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**FIT5030 Web services and service oriented computing - Semester 1, 2010**

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FIT5030 Web services and service oriented computing - Semester 1, 2010

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Introduction

This unit focuses on the Service Oriented Computing paradigm and web services technology. The unit will introduce the fundamental concepts of Service Oriented Architectures (SOA), web services and the key standards that underpin web services: SOAP, WSDL and UDDI. The unit will provide students with skills to program and deploy web services as well as to access and consume/use web services. The unit will also present discussion on current issues and topics and Web Services research.

Unit synopsis

This unit focuses on the Service Oriented Computing paradigm and web services technology. Students will be exposed to the motivations that led to the emergence of web services from middleware and Enterprise Architecture Integration (EAI). The unit will introduce the fundamental concepts of Service Oriented Architectures (SOA), web services and the key standards that underpin web services: SOAP, WSDL and UDDI. The unit will evaluate and compare various service discovery protocols. The unit will provide students with skills to program and deploy web services as well as to access and consume/use web services.

Learning outcomes

At the completion of this unit students will:

- have knowledge of the Service Oriented Computing paradigm, its evolution and the emergence of web services;
- understand the Service Oriented Architectures and the various key standards that enable the realisation of web services such as SOAP, WSDL and UDDI;
- compare and evaluate various Service Discovery Protocols;
- have the skills to build and deploy web services using a range of current technologies;
- be able to access, invoke and use publicly available web services in application development (e.g. Google Web Service);
- have an understanding on emerging issues, trends and topics in web services research.

Contact hours

2 hrs lectures/wk, 2 hrs laboratories/wk

Workload

2-hour lecture

2-hour tutorial

2-4 hours study/working on assignment/completing tutorial exercises on your own.

Unit relationships
Prerequisites

Recommended knowledge: Students undertaking this subject are expected to have a sound understanding of the concepts of an object oriented programming language, such as Java, C++, C#, or Eiffel.

Prohibitions

CPE5009
Teaching and learning method

Teaching approach

Timetable information

For information on timetabling for on-campus classes please refer to MUTTS, http://mutts.monash.edu.au/MUTTS/

Tutorial allocation

On-campus students should register for tutorials/laboratories using the Allocate+ system: http://allocate.its.monash.edu.au/

Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date*</th>
<th>Topic</th>
<th>Key dates</th>
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<tr>
<td>1</td>
<td>01/03/10</td>
<td>Introduction to Service Oriented Computing and Service Oriented Architectures (SOA)</td>
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<td>2</td>
<td>08/03/10</td>
<td>Web Services Deployment - A Technical Overview</td>
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<td>3</td>
<td>15/03/10</td>
<td>Web Services Standards - SOAP</td>
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<td>4</td>
<td>22/03/10</td>
<td>Web Services Standards - WSDL</td>
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<td>5</td>
<td>29/03/10</td>
<td>Web Services Standards - UDDI</td>
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<td>Mid semester break</td>
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<td>6</td>
<td>12/04/10</td>
<td>Web Services Composition, Orchestration and Mashups</td>
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<td>7</td>
<td>19/04/10</td>
<td>Web Services Security</td>
<td></td>
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<td>8</td>
<td>26/04/10</td>
<td>Web Services Metrics and Service Level Agreements</td>
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<td>9</td>
<td>03/05/10</td>
<td>Trust and Reputation</td>
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<td>10</td>
<td>10/05/10</td>
<td>Semantic Web Services</td>
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<td>11</td>
<td>17/05/10</td>
<td>Pervasive Web Services</td>
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<td>12</td>
<td>24/05/10</td>
<td>Emerging Trends and Research Issues</td>
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<td>13</td>
<td>31/05/10</td>
<td>Revision</td>
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*Please note that these dates may only apply to Australian campuses of Monash University. Off-shore students need to check the dates with their unit leader.

Improvements to this unit

I am planning to run a Monquest Evaluation. In general the students rated this unit highly. I intend to update lectures and add some new tutorial exercises to reflect the current state of the art technology. There will be a whole tute dedicated to familiarisation with the development environment.
Unit Resources

Prescribed text(s) and readings

None

Recommended text(s) and readings


2. SOA Using Java Web Services by Mark D. Hansen

Required software and/or hardware

1. Java SDK and JRE
2. Apache Tomcat Server
3. Apache Axis 2 Server
4. Netbeans or Eclipse IDE
5. Visual Studio .NET

Equipment and consumables required or provided

Students may use the facilities available in the computing labs. Information about computer use for students is available from the ITS Student Resource Guide in the Monash University Handbook. You will need to allocate up to 2-4 hours per week for use of a computer.

Study resources

Study resources we will provide for your study are:

Study resources are provided online at the MUSO website
Assessment

Overview
Examination (2 hours): 40%; In-semester assessment: 60%

Faculty assessment policy
To pass a unit which includes an examination as part of the assessment a student must obtain:

- 40% or more in the unit's examination, and
- 40% or more in the unit's total non-examination assessment, and
- an overall unit mark of 50% or more.

If a student does not achieve 40% or more in the unit examination or the unit non-examination total assessment, and the total mark for the unit is greater than 50% then a mark of no greater than 49-N will be recorded for the unit.

Achieve 50% overall and at least 40% for each examinable item.

Assignment tasks

Assignment coversheets
Assignment coversheets are available via "Student Forms" on the Faculty website:
http://www.infotech.monash.edu.au/resources/student/forms/
You MUST submit a completed coversheet with all assignments, ensuring that the plagiarism declaration section is signed.

Assignment submission and return procedures, and assessment criteria will be specified with each assignment.

- Assignment task 1

  Title:
  Web Services Practical Assignment

  Description:
  Web Services Development, Deployment and Invocation

  Weighting:
  60%

  Due date:
  Week 5, Week 8 and Week 12

Examination

- Weighting: 40%
  Length: 2 hours
  Type (open/closed book): Closed book
Due dates and extensions

Please make every effort to submit work by the due dates. It is your responsibility to structure your study program around assignment deadlines, family, work and other commitments. Factors such as normal work pressures, vacations, etc. are not regarded as appropriate reasons for granting extensions. Students are advised to NOT assume that granting of an extension is a matter of course.

Students requesting an extension for any assessment during semester (eg. Assignments, tests or presentations) are required to submit a Special Consideration application form (in-semester exam/assessment task), along with original copies of supporting documentation, directly to their lecturer within two working days before the assessment submission deadline. Lecturers will provide specific outcomes directly to students via email within 2 working days. The lecturer reserves the right to refuse late applications.

A copy of the email or other written communication of an extension must be attached to the assignment submission.

Refer to the Faculty Special consideration webpage or further details and to access application forms: http://www.infotech.monash.edu.au/resources/student/equity/special-consideration.html

Late assignment

Assignments received after the due date will be subject to a penalty of 10% loss each day late.

Return dates

Students can expect assignments to be returned within two weeks of the submission date or after receipt, whichever is later.
Appendix

Please visit the following URL: http://www.infotech.monash.edu.au/units/appendix.html for further information about:

- Continuous improvement
- Unit evaluations
- Communication, participation and feedback
- Library access
- Monash University Studies Online (MUSO)
- Plagiarism, cheating and collusion
- Register of counselling about plagiarism
- Non-discriminatory language
- Students with disability
- End of semester special consideration / deferred exams