OF INSTRUCTION:**

Methods may include any of the following: lecture, lecture/discussion, small group, collaborative learning, experimental/exploration, distance learning, student presentations, computer demonstrations, or use of technologies such as audio-visual materials, and computer laboratory equipment.

## E. OBJECTIVES, OUTCOMES, and ASSESSMENT

Students' grades will be based on achievement of learning the objectives and outcomes listed below as measured by the instructor's methods of assessment:

LEARNING OBJECTIVES	LEARNING OUTCOMES	ASSESSMENT METHODS
<b>To demonstrate an understanding of:</b>	<b>Student will:</b>	<b>As measured by:</b>
Server-Side Scripting Language	<ul style="list-style-type: none"><li>• Embed server-side scripts within html documents</li><li>• Develop server-side scripts that manipulate strings, numbers and arrays</li><li>• Develop server-side scripts that use selection and repetition control structures</li><li>• Develop server-side scripts that connect to and query a database</li><li>• Develop server-side scripts that manipulate files and directories on the web server</li></ul>	Programming Assignments, Projects, Quizzes and Exams
Form Validation and Regular Expressions	<ul style="list-style-type: none"><li>• Develop server-side scripts that process and validate HTML form data</li><li>• Develop server-side scripts that use regular expression for pattern matching</li></ul>	Programming Assignments, Projects, Quizzes and Exams
Databases and Structured Query Language (SQL)	<ul style="list-style-type: none"><li>• Design and develop relational databases</li><li>• Create SQL data definition language (DDL) statements</li><li>• Create SQL data manipulation language (DML) statements</li></ul>	Programming Assignments, Projects, Quizzes and Exams
Cookies and Sessions	<ul style="list-style-type: none"><li>• Use cookies to track visitors of a web page</li><li>• Use sessions to maintain state information for web applications</li></ul>	Programming Assignments, Projects, Quizzes and Exams
Web Application Security	<ul style="list-style-type: none"><li>• Utilize methodologies to prevent against Cross-Side Scripting (XSS) attacks</li><li>• Utilize methodologies to prevent against SQL Injection attacks</li></ul>	Programming Assignments, Projects, Quizzes and Exams
Authentication and Encryption	<ul style="list-style-type: none"><li>• Authenticate web application users through a database</li><li>• Authenticate web application users through the web server</li><li>• Utilize HTTPS to provide secure transactions between the client and server</li></ul>	Programming Assignments, Projects, Quizzes and Exams

**F. TEXT(S) AND MATERIALS:**

An appropriate database application text, such as:

**Text:** *Sams Teach Yourself PHP, MySQL and Apache (current edition)*

**Author:** *Meloni*

**Publisher:** Sams

**G. INFORMATION TECHNOLOGY:**

This course is an information technology course and will require extensive computer lab time both for teaching and performing assignments.