



## Course Specifications

<b>Course Title:</b>	IT Service Integration
<b>Course Code:</b>	IT10501
<b>Program:</b>	Information Technology
<b>Department:</b>	Information Technology
<b>College:</b>	Computer Science and Information Technology
<b>Institution:</b>	Albaha University

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## A. Course Identification

<b>1. Credit hours:</b> 3 hours
<b>2. Course type</b>
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
<b>3. Level/year at which this course is offered:</b> 8 <sup>th</sup> level/3 <sup>th</sup> year
<b>4. Pre-requisites for this course (if any):</b> None
<b>5. Co-requisites for this course (if any):</b> None

### 6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	33	100%
2	Blended		
3	E-learning		
4	Distance learning		
5	Other (labs)		

### 7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	33
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	<b>Total</b>	33

## B. Course Objectives and Learning Outcomes

### 1. Course Description

A web service is a software program that makes itself available over the internet for another system to use. Web services make it faster and easier to share data between different systems. Web services can be used with any technology stack, including legacy systems.

This one-day course will introduce you to the essential concepts of web services. You will learn how web services work and what standards are used. You will learn about the difference between SOAP and RESTful web services, and data representations like XML and JSON.

### 2. Course Main Objective

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

- Recognize the advantages and disadvantages of implementing web services.
- Be aware of the technologies available and the differences between SOAP and REST web services.

- Understand the requirements for implementing web services at your organization.

### 3. Course Learning Outcomes

CLOs		Aligned PLOs
1	<b>Knowledge and Understanding</b>	
1.1	Explain the advantages and disadvantages of implementing web services.	K1
1.2	Describe Web service basic concepts and models.	K1
2	<b>Skills:</b>	
2.1	Explain the ways of creating, consuming the most important web services	S1
2.2	Design an architecture based on Web service SOAP / REST	S2
2.3	Write and represent the data to communicate with web service	S2
3	<b>Values:</b>	
3.1	Express self-efficacy through a willingness to problem, learn and take challenges independently	V1

### C. Course Content

No	List of Topics	Contact Hours
<b>Lectures</b>		
1	Web Services Overview.	3
2	SOAP web service architecture, specifications and consuming.	6
3	Web Service Description Language (WSDL).	3
4	REST architecture and specifications and consuming	6
5	Review of HTTP features - HTTP methods, headers, query strings, status codes	3
6	HTTP methods and CRUD systems	3
7	Designing REST URLs.	3
8	Data representations - XML, JSON, text.	3
9	OpenAPI and RAML for describing REST APIs.	3
<b>Total</b>		<b>33</b>

### D. Teaching and Assessment

#### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	<b>Knowledge and Understanding</b>		
1.1	Explain the advantages and disadvantages of implementing web services.	- Lectures	- Midterm
1.2	Describe Web service basic concepts and models.	- Lectures	- Homework
2.0	<b>Skills</b>		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.1	Explain the ways of creating, consuming the most important web services	- Lectures	- Midterm - Final exam
2.2	Design an architecture based on Web service SOAP / REST	- Lectures	- Final exam
2.3	Write and represent the data to communicate with web service	- Lectures	- Final exam
<b>3.0</b>	<b>Values</b>		
3.1	Express self-efficacy through a willingness to problem, learn and take challenges independently	-Small groups	- Homework -classDiscussion

## 2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Homework and class discussion	Through the semester	15%
2	Midterm Exam	6 <sup>th</sup> week	25%
3	Quiz	8 <sup>th</sup> week	10%
4	Final Exam	12 <sup>th</sup> week	50%
			100%

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

**Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:**

- Faculty - 3 hours per week
- Teaching Assistant or Tutor – 2 hours per week

## F. Learning Resources and Facilities

### 1. Learning Resources

<b>Required Textbooks</b>	<ul style="list-style-type: none"> <li>• Understanding Web Services: XML, WSDL, SOAP, and UDDI 1st Edition Publisher : AddisonWesley Professional; 1st edition (May 13, 2002) Language : English Paperback : 368 pages, ISBN-10 : 0201750813, ISBN-13 : 978-0201750812</li> <li>• RESTful Web APIs, Publication date 18 Oct 2013, Publisher O'Reilly Media, Publication City/Country Sebastopol, United States, Language English, Illustrations note black &amp; white illustrations, figures, ISBN10 1449358063, ISBN13 9781449358068, Bestsellers rank 252,368.</li> </ul>
<b>Essential References Materials</b>	<ul style="list-style-type: none"> <li>• Computer Science Curriculum 2013 – <a href="http://cs2013.org">http://cs2013.org</a></li> </ul>

	<ul style="list-style-type: none"> <li>Information Technology Curriculum 2017 - <a href="https://www.acm.org/binaries/content/assets/education/curricula-recommendations/it2017.pdf">https://www.acm.org/binaries/content/assets/education/curricula-recommendations/it2017.pdf</a></li> <li>ACM(Association for Computer Machinery) Curricula Recommendations - <a href="http://www.acm.org/education/curricula-recommendations">http://www.acm.org/education/curricula-recommendations</a></li> <li>Communications of ACM (Association for Computer Machinery) - <a href="http://cacm.acm.org/">http://cacm.acm.org/</a></li> <li>Journal of the ACM - <a href="http://jacm.acm.org/">http://jacm.acm.org/</a></li> <li>ACM SIGCSE (Special Interest Group on Computer Science Education) bulletin -<a href="http://www.sigcse.org/Bulletin">http://www.sigcse.org/Bulletin</a></li> <li>ACM Transactions on Computing Education (TOCE) - <a href="http://toce.acm.org/">http://toce.acm.org/</a></li> </ul>
<b>Electronic Materials</b>	<ul style="list-style-type: none"> <li>Access to the Saudi Digital Library (SDL).</li> <li>Using the learning management system of the university – Rafid System (<a href="https://lms.bu.edu.sa/">https://lms.bu.edu.sa/</a>).</li> <li>ACM (Association for Computer Machinery) web site - <a href="http://www.acm.org/">http://www.acm.org/</a></li> <li>ACM SIGCSE (Special Interest Group on Computer Science Education) resource web site - <a href="http://www.sigcse.org/SIGresources">http://www.sigcse.org/SIGresources</a></li> <li>IEEE Computer Society web site - <a href="http://www.computer.org/portal/web/guest/home">http://www.computer.org/portal/web/guest/home</a></li> <li>Intel <i>The Journey Inside</i> web site (has a collection of interactive, online lessons about technology, computers, and society) - <a href="http://educate.intel.com/en/TheJourneyInside/">http://educate.intel.com/en/TheJourneyInside/</a></li> </ul> <p>Google Code University Curriculum Resource web site - <a href="http://code.google.com/edu/resources/index.html">http://code.google.com/edu/resources/index.html</a></p>
<b>Other Learning Materials</b>	<ul style="list-style-type: none"> <li>Windows OS and Linux OS</li> </ul> <p>“Resources for Teaching Binary Numbers” - <a href="http://blogs.msdn.com/b/alfredth/archive/2010/04/01/resources-for-teaching-binary-">http://blogs.msdn.com/b/alfredth/archive/2010/04/01/resources-for-teaching-binary-</a></p>

## 2. Facilities Required

Item	Resources
<b>Accommodation</b> (Classrooms, laboratories, demonstration rooms/labs, etc.)	<ul style="list-style-type: none"> <li>A classroom or lecture hall with whiteboard.</li> </ul>
<b>Technology Resources</b> (AV, data show, Smart Board, software, etc.)	<ul style="list-style-type: none"> <li>Power outlets for instructor’s laptop plug-in;</li> <li>A digital image projection system with connection and switches to desktop computer, laptop computer and DVD/Blue Ray player.</li> </ul>
<b>Other Resources</b> (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	<ul style="list-style-type: none"> <li>None</li> </ul>

## G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	<ul style="list-style-type: none"> <li>• Students</li> <li>• Peer Reviewer</li> <li>• Program Leaders</li> </ul>	<ul style="list-style-type: none"> <li>• Survey (indirect)</li> <li>• Peer review (direct)</li> <li>• Class visit (direct)</li> </ul>
Effectiveness of assessment	<ul style="list-style-type: none"> <li>• Students</li> <li>• Exam Evaluation Committee</li> <li>• Course Coordinator</li> </ul>	<ul style="list-style-type: none"> <li>• Survey (indirect)</li> <li>• Exam Review (direct)</li> <li>• Review of course file (direct)</li> </ul>
Extent of achievement of course learning outcomes	<ul style="list-style-type: none"> <li>• Faculty</li> <li>• Program Leaders or Course Coordinator</li> </ul>	<ul style="list-style-type: none"> <li>• Exams (direct)</li> <li>• Exit Exams (direct)</li> </ul>
Quality of learning resources	<ul style="list-style-type: none"> <li>• Faculty</li> <li>• Students</li> </ul>	<ul style="list-style-type: none"> <li>• Survey (indirect)</li> </ul>

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

<b>Council / Committee</b>	
<b>Reference No.</b>	
<b>Date</b>	