

The University of the West Indies, St. Augustine
COMP 6300 Advanced Internet Technologies
2018/2019 Semester 2
Course Information

Instructor: Dr. Phaedra Mohammed

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Lectures:

Day	Time	Room
Monday	5:00 p.m. to 7:50 p.m.	FST CSL1

COURSE OVERVIEW

This course covers the technologies, protocols and architectures of the Internet. A major focus of this course is the technology and the drive towards Service Oriented Architecture (SOA), web services and e-business. To achieve this, we will examine the extensible markup language (XML) and associated technologies as well as JSON and REST based technologies. This is followed by exploring the technology used in web services such as web services description language (WSDL), simple object access protocol (SOAP), universal description, discovery and integration (UDDI). With this background, we will look at the concept of the Semantic Web and the technologies that are being used in it such as OWL and RDF. Another aspect of the course will look at Javascript and AJAX (Asynchronous Java-script And XML). These are used to deliver modern web-based and mobile applications. In each segment, we will also discuss the business implications of each of the protocols and their effect on application design. The objective of this course is to provide students with the tools required to design and implement advanced web based information systems.

LEARNING OBJECTIVES

By the end of this course you will be able to develop Service Oriented Architectures for E-Commerce, E-Government and E-Learning systems.

TEACHING STRATEGY

Classroom Lectures with interactive discussions on design principles for SOA. Homework assignments will be used to exercise these principles.

EVALUATION

Coursework: (4 Assignments, 1 Mid-term test): 40%
One (1) 3-Hour Written Final Examination: 60%

COURSEWORK

Assignment 1	Approx. 5%
Assignment 2	Approx. 5%
Assignment 3	Approx. 5%
Assignment 4	Approx. 5%
Mid-term Test	Approx. 20%

COURSE CONTENT & STRUCTURE:

SOA fundamentals; Microservices; Layers of Services; Enterprise Service Bus; Semantic Web Technologies; XML; XSLT; OWL; SOAP; WSDL; JSON; Servlets; Javascript; AJAX; REST

Week	Lecture Topic
1	Introduction and Course Overview
2	SOA (Service Oriented Architecture) Fundamentals;
3	SOA Services and Standards; Assignment 1 due
4	Microservices; Application/Business/Orchestration Service Layers
5	Extensible Markup Language; Stylesheets
6	Extensible Markup Language; Schemas Assignment 2 due
7	Semantic Web; Resource Description Framework
8	Semantic Web; Web Ontology Languages
9	Simple Object Access Protocol Assignment 3 due
10	Web Service Definition Language;
11	Advanced Web Frameworks
12	JSON; AJAX; REST Assignment 4 due
13	Review

READING MATERIALS:

Advanced Internet Technologies by Uyles Black, 1998.