



MONASH University

FIT5041
Component technology for internet applications

Unit guide

Semester 1, 2009

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Table of Contents

<u>FIT5041 Component technology for internet applications - Semester 1, 2009</u>	1
<u>Unit leader</u> :.....	1
<u>Lecturer(s)</u> :.....	1
<u>Tutors(s)</u> :.....	1
<u>Caulfield</u>	1
<u>Introduction</u>	1
<u>Unit synopsis</u>	1
<u>Learning outcomes</u>	1
<u>Workload</u>	2
<u>Unit relationships</u>	2
<u>Prerequisites</u>	2
<u>Relationships</u>	2
<u>Continuous improvement</u>	3
<u>Student Evaluations</u>	3
<u>Unit staff - contact details</u>	3
<u>Unit leader</u>	3
<u>Lecturer(s)</u> :.....	3
<u>Tutor(s)</u> :.....	3
<u>Teaching and learning method</u>	3
<u>Communication, participation and feedback</u>	3
<u>Unit Schedule</u>	4
<u>Unit Resources</u>	4
<u>Prescribed text(s) and readings</u>	4
<u>Recommended text(s) and readings</u>	4
<u>Required software and/or hardware</u>	4
<u>Equipment and consumables required or provided</u>	5
<u>Study resources</u>	5
<u>Library access</u>	5
<u>Monash University Studies Online (MUSO)</u>	5
<u>Assessment</u>	6
<u>Unit assessment policy</u>	6
<u>Assignment tasks</u>	6
<u>Assignment submission</u>	8
<u>University and Faculty policy on assessment</u>	8
<u>Due dates and extensions</u>	8
<u>Late assignment</u>	8
<u>Return dates</u>	8
<u>Plagiarism, cheating and collusion</u>	8
<u>Register of counselling about plagiarism</u>	9
<u>Non-discriminatory language</u>	9
<u>Students with disabilities</u>	9
<u>Deferred assessment and special consideration</u>	10

FIT5041 Component technology for internet applications - Semester 1, 2009

Unit leader :

Flora Dilys Salim

Lecturer(s) :

Tutors(s) :

Caulfield

- Adnan Bader
- Ranjani Nagarajan

Introduction

Welcome to Component Technology for Internet Applications (FIT5041). This subject investigates the use of object-oriented techniques and architectures in the construction of distributed software systems.

Unit synopsis

ASCED Discipline Group Classification: 029900

This unit presents component architectures for the construction of enterprise-scale software systems that operate and interact with each other via the Internet. Due to the widely distributed nature of these systems, they are inherently heterogeneous. Therefore these architectures must integrate and inter-operate with objects written in different programming languages often executing on different platforms. These architectures also need to provide facilities and services in a consistent manner across all these boundaries. This unit will present a range of such exemplar architectures including: COM, COM+ and .NET from Microsoft, CORBA from the Object Management Group and Java/Enterprise Java Beans (EJB) from SUN. The unit will also address the interoperability infrastructures to enable such systems (e.g .NET Remoting and Message Queues). The unit will discuss the relationship between component architectures and web services by illustrating how they interface with each other. This unit will primarily focus on Microsoft's .NET technology for the practical/implementation component.

Learning outcomes

- Have gained an understanding of the component technologies and their role in Internet applications development;
- Understand the issues involved in implementing a web-based component system;
- Understand the issues of interoperability in widely-distributed and heterogeneous component systems;
- Understand the relationship between component technologies and enterprise architectures for the web;
- Study the interfacing of component technologies with service oriented systems;
- Have developed skills to build a web-based component system relevant to current commercial standards

Workload

Workload commitments are:

- * two-hour lecture and
- * two-hour tutorial (or laboratory) (requiring advance preparation)
- * a minimum of 6-8 hours of personal study per week in order to satisfy the reading and assignment expectations.

The lecture is used to present conceptual material to a large group. The tutorial is a time for you to consolidate your knowledge of the concepts presented in the lectures by devising solutions to exercises and asking questions of your tutor. Each tutorial is intended to have a maximum of 16 students, and be a very interactive session. If you are ill, or have some other reason for missing tutorials, you must let your tutor know. As a minimum, in your own time, you are expected to perform self-guided research on the subject materials and complete all your assessable items.

Unit relationships

Prerequisites

Before attempting this unit you must have satisfactorily completed

For MAIT students, FIT9017, FIT9018, FIT9019, FIT9030, FIT9020 and FIT4037.

, or equivalent. You should have knowledge of

Students undertaking this subject are expected to have a sound understanding of the concepts of an object oriented programming language, such as C++, C#, Eiffel, Java or Python, and to be familiar with the concepts and techniques used in object oriented program design.

Relationships

FIT5041 is a [core/elective] unit in the [enter the name(s) of the major(s)] of the [enter the names of the degrees].

It is a prerequisite/corequisite for Before attempting this unit you must have satisfactorily completed

For MAIT students, FIT9017, FIT9018, FIT9019, FIT9030, FIT9020 and FIT4037.

, or equivalent. You should have knowledge of

Students undertaking this subject are expected to have a sound understanding of the concepts of an object oriented programming language, such as C++, C#, Eiffel, Java or Python, and to be familiar with the concepts and techniques used in object oriented program design.

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You may not study this unit and

CSE5000

in your degree.

Continuous improvement

Monash is committed to 'Excellence in education' (Monash Directions 2025 - <http://www.monash.edu.au/about/monash-directions/directions.html>) and strives for the highest possible quality in teaching and learning.

To monitor how successful we are in providing quality teaching and learning Monash regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through Unit Evaluation Surveys. The University's Unit Evaluation policy (<http://www.policy.monash.edu/policy-bank/academic/education/quality/unit-evaluation-policy.html>) requires that every unit offered is evaluated each year. Students are strongly encouraged to complete the surveys as they are an important avenue for students to "have their say". The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

Faculties have the option of administering the Unit Evaluation survey online through the my.monash portal or in class. Lecturers will inform students of the method being used for this unit towards the end of the semester.

Student Evaluations

If you wish to view how previous students rated this unit, please go to <http://www.adm.monash.edu.au/cheq/evaluations/unit-evaluations/>

Unit staff - contact details

Unit leader

Flora Dilys Salim
Lecturer(s) :

Tutor(s) :

Mr Adnan Bader
Miss Ranjani Nagarajan

Teaching and learning method

This subject requires a significant amount of time to be spent on it outside the scheduled lectures and tutorials. Pre-reading specified in the lecture each week should be completed prior to the lecture in the following week. Work uncompleted during a tutorial should be finished before the next scheduled tutorial. It is your responsibility to make sure you collect copies of any notes or exercises handed out in scheduled classes. If you feel you are getting behind in the work, please see your tutor and/or lecturer immediately. Your tutor will help you develop a work plan and assist with problems you may be having with the material.

Communication, participation and feedback

Monash aims to provide a learning environment in which students receive a range of ongoing feedback throughout their studies. You will receive feedback on your work and progress in this unit. This may take the form of group feedback, individual feedback, peer feedback, self-comparison, verbal and written feedback, discussions (on line and in class) as well as more formal feedback related to assignment marks and grades. You are encouraged to draw on a variety of feedback to enhance your learning.

It is essential that you take action immediately if you realise that you have a problem that is affecting your study.

Semesters are short, so we can help you best if you let us know as soon as problems arise. Regardless of whether the problem is related directly to your progress in the unit, if it is likely to interfere with your progress you should discuss it with your lecturer or a Community Service counsellor as soon as possible.

Unit Schedule

Week	Topic	Key dates
1	FIT5041 Introduction	
2	Distributed Systems	
3	.NET Overview	
4	.NET Remoting	Fri, 28 March 09: Written Assignment 1 Due
5	.NET Remoting II	
6	Distributed System Design Issues	
Mid semester break		
7	.NET Web Services	Fri, 24 April 09: Practical Assignment 1 Due
8	.NET Web Services II	
9	XML Technology	
10	Component Programming	Fri, 15 May 09: Written Assignment 2 Due
11	Interoperability with .NET	Presentation in tutorials
12	CORBA	Fri, 29 May 09: Practical Assignment 2 Due

Unit Resources

Prescribed text(s) and readings

Text books are available from the [Monash University Book Shops](#). Availability from other suppliers cannot be assured. The Bookshop orders texts in specifically for this unit. You are advised to purchase your text book early.

Recommended text(s) and readings

Required software and/or hardware

You will need access to:

- Visual Studio .NET 2005 or 2008 (2008 is preferred).
- Microsoft Visio or similar modeling / graphical documentation tools.
- Firefox or Internet Explorer browser.

Equipment and consumables required or provided

On-campus students, and those studying at supported study locations 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 **8** hours per week for use of a computer, including time for newsgroups/discussion groups.

Study resources

Study resources we will provide for your study are:

Library access

The Monash University Library site contains details about borrowing rights and catalogue searching. To learn more about the library and the various resources available, please go to <http://www.lib.monash.edu.au>.

The Educational Library and Media Resources (LMR) is also a very resourceful place to visit at <http://www.education.monash.edu.au/library/>

Monash University Studies Online (MUSO)

All unit and lecture materials are available through MUSO (Monash University Studies Online). Blackboard is the primary application used to deliver your unit resources. Some units will be piloted in Moodle. If your unit is piloted in Moodle, you will see a link from your Blackboard unit to Moodle (<http://moodle.monash.edu.au>) and can bookmark this link to access directly. In Moodle, from the Faculty of Information Technology category, click on the link for your unit.

You can access MUSO and Blackboard via the portal: <http://my.monash.edu.au>

Click on the Study and enrolment tab, then Blackboard under the MUSO learning systems.

In order for your Blackboard unit(s) to function correctly, your computer needs to be correctly configured.

For example:

- Blackboard supported browser
- Supported Java runtime environment

For more information, please visit: <http://www.monash.edu.au/muso/support/students/downloadables-student.html>

You can contact the MUSO Support by phone : (+61 3) 9903 1268

For further contact information including operational hours, please visit:
<http://www.monash.edu.au/muso/support/students/contact.html>

Further information can be obtained from the MUSO support site:
<http://www.monash.edu.au/muso/support/index.html>

Assessment

Unit assessment policy

In order to pass, you must obtain at least 50% of the total marks given for each of the practical, written and tutorial participation components.

You should obtain at least:

- 25 marks for the practical component,
- 20 marks for the written assessment and
- 5 marks for the tutorial participation components.

There will be no extensions given for either the practical or written assessable components.

Assignment tasks

• Assignment Task

Title : First Written Assignment

Description :

To help develop the skills necessary to produce high quality academic research papers. Specifically, students should concentrate on:

- ◆ Finding high quality papers
- ◆ Reading and understanding their contents
- ◆ Paraphrasing and referencing them correctly
- ◆ Adding your own views in a constructive way

Students can choose the topics. Avoid simplistic topics. Discuss topic with tutors as soon as possible

Minimum of 2000 words

Worth 15% of the subject's marks

Weighting : 15%

Criteria for assessment :

Due date : Week 4, Friday, 27 March 09, 12 pm

• Assignment Task

Title : First Practical Assignment

Description :

- ◆ Gives students an opportunity to build a distributed application
- ◆ To demonstrate aspects of a distributed system via the implementation of a real-life working applications
- ◆ Basis for the Second Practical Assignment
- ◆ Students can choose the application
- ◆ Development Platform and Middleware: .NET Remoting is recommended and supported.
- ◆ Discuss with tutor what is required to achieve each different grade level.
- ◆ Worth 25% of the subject's marks.

Weighting : 25%

Criteria for assessment :

Due date : Week 7, Friday, 24 April 09, 12 pm

• **Assignment Task**

Title : Second Written Assignment

Description :

- ◆ Allow students to research and report in-depth on a specific issue relating to distributed and component technologies.
- ◆ A higher marking standard will be applied to this written assignment.
- ◆ Students must choose a topic found on the web site.
- ◆ Students must register the topic choice with the tutor.
- ◆ Minimum of 3500 words.
- ◆ A 15 minute presentation is also required.
- ◆ Worth 25% of the subject's marks, comprises of 15% from the research paper & 10% from the presentation

Weighting : 25%

Criteria for assessment :

Due date : Week 10, Friday, 15 May 09, 12 pm

• **Assignment Task**

Title : Second Practical Assignment

Description :

- ◆ Gives students an opportunity to build on their existing distributed application
- ◆ Apply XML web service technologies to their distributed application
- ◆ Development Platform and Middleware: .NET Web Services is recommended and supported.
- ◆ Worth 25% of the subject's marks.

Weighting : 25%

Criteria for assessment :

Due date : Week 12, Friday, 29 May 09, 12 pm

• **Assignment Task**

Title : Tutorial Attendance and Participation

Description :

You need to attend the weekly tutorials and complete the assigned tutorial exercises.

Worth 10% of the subject's marks.

Weighting : 10%

Criteria for assessment :

Due date :

Assignment submission

Assignments will be submitted by **both electronic and paper** submission to Caulfield School of IT office (building H level 6). Submit the assignment with the appropriate cover sheet correctly filled out and attached. The due date is the date by which the submission must be received/the date by which the submission is to be posted.

University and Faculty policy on assessment

Due dates and extensions

The due dates for the submission of assignments are given in the previous section. 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 seldom regarded as appropriate reasons for granting extensions. Students are advised to **NOT** assume that granting of an extension is a matter of course.

There will be no extensions for assessment items in this subject. If you cannot complete an assignment by the due date you should hand in, on or before the due date, as much of the assessment component as you have completed. You may also hand in any supporting documentation stating why you could not complete the assessment. In the case of unforeseeable and unavoidable circumstances, allowance may be made for uncompleted work but this will be totally at the discretion of the lecturer. Being busy with work or other assignments is not acceptable for incomplete submission.

An assignment is submitted when it is accepted (with both time and date recorded) by the lecturer, tutor or School administrator.

Late assignment

Assignments received after the due date will be subject to a penalty of 10%. Assignments received later than three days after the due date (including weekend) will not be accepted.

Return dates

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

Assessment for the unit as a whole is in accordance with the provisions of the Monash University Education Policy at <http://www.policy.monash.edu/policy-bank/academic/education/assessment/>

We will aim to have assignment results made available to you within two weeks after assignment receipt.

Plagiarism, cheating and collusion

Plagiarism and cheating are regarded as very serious offences. In cases where cheating has been confirmed, students have been severely penalised, from losing all marks for an assignment, to facing disciplinary action at the Faculty level. While we would wish that all our students adhere to sound ethical conduct and honesty, I will ask you to acquaint yourself with the University Plagiarism policy and procedure (<http://www.policy.monash.edu/policy-bank/academic/education/conduct/plagiarism-procedures.html>) which applies to students detected plagiarising.

In this University, cheating means seeking to obtain an unfair advantage in any examination or any other written or practical work to be submitted or completed by a student for assessment. It includes the use, or attempted use, of any means to gain an unfair advantage for any assessable work in the unit, where the means is contrary to the instructions for such work.

When you submit an individual assessment item, such as a program, a report, an essay, assignment or other piece of work, under your name you are understood to be stating that this is your own work. If a submission is identical with, or similar to, someone else's work, an assumption of cheating may arise. If you are planning on working with another student, it is acceptable to undertake research together, and discuss problems, but it is not acceptable to jointly develop or share solutions unless this is specified by your lecturer.

Intentionally providing students with your solutions to assignments is classified as "assisting to cheat" and students who do this may be subject to disciplinary action. You should take reasonable care that your solution is not accidentally or deliberately obtained by other students. For example, do not leave copies of your work in progress on the hard drives of shared computers, and do not show your work to other students. If you believe this may have happened, please be sure to contact your lecturer as soon as possible.

Cheating also includes taking into an examination any material contrary to the regulations, including any bilingual dictionary, whether or not with the intention of using it to obtain an advantage.

Plagiarism involves the false representation of another person's ideas, or findings, as your own by either copying material or paraphrasing without citing sources. It is both professional and ethical to reference clearly the ideas and information that you have used from another writer. If the source is not identified, then you have plagiarised work of the other author. Plagiarism is a form of dishonesty that is insulting to the reader and grossly unfair to your student colleagues.

Register of counselling about plagiarism

The university requires faculties to keep a simple and confidential register to record counselling to students about plagiarism (e.g. warnings). The register is accessible to Associate Deans Teaching (or nominees) and, where requested, students concerned have access to their own details in the register. The register is to serve as a record of counselling about the nature of plagiarism, not as a record of allegations; and no provision of appeals in relation to the register is necessary or applicable.

Non-discriminatory language

The Faculty of Information Technology is committed to the use of non-discriminatory language in all forms of communication. Discriminatory language is that which refers in abusive terms to gender, race, age, sexual orientation, citizenship or nationality, ethnic or language background, physical or mental ability, or political or religious views, or which stereotypes groups in an adverse manner. This is not meant to preclude or inhibit legitimate academic debate on any issue; however, the language used in such debate should be non-discriminatory and sensitive to these matters. It is important to avoid the use of discriminatory language in your communications and written work. The most common form of discriminatory language in academic work tends to be in the area of gender inclusiveness. You are, therefore, requested to check for this and to ensure your work and communications are non-discriminatory in all respects.

Students with disabilities

Students with disabilities that may disadvantage them in assessment should seek advice from one of the following before completing assessment tasks and examinations:

- Faculty of Information Technology Student Service staff, and / or
- your Unit Coordinator, or

- Disabilities Liaison Unit

Deferred assessment and special consideration

Deferred assessment (not to be confused with an extension for submission of an assignment) may be granted in cases of extenuating personal circumstances such as serious personal illness or bereavement. Information and forms for Special Consideration and deferred assessment applications are available at <http://www.monash.edu.au/exams/special-consideration.html>. Contact the Faculty's Student Services staff at your campus for further information and advice.