

188371 XML and Web Services, Semester II/2553

Course Description

As XML and Web Services are the core technologies of modern software development, the knowledge about this technology certainly will prepare students well in working in software industry. This course teaches you about XML and the important technologies related to XML. These technologies include XML Schema for defining the schema of XML documents; XPath, XSL, and XSLT for formatting data in XML. In addition, it will teach you about three alternative XML parser APIs which include DOM and StAX for parsing XML documents. It also teaches you how to build, deploy, and call Web Services using Java and PHP. In particular, we will learn how to develop Web application that call Web APIs of Facebook, Twitter, and Google and also develop browser extensions.

Recommended Textbooks and Web Pages

- Advanced Computer Programming
<http://e-learning.kku.ac.th/course/view.php?id=1439>
- Javapassion.com <http://www.javapassion.com>

Course Objectives

- Be able to understand and write well-formed XML documents
- Be able to write the schema for the given XML documents in XML Schema
- Be able to format XML data to the desired format
- Be able to parse XML documents by using DOM and StAX
- Be able to create, deploy, and call Web services using Java and PHP

Teacher

- Instructor: Asst. Prof. Dr. Kanda Saikaew
(Web: <http://gear.kku.ac.th/~krunapon> Email: krunapon@kku.ac.th)
- See Kanda's Calendar <http://gear.kku.ac.th/~krunapon/calendar.html>
- Office location: EN4203D or the 1st floor of the Computer center building
- Assistant instructor: Miss Patcharaporn Jiranuwatiwong
(puch_za@hotmail.com)

Lecture Time and Place

- Lectures: **Monday 13:00-14:00 Wednesday 13:00-15:00**
Computer Engineering Building, Room EN4303
- Labs: **Monday 14:00-17:00**
Computer Engineering Building, Room EN4210

Course Websites

- <http://gear.kku.ac.th/~krunapon/xmlws>
- <http://e-learning.kku.ac.th/course/view.php?id=397>
- <http://campus.en.kku.ac.th/forums/index.php?board=6.0>

Evaluation and Grading

Exam 1: Midterm exam - 3 hours	25%
Exam 2: Final exam - 3 hours	25%
Assignments & Quizzes	20%
Group Project: The group project involves developing a Web service Each group has 2-3 members	20%
Class attendance and participation	10%

Topics	# of Hours
Topic 1: Introduction to SOA, Web 2.0, Web Services	1
Topic 2: Introduction to XML	2
Topic 3: XML Schema	3
Topic 4: XML Parsers	1
Topic 5: Document Object Model (DOM) and Streaming API for XML (StAX)	3
Topic 6: Asynchronous JavaScript and XML (AJAX) , Representational State Transfer (REST), and RSS (Really Simple Syndication)	3
Topic 7: XPath and Extensible Markup Stylesheet Transformations (XSLT)	3
Topic 8: Simple Object Access Protocol (SOAP) and Web Services Description Language (WSDL)	3
Topic 9: Web Services Development using Java	3
Topic 10: Web Services Development using PHP	3
Topic 11: HTML5, JSON and JavaScript	3
Topic 12: Google App Engine and Amazon Web Services	3
Topic 13: Twitter Application Development	3
Topic 14: Facebook Application Development	5
Topic 15: Google Map and Google Data Application Development	3
Topic 16: Firefox and Chrome Extensions Development	3