CS 55.13 Course Outline as of Fall 2018

CATALOG INFORMATION

Dept and Nbr: CS 55.13   Title: SERVER-SIDE WEB DEV
Full Title: Server-Side Web Development
Last Reviewed: 10/24/2022

Units			Course Hours per Week		Nbr of Weeks	Course Hours Total		
Maximum	3.00		Lecture Scheduled	3.00	17.5	Lecture Scheduled		52.50
Minimum	3.00		Lab Scheduled	0	6	Lab Scheduled		0
			Contact DHR	0		Contact DHR		0
			Contact Total	3.00		Contact Total		52.50
			Non-contact DHR	0		Non-contact DHR		0

Total Out of Class Hours: 105.00   Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable
Grading: Grade or P/NP
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly: CIS 58.41

Catalog Description:
This is an introduction to server-side Web development using open source technologies as well as a comprehensive course in the server-side scripting languages such as PHP hypertext preprocessor scripting language. The course covers writing server-side scripts for the Web, such as PHP, procedural and object-oriented programming, Web form management, an introduction to SQL statements and databases. Advanced topics are covered including dynamic generation of content using databases, sessions, cookies, Web services, e-commerce, and authentication. Previous programming experience recommended.

Prerequisites/Corequisites:
Course Completion of CS 50A

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100; AND Completion of CS 10A

Limits on Enrollment:

Schedule of Classes Information:
Description: This is an introduction to server-side Web development using open source technologies as well as a comprehensive course in the server-side scripting languages such as

PHP hypertext preprocessor scripting language. The course covers writing server-side scripts for the Web, such as PHP, procedural and object-oriented programming, Web form management, an introduction to SQL statements and databases. Advanced topics are covered including dynamic generation of content using databases, sessions, cookies, Web services, e-commerce, and authentication. Previous programming experience recommended. (Grade or P/NP)
Prerequisites/Corequisites: Course Completion of CS 50A
Recommended: Eligibility for ENGL 100 or ESL 100; AND Completion of CS 10A
Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**		Effective:	Inactive:
CSU GE:	**Transfer Area**		Effective:	Inactive:
IGETC:	**Transfer Area**		Effective:	Inactive:
CSU Transfer:	Transferable	Effective: Fall 2002	Inactive:	
UC Transfer:		Effective:	Inactive:	

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

Approval and Dates

Version:	06	Course Created/Approved:	6/10/2002
Version Created:	11/13/2017	Course Last Modified:	1/31/2023
Submitter:	Jeff Diamond	Course last full review:	10/24/2022
Version Status:	Approved (Changed Course)	Prereq Created/Approved:	1/31/2023
Version Status Date:	11/27/2017	Semester Last Taught:	Fall 2022
Version Term Effective:	Fall 2018	Term Inactive:	Fall 2023

COURSE CONTENT

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Design server-side solutions to support validation, authentication, business logic, and security.
2. Develop server-side scripts employing SQL databases to create robust data-driven Web applications.

Objectives:
Upon completion of the course, students will be able to:
1. Develop server-side scripts for publishing on the Web.
2. Employ control structures, functions, arrays and hashes to create robust applications.
3. Design rigorous code for validation and authentication with attention to security and performance.
4. Write SQL commands and use a database to develop data-driven Web applications.

5. Create an advanced project using server-side scripts and databases.

Topics and Scope:

I. Introduction
    A. History of PHP
    B. Limitations of Server-Side Programming
    C. Dynamic Web Pages
    D. PHP and HTML
    E. Web Servers and Server-Side Programming
    F. PHP and Databases
    G. UNIX/Linux Environment
    H. Business Logic
II. Data and Operations
    A. Data Types (No Explicit Type Declarations)
    B. Variables
    C. Constants
    D. Operators
    E. Expressions
    F. Operator Precedence
III. Conditional Statements and Control Structures
IV. Functions
    A. Scope
    B. Static Variables
    C. Arguments
    D. Recursion
    E. Dynamic Function Calls
    F. Exception Handling
V. Arrays and Hashes
    A. Single-Dimensional Arrays
    B. Indexing Arrays
    C. Initializing Arrays
    D. Multi-Dimensional Arrays
    E. Casting Arrays
    F. Hashes
VI. Classes and Objects
    A. Defining a Class
    B. Constructors
    C. Accessing Properties and Methods
    D. Static Class Members
    E. Access Types
    F. Binding
VII. Input/Output and Disk Access
    A. HTTP Connections: Requests
    B. Writing to the Browser: Responses
    C. Request Methods
        1. GET Method
        2. POST Method
    D. Passing Arrays in Forms
    E. Cookies
    F. File Uploads
    G. Reading/Writing to Files

H. Sessions
VIII. SQL Databases
   A. Introduction to SQL Databases and SQL Syntax
   B. Designing and Creating a Database with Tables in SQL
   C. SQL Data Types
   D. SQL Metadata
   E. Inserting Values into a SQL Table
   F. Retrieving Data from a SQL Table
   G. Deleting Data from a SQL Table
IX. Creating Dynamic Content with Server-Side Script and SQL
   A. Connecting to SQL
   B. Extracting Data Using server-side script
   C. Populating Form Menus Using Data from SQL
   D. Putting Returned Records into a Table
   E. Authentication with server-side script
      1. Using Sessions
      2. Using HTTP Header Authentication
X. Advanced Topics
   A. Web Services
   B. Authentication
   C. E-Commerce
   D. Other Server-Side Languages

Assignment:

1. Read approximately 25-30 pages a week from course textbook and/or instructor-provided reading materials, accompanied by self-test questions and running code examples
2. Create and complete programming solutions (12 - 16)
3. Regular participation in online discussion forums (6 - 14)
4. Define and create a final Web application project that utilizes client- and server-side development to output dynamic content and process client input
5. Quizzes (2 - 4), midterm, and final exam

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Final project proposal, discussion posts

Writing 10 - 20%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Programming solutions

Problem solving 10 - 40%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Final Application		Skill Demonstrations 20 - 50%

Exams: All forms of formal testing, other than skill performance exams.

Quizzes, midterm, and final exam		Exams 10 - 20%

Other: Includes any assessment tools that do not logically fit into the above categories.

Attendance and participation		Other Category 0 - 10%

Representative Textbooks and Materials:

PHP and MySQL for Dynamic Web Sites: Visual QuickPro Guide. 5th ed. Ullman, Larry. Peachpit Press. 2017

PHP and MySQL Web Development. 5th ed. Welling, Luke and Thompson. Laura. Addison-Wesley Professional. 2016

Murach's PHP & MySQL. 2nd ed. Murach, Joel and Harris, Ray. Murach & Associates. 2014

OTHER REQUIRED ELEMENTS

STUDENT PREPARATION

Matric Assessment Required:	E	Requires English Assessment
Prerequisites-generate description:	A	Auto-Generated Text
Advisories-generate description:	U	User-Generated Text
Prereq-provisional:	N	NO
Prereq/coreq-registration check:	Y	Prerequisite Rules Exist
Requires instructor signature:	N	Instructor's Signature Not Required

BASIC INFORMATION, HOURS/UNITS & REPEATABILITY

Method of instruction:	02	Lecture
	72	Internet-Based, Delayed Interaction
	71	Internet-Based, Simultaneous Interaction
Area department:	CS	Computer Studies
Division:	72	Arts & Humanities
Special topic course:	N	Not a Special Topic Course
Program status:	1	Both Certificate and Major Applicable
Repeatability:	00	Two Repeats if Grade was D, F, NC, or NP
Repeat group id:		

SCHEDULING

Audit allowed:	N	Not Auditable
Open entry/exit:	N	Not Open Entry/Open Exit
Credit by exam:	N	Credit by examination not allowed
Budget code: Program:	0000	Unrestricted
Budget code: Activity:	0701	Computer & Information Science

OTHER CODES

Discipline:	Computer Information Systems OR Computer Science	
Basic skills:	N	Not a Basic Skills Course
Level below transfer:	Y	Not Applicable
CVU/CVC status:	Y	Distance Ed, Not CVU/CVC Developed
Distance Ed Approved:	Y	Either online or hybrid, as determined by instructor
Emergency Distance Ed Approved:	Y	Fully Online Partially Online Online with flexible in-person activities
Credit for Prior Learning:	N	Agency Exam
	N	CBE
	N	Industry Credentials
	N	Portfolio
Non-credit category:	Y	Not Applicable, Credit Course
Classification:	Y	Career-Technical Education
SAM classification:	C	Clearly Occupational
TOP code:	0614.30	Website Design and Development
Work-based learning:	N	Does Not Include Work-Based Learning

DSPS course: N   Not a DSPS Course

In-service: N   Not an in-Service Course