

COURSE CODE	COURSE TITLE	L	T	P	C
1152IT135	SERVICE ORIENTED ARCHITECTURE	3	0	0	3

Course Category:

~~Foundation (0) / Program Core (1) / Program Elective (2) / Allied Elective (3) / University Elective (4) / Value Education Elective (5) / Independent Learning (6) / Industry Higher Learning Institute Interaction (7)~~

a. Preamble :

Service Oriented Architecture provides an introduction to the basic concepts of SOA, Xml & Web Services, and WSDL Basics.

b. Prerequisite Courses:

Web service

c. Related Courses:

- Network Programming
- Web Programming and XML Services Lab

d. Course Educational Objectives :

Learners are exposed to

- To provide fundamental concepts of Service Oriented Architecture..
- To gain knowledge about SOAP, UDDI and XML to create web services.
- To know about the Cloud Computing architecture and services.

e. Course Outcomes :

Upon the successful completion of the course, students will be able to:

CO No's	Course Outcomes	Knowledge Level (Based on revised Bloom's Taxonomy)
CO1	Describe about the basic principles of service oriented architecture , its components and techniques	K2
CO2	Illustrate the architecture of web services	K2
CO3	Design and develop web services using protocol	K3
CO4	Enumerate technology underlying the service design	K2
CO5	Study about various WS-* specification standards	K2

Correlation of COs with POs :

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M											
CO2	M											
CO3	M											
CO4	H	M	M	M	M	H						
CO5					M							

H- High; M-Medium; L-Low

f. Course Content:

UNIT I SOA BASICS	9
Roots of SOA – Characteristics of SOA - Comparing SOA to client-server and distributed internet architectures – Anatomy of SOA- How components in an SOA interrelate - Principles of service orientation .	
UNIT II XML AND WEB SERVICES	9
XML structure – Elements – Creating Well-formed XML - Name Spaces – Schema Elements, Types, Attributes – XSL Transformations – Parser – Web Services Overview – Architecture.	
UNIT III WSDL, SOAP and UDDI	9
WSDL - Overview Of SOAP – HTTP – XML-RPC – SOAP: Protocol – Message Structure – Intermediaries – Actors – Design Patterns And Faults – SOAP With Attachments – UDDI.	
UNIT IV SOA in J2EE and .NET	9
SOA platform basics – SOA support in J2EE – Java API for XML-based web services (JAX-WS) - Java architecture for XML binding (JAXB) – Java API for XML Registries (JAXR) - Java API for XML based RPC (JAX-RPC) – JAX-RS SOA support in .NET – ASP.NET web services.	
UNIT V WEBSERVICE SPECIFICATION STANDARDS	9
WS-BPEL basics – WS-Coordination overview - WS-Choreography, WS-Policy, WSSecurity	
	Total:45

h. Learning Resources

i. Text Books :

1. Thomas Erl, “Service-Oriented Architecture: Concepts, Technology, and Design”, Pearson Education, 2006.
2. Heather Williamson, “XML, The Complete Reference”, McGraw Hill Education, 2012.
3. Frank. P. Coyle, “XML, Web Services And The Data Revolution”, Pearson Education, 2002.

ii. Reference:

1. Sandeep Chatterjee, James Webber, “Developing Enterprise Web Services. An Architect’s Guide”, Pearson Education, 2005.
2. Newcomer, Lomow, “Understanding SOA with Web Services”, Pearson Education, 2005.
3. Dan woods and Thomas Mattern, “Enterprise SOA designing IT for Business Innovation”, O’REILLY, First Edition, 2006.