CS 55.17 Course Outline as of Fall 2011

CATALOG INFORMATION

Dept and Nbr: CS 55.17 Title: JAVA WEB APPLICATIONS
Full Title: Building Web Applications using Java Technologies
Last Reviewed: 3/7/2011

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	4	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:	

Catalog Description:
This class will introduce the student to the Java technologies used to build web applications. Students will create a Java web project that integrates database, password protection and cookie processing that can be applied to web applications such as shopping carts, auction sites, and portal web sites.

Prerequisites/Corequisites:
Course Completion of CS 50.11B and CS 17.11

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: This class will introduce the student to the Java technologies used to build web applications. Students will create a Java web project that integrates database, password protection and cookie processing that can be applied to web applications such as shopping carts, auction sites, and portal web sites. (Grade or P/NP)
Prerequisites/Corequisites: Course Completion of CS 50.11B and CS 17.11

Recommended: Eligibility for ENGL 100 or ESL 100
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 2011	Inactive:	Fall 2015
UC Transfer:		Effective:		Inactive:	

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:
Upon completion of the course, students will be able to:
1. Employ Java technologies to create a web site that utilizes dynamic web pages.
2. Analyze the site to ensure that it retains its functionality and aesthetics on multiple platforms and multiple browsers.
3. Optimize the design of the database for speed.
4. Identify and use Java tutorial sites, newsgroups, and user forums available on the Web as resources.

Topics and Scope:

1. Web Application Life Cycle
2. Web Modules
3. Configuring Web Applications
4. Java Servlet Technology
   1. Servlets
   2. Servlet Life Cycle
   3. Writing Service Methods
   4. Filtering Requests and Responses
   5. Maintaining Client State
5. JavaServer Pages Technology
   1. JavaServer Page (JSP)
   2. The Life Cycle of a JSP Page
   3. Creating Static Content
   4. Creating Dynamic Content
   5. Expression Language
   6. Using Custom Tags
6. JavaServer Pages Standard Tag Library (JSTL)

1. Using JSTL
2. Core Tag Library
3. Extensible Markup Language (XML) Tag Library
4. Internationalization Tag Library
5. Structured Query Language (SQL) Tag Library

7. Custom Tags in JSP Pages
1. Custom Tag
2. Types of tags
3. Using Tag Files
4. Tag Library Descriptors
5. Programming Tag Handlers

8. Scripting in JSP pages
1. Using Scripting
2. Declarations
3. Scriptlets
4. Expressions

9. JavaServer Faces Technology
1. JavaServer Faces Application
2. Framework Roles
3. A Simple JavaServer Faces Applications
4. User Interface Component Model
5. Navigation Model
6. Backing Bean Management
7. How the Pieces Fit Together
8. The Life Cycle of a JavaServer Faces Page

10.Using JavaServer Faces Technology in JSP Pages
1. Setting up A Page
2. Using the Core Tags
3. Using the Hypertext Markup Language (HTML) Component Tags
4. Using Localized Messages
5. Using the Standard Converters
6. Registering Listeners on Components
7. Using the Standard Validators
8. Binding Component Values and Instances to External Data Sources
9. Referencing a Backing Bean Method
10. Using Custom Objects

11.Configuring JavaServer Faces Applications
1. Application Configuration Resource File
2. Configuring Beans
3. Registering Messages
4. Registering a Custom Validator
5. Registering a Custom Converter
6. Configuring Navigation Rules
7. Registering a Custom Renderer with a Render Kit
8. Registering a Custom Component

12. Internationalizing and Localizing Web Applications
1. Java Platform Localization Classes
2. Providing Localized Messages and Labels
3. Date and Number Formatting
4. Character Sets and Encodings

13.Security
1. Realms, Users, Groups and Roles

2. Web-Tier Security
3. Understanding Login Authentication

Assignment:

1. Create a web site containing the following elements:
   a. Password protection via database lookup
   b. A connection to a back-end relational database
   c. Input forms with validated fields
   d. Java programs to process form data
   e. Extract information from the database with SQL using inserts, selects, deletes and updates
   f. Process cookies on client machines
   g. Email messages automatically as the results of queries
   h. Full user interface
2. Research Java resource sites and newsgroups for assistance with problems and to exchange ideas
3. Present web site to the class
4. Provide program documentation
5. Take four to six quizzes
6. Read 20 to 30 pages per week

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.

Written program documentation, research results	Writing 10 - 20%

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

Website creation	Problem solving 40 - 60%

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

None	Skill Demonstrations 0 - 0%

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

Multiple choice, true/false, matching items, completion, design and code programming exercises	Exams 20 - 30%

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

Attendance and participaton	Other Category 0 - 10%

Representative Textbooks and Materials:
Introduction to Java Programing, Comprehensive, 8th edition, by Daniel Lang. Pearson Custom Computer Science, 2010.