Knight Foundation School of Computing and Information Sciences

Course Title: Website Construction and Management   **Date: 0**1/06/2012

Course Number: CGS 4854

Credits: 3

Subject Area: Application	Subject Area Coordinator: Maria Charters
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Catalog Description:
The fundamentals of creating and maintaining a website. Installation and maintenance of a web-server. Techniques for building multimedia interactive web-pages.

Textbook: Web Development with Java Using Hibernate, JSPs and Servlets Downey
Springer (ISBN: 978-1-84628-862-3)

References: None

Prerequisites Courses: CGS 3767 and COP 3804 or COP 3337

Corequisites Courses: None

Type: Required (IT), Elective (CY)

Prerequisites Topics:

1   Master the design and implementation of classes using inheritance and polymorphism
2   Master the use and implementation of interfaces
3   Master analyzing problems and writing Java program solutions to those problems using the above features
4   Be familiar with the management of file systems
5   Be familiar with the use of text editors
6   Master basic command line functions

Course Outcomes:
1   Be familiar with JSPs
2   Master Servlets
3   Master the design of basic web pages
4   Be familiar with the use of CSS 1 style sheets
5   Be familiar with the configuration of the Apache Web Server

Relationship between Course Outcomes and Program Outcomes

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BS in IT: Program Outcomes	Course Outcomes
a) Demonstrate practical hands-on expertise in selection, installation, customizing and maintenance of the state-of-the-art computing infrastructure.	
b) Demonstrate practical proficiency in selection, installation, customizing and maintenance of the state-of-the-art software systems.	5
c) Demonstrate general understanding of at least one field where Information Technology plays a central role.	1, 2, 3, 4, 5
d) Demonstrate understanding of the social and ethical concerns of the practice of Information Technology.	
e) Demonstrate the ability to work cooperatively in teams.	
f) Demonstrate effective communication skills.	
g) Demonstrate familiarity with fundamental ideas and issues in the arts, humanities and social sciences.	

Assessment Plan for the Course & how Data in the Course are used to assess Program Outcomes

Student and Instructor Course Outcome Surveys are administered at the conclusion of each offering, and are evaluated as described in the School's Assessment Plan: https://abet.cs.fiu.edu/csassessment/

Outline

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Topic	Number of Lecture Hours	Outcome

• Simple JSP
   ○ HTML - basic codes, anchors, paragraphs, and line breaks
   ○ HTML Forms -form tag, text elements, submit and reset buttons.
   ○ Using the Query String to pass data
   ○ JSP - accessing parameters
   ○ Initializing form elements
	3	1,3

• Multiple JSP
   ○ Sending Data to Another JSP
   ○ Sending Data Back using Hidden Fields
   ○ Sending Data to Different Pages
   ○ Using a Controller JSP
   ○ Using a Servlet Controller
	4	1,2,3

• Servlets and MVC
   ○ Using a Bean
   ○ Validation by Using Default Values
   ○ Validation by Informing the User by Using Hibernate Annotations
   ○ Using Java Standard Tag Library to add Looping to a JSP
   ○ Persist Data to a Database Server Using Hibernate
	6	1,2,3

• Debugging Servlets
   ○ NetBeans
   ○ Server Logs
	1	2

• More HTML
   ○ Lists
   ○ Tables
   ○ Images
	1	3

• More Form Elements
   ○ Radio Groups
   ○ Checkboxes
   ○ Select Lists
   ○ Textareas
   ○ Password
   ○ Initializing Form Elements
	1	1,3

• Cascading Style Sheet
   ○ Colors
   ○ Text Attributes
   ○ Fonts
   ○ Margins
	2	4

• Cookies	2	2

o Identify User o Retrieve and display user data from a database		

• Sessions
  o Using a Session to pass data to JSPs
  o Shopping Cart
	2	2

• Request and Response Headers, Status Codes
  o Content Type
  o Status Codes
  o Distinguishing Browsers
  o Recognizing Browser Preferences: Accept, Accept Language, Accept Encoding
	3	3,5

• Using CGI
  o Query String for GET Requests
  o Content Length for POST requests
	2	3,5

• MIME Types	1	3,5

• Tomcat
  o Servlet Mapping
  o JDBC Connection Pooling
  o Contexts
  o Using Tomcat with Apache
	2	2

• Configuring a web server
  o Configuring and starting the Apache server
  o TCP/IP, IP addresses, Domain Names, MIME, Daemons
  o Creating a Web site on ocelot
  o Configuring the server with Tomcat
  o Access controls, Log files
  o Aliases, Scripting, Log Files, Connection Types, Negotiation, Indexes
  o SSI
	6	5

• Additional topics as time allows
  o Java Mail - Adding Email Notification to a web application
  o Model 1 Architectures
    ▪ Using Java
    ▪ PERL style applications
      • Servlet Only
      • Limitations of Servlets
    ▪ PHP style applications
      • JSP Only
      • Limitations of JSPs.		

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Course Outcomes Emphasized in Laboratory Projects / Assignments

	Outcome	Number of Weeks
1	JSP Outcomes: 1,3	2
2	Basic Controller Outcomes: 1,2,3	2
3	Intermediate Controller Outcomes: 1,2,3,5	2
4	Database Controller Outcomes: 1,2,3,5	2
5	Advanced Controller Outcomes: 1,2,3,4,5	2

Oral and Written Communication
No significant coverage

Written Reports		Oral Presentations	
Number Required	Approx. Number of pages	Number Required	Approx. Time for each
0	0	0	0

Social and Ethical Implications of Computing Topics
No significant coverage

Topic	Class time	Student performance measures

Estimate Curriculum Category Content (credit hours)

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Fundamental ITArea	Core	Advanced
Human computer interaction		
Information management		
Web systems and technologies	2.0	
System administration and maintenance		
Programming	1.0	
Networking		
Information assurance and security		
System integration and architecture		

Theoretical Contents

Topic	Class time
OO Design	0.5

Problem Analysis Experiences

Solution Design Experiences