NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI

COURSE OUTLINE	OFDVIOE ODI	ENTED ABOUIT	ECTURE AND WER SECURITY			
Course Title	SERVICE ORIENTED ARCHITECTURE AND WEB SECURITY					
Course Code	CS 604	No. of Credits	3			
Department	CSED	Faculty	Dr.C.Mala			
Pre-requisites Course Code	NIL		Paristi did wa ka			
Course Coordinator(s) (if, applicable)	Dr.C.Mala					
Other Course Teacher(s)/Tutor(s) E-mail	mala@nitt.edu	Telephone N	o. 0431-2503208			
Course Type	Core course					

COURSE OVERVIEW

Service Oriented Architecture and Web Security Course discusses about the basics of Web services , WS technologies and Web security

COURSE OBJECTIVES

- To provide an overview of XML Technology and modeling databases in XML
- To provide an overview of Service Oriented Architecture and Web services and their importance
- To introduce Security solutions in XML and Web Services and to introduce Security standards for Web Services

Course Outcomes	A	ligne	d Prog	<u> ramm</u>	ie Out	come	s (PO)	
The students will understand the basics of XML	P01	PO2	PO3	PO4	PO5	P06	P07	P08
2. The students will learn the concepts of SOA and Web services, some of the prevailing	s	В	M	s	В	В	М	В
standards and technologies of Web Services 3. The students will also learn the	S	В	М	S	В	М	М	В
approaches for providing security for XML documents as well as messages exchanged among Web Services	S	М	S	S	M	S	M	В
S = 0.6	M =	0.4		B =	= 0.0			

L. No Title		Туре			Mode of delivery	
	1100	L	T	C&T	PPT	
amen meromanini	La company of the com	I TINU				
1.	XML Technology	V				
2.	XML and Web - Name Spaces	V		1		
3.	XML Document Structure - Structuring with Schemas and DTD	1		V	V	
4.	Modeling Databases in XML – XQuery	1		1	√ = 10 / = 1	
	U	NIT II				
5.	SOA Basics Service Oriented Architecture (SOA)	1		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
6.	Comparing SOA with Client- Server and Distributed architectures	1		\ \ \	√	
7.	Characteristics of SOA – Benefits of SOA	1		V		
8.	Principles of Service orientation	1		1		
9.	Service layers -Business Process management	1		1		

		III TIV		
10.	Web Security, Services (WS) SOA and Web Services	√	√	1
11.	Web Services Protocol Stack – Service descriptions – WSDL	V	√	1
12.	Messaging with SOAP – Service discovery – UDDI.	7	٧	V
13.	Service-Level Interaction patterns – XML and Web Services	1	7	٧
14.	Enterprise Service BusNET and J2EE Interoperability.	V	V	1

	U	NIT IV		
15.	WS Technologies and Standards	V	1	V
16.	Web Services Technologies - JAX-RPC, JAX-WS	1	All Property and	V
17.	Web Service Standards – WS- RM, WS-Addressing, WS-Policy.	1	√	√
18.	Service Orchestration and Choreography – Composition Standards - BPEL.	1	1	V
19.	Service-Oriented Analysis and Design	1	7	a dia ana
	U	INIT V		
20.	XML and WS Security	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		V
21.	XML Security Overview – Canonicalization	V	√	V III
22.	XML Security Framework – XML Encryption – XML Signature	1	√	V
23.	XKMS Structure. Web Services Security	V	√	√
24.	XACML - WS-Security	- V		
	TOTAL	38 HO	URS	

SI. No	Mode of Assessment	Week/Date	Duration	Marks
1.	Cycle Test - 1	6 th week	1 Hour	20
2.	Cycle Test - 2	12 th week	1 Hour	20
3.	Assignment	4 th ,10 th weeks		10
4.	End Semester Exam	May 2 nd Week	3 Hours	50
	Lancard Control of the Control of th		Total	100

Essential Readings (Textbooks, Reference books, Websites, Journals, etc.)

Text Books:

- 1. Ron Schmelzer et al. "XML and Web Services", Pearson Education, 2008.
- 2. Thomas Erl, "Service Oriented Architecture: Concepts, Technology, and Design", Pearson Education, 2005
- 3. Frank P.Coyle, "XML, Web Services and the Data Revolution", Pearson Education, 2002

Reference Books:

- 1. Eric Newcomer, Greg Lomow, "Understanding SOA with Web Services", Addison Wesley, 2005.
- 2. James McGovern, Sameer Tyagi, Michael E Stevens, Sunil Mathew, "Java Web Services Architecture", Elsevier, 2011.
- 3. Mark O' Neill, et al., "Web Services Security", Tata McGraw-Hill Edition, 2003

COURSE EXIT SURVEY (mention the ways in which the feedback about the course is assessed and indicate the attainment also)
Through MIS Feedback system / Any standard format (After CT I and before End Sem)
COURSE POLICY (including plagiarism, academic honesty, attendance, etc.)
75% attendance is mandatory to write the end semester examination. ADDITIONAL COURSE INFORMATION
ADDITIONAL COUNSE INFORMATION
The Course Coordinator is available for consultation from 3pm to 4pm on all working days
FOR SENATE'S CONSIDERATION
Course Faculty CC-Chairperson HOD 31112017