

Bachelor of Information Technology in System Development and Administration (Hons)

1.	Course Title	Advanced Web programming		
2.	Course Code	CCPS4513		
3.	Status	Major		
4.	Credit Hour	3 (2+1) 2 for lecture (2 hours per week x 14 weeks) 1 for lab (2 hours per week x 14 weeks)		
5.	Semester/Year	1/4		
6.	Prerequisites	CCPS3513 Web Programming		
7.	Teaching method:	Distance Learning (Electronic)		
8.	Evaluation	Assessment and Marking Percentage: Participation 5% Exercises 10% Mid Sem Exam 10% Project 25% Final Examination 50%		
9.	Lecturer			
10.	Objective of the Subject	This subject is designed to enable students to: - To introduce students to three-tier web based programming language(s) using and application server. - To expose students to web application development using Java 2 key components that includes Java Server Pages(JSP), Servlet, Java Bean, XML, JDBC, Struts and Java Server Faces (JSF). - To inculcate good software engineering practices emphasizing on using acceptable open standards, configuration management and testing tools.		
11.	Learning Outcomes	Upon completion of this subject, students should be able to: - Demonstrate web based programming language (Java 2 Components) knowledge, understanding and application of three-tier architecture of web development (Web Server, Application Server, and Database Server). - Apply and practice good software engineering methods for web development. - Demonstrate the ability in using open source web development tools to develop three-tier web application. - Work as part of the team to develop web application. - Communication effectively.		
12.	Synopsis	High performance, light-weight persistent object, secure and flexibility are the ingredients of developing high-end web applications such as internet banking and electronic commerce. The ability to apply three-tier architecture for web development enables scalable and efficient web applications. During this course, student will be exposed to Java web technologies such as Java Server Pages (JSP), Servlet, Java Bean, JDBC and Java Server Faces (JSF). Students also will be able to learn data exchange technology with XML and administer Apache Tomcat (open source web server). In addition, student will also be exposed to important issues pertaining to web development process such as security, three-tier architecture which involves connectivity between web server, application server and database server.		
13.	Topics	Details	Lecture (Hrs)	Lab (Hrs)
	Topic 1	Introduction to Three-Tier Architecture in Web Development. Overview of Servlet and JavaServer Pages Technology.	2	2
	Topic 2	Java Servlet	2	2
	Topic 3	Handling the Client Request: Form Data.	2	2
	Topic 4	JSP Scripting Elements	2	2
	Topic 5	JSP Page Directive: Structuring Generated Servlets	2	2

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	Topic 6	Including Files and Applets in JSP Documents.	2	2
	Topic 7	Using JavaBeans with JSP	2	2
	Topic 8	Using JavaBeans with JSP	2	2
	Topic 9	Session Tracking	2	2
	Topic 10	Integrating Servlets and JSP: MVC Architecture	2	2
	Topic 11	Integrating Servlets and JSP: MVC Architecture	2	2
	Topic 12	Accessing Database with JDBC	2	2
	Topic 13	Accessing Database with JDBC	2	2
	Topic 14	Java Server Faces and Struts.	2	2
		Total contact hours	28	28
		Equivalent lecture hours	28	14
		Total lecture hours	42	
		Credit hours	3	
14.	Main reference:	1. Marty Hall, Larry Brown, and Yaakov Chaikin, Core Servlets and Javasever Pages: Advanced Technologies , Vol. 2 (2nd Edition) (Core Series) (2007) 2. Hall, M., & Brown, L. (2004). Core servlet and javasever pages, volume 1: core technologies (2nd Ed.) . USA: Prentice Hall (Online version: http://pdf.coreservlet.com/)		
15.	Additional References:	1. Ganguli, M. (2002). Making use of jsp (1st Ed.). USA: Prentice Hall 2. Hall, M. (2001). More servlet and javasever pages (1st Ed.). USA: Prentice Hall 3. Mukhtar, K., & Zelenak, C. (2006). Beginning java ee 5: from novice to professional (1st Ed.). New York: Springer 4. Turner, J. (2002). Mysql and jsp web applications: data driven programming using tomcat and mysql development (1st Ed.). USA: Sams Publishing 5. Turner, J.,& Bedell, K.S. (2002). Struts kick start (1st Ed.). USA: Sams Publishing		
	Other Materials:	All other materials will be available to students online.		