

Spring 2009

31244 - Applications Programming

Subject Name	Applications Programming.
Subject Number	31244
Number of Credit Points:	6 Credit Points
Presentation:	The subject has three contact hours a week. The lecture presents new material and shows working examples of code. In the tutorial, students design a solution. In the lab session, students write, debug, and run code.
Assumed Knowledge:	Basic skills in Java programming.
Prerequisites:	31267 Programming Fundamentals
Co-requisites:	Nil
Handbook Entry:	This subject provides skills in Java programming and illustrates software design. It covers the topics of basic OO design, lists, inheritance, and graphical user interface (GUI) construction. It uses design notations and design rules to show how to develop a correct, readable, and reusable system.
Objectives:	On successful completion of this subject, the student will be able to <ol style="list-style-type: none"> 1. Judge if a solution is well-designed 2. Design a good OO solution from a specification. 3. Demonstrate a working knowledge of lists in Java. 4. Use inheritance in Java. 5. Construct a GUI interface.
Contribution:	The subject builds on a set of basic skills in object-oriented programming. It covers the new topics of lists, inheritance, and Swing, and provides knowledge and practice in GUI programming. It provides experience in the design, construction, and evaluation of object-oriented systems.
Topics:	<ol style="list-style-type: none"> 1. Design for reuse 2. Design rules and notations 3. Design and debugging processes 4. Lists and enumerated types 5. Inheritance and polymorphism 6. The Java event model 7. The MVC (Model-View-Controller) pattern 8. The Observer pattern 9. Swing components
Assessment	<p>The assessment consists of two individual assignments and a final exam.</p> <p><u>Assignment 1</u> is to develop a well-designed system that uses lists and inheritance. It is worth 40% and supports objectives 1 - 4. It is due on 15 September.</p> <p><u>Assignment 2</u> is to develop a well-designed GUI for a system. It is worth 20% and supports objectives 1 - 5. It is due on 27 October.</p> <p>The <u>final exam</u> is worth 40% and supports objectives 1 - 5.</p>
Pass for this subject	A student must have a total score from all tasks $\geq 50\%$ and an exam mark $\geq 40\%$ to pass the subject. If you score less than 40% in the exam, then your

	maximum mark in the subject is 44. Under the University's rules, no supplementary exam will be given.
Group assessment	There is no group assessment.
Handing in assignments	A soft copy is sent to the UTSONline Digital Dropbox for both assignments.
Late Assignment Submission	A late assignment loses 20 marks (out of 100) for each day late unless permission has been given by the Coordinator before the due date. An assignment is not accepted more than 5 days after the due date.
Special conditions:	<p>Special consideration is given for <u>unexpected</u> circumstances that affect your ability to complete your assignments on time, not for commitments that you would have known about for some time in advance. Valid reasons for late submission are:</p> <ul style="list-style-type: none"> • You are sick: you must supply a doctor's certificate; • Your work time increases unexpectedly: you must submit a note from your employer; • A member of your family has suffered some misfortune: you must submit evidence. <p>You must submit an application for Special Consideration with relevant documentation as soon as possible to support your application.</p>
Online Support:	<p>Subject material will be posted in UTSONline at https://online.uts.edu.au/</p> <p>The following web sites may be useful:</p> <p>http://java.sun.com/javase/6/docs</p> <p>http://java.sun.com/docs/books/tutorial/index.html</p> <p>http://java.sun.com/docs/books/tutorial/ui/features/components.html</p> <p>http://www.lepoint.net/notes-java/index.html</p> <p>http://www.bluej.org</p>
References:	<p><u>Text</u></p> <p>Wu, C. T. (2008). A Comprehensive Introduction to Object-Oriented Programming with Java. McGraw Hill.</p> <p><u>References</u></p> <p>Fischer, P. (2005). An introduction to Graphical User Interfaces with Java Swing. Addison-Wesley.</p> <p>Schildt, H. (2006). Java SE 6: The complete reference. Osborne.</p>
Subject Coordinator:	<p>Dr. Robert Rist</p> <p>Email: rist@it.uts.edu.au</p> <p>Phone: 9514 1849</p> <p>Note: The subject coordinator may be contacted by email or phone if you have matters of a personal nature to discuss, e.g., illness, study problems, team problems, or a request for an appointment outside the given consultation hours. For other problems, students are expected to seek help through the following steps:</p> <p>Step 1: Check the FAQ on UTSONline</p> <p>Step 2: Ask three peers in your group or other groups</p> <p>Step 3: Ask your tutor</p> <p>Step 4: Ask the Subject Co-ordinator</p>
Assessor:	<p>Gordon Lingard</p> <p>Note: Assessors are nominated within the Faculty by the Responsible Academic</p>

	<p>Officer (RAO). Assessors are responsible for ensuring that the Subject Outline and assessment for a subject are appropriate and reasonable. In this role, assessors liaise with Subject Coordinators, not Students directly.</p>
Academic Standards:	<p>Students are reminded of the principles laid down in the Faculty's Statement of Academic Integrity - Good Practice and Ethics in Informal Assessment found at; <wiki.it.uts.edu.au/start/Academic_Integrity>.</p> <p>The University's rules regarding academic misconduct can be found at; <www.gsu.uts.edu.au/rules/16-2.html></p> <p>Assignments in this Subject should be your own original work. The inclusion in assessable work of any material such as code, graphics or essay text obtained from other persons or sources without citation of the source is plagiarism and is a breach of University Rule 16.2.2.</p> <p>Any collaboration with another person should be limited to those described in the "Acceptable Behaviour" section of the Statement of Academic Integrity. Similarly, any group work should be the result of collaboration only within the group. Any infringement by a student will be considered a breach of discipline and will be dealt with in accordance with the Rules and By-Laws of the University.</p> <p>Students are not to give to or receive from any other person copies of their assessable work in any form (hard copy or an electronic file). To do so is 'academic misconduct' and is a breach of University Rule 16.2.2. That is, assisting other students to cheat or to act dishonestly in a submitted assignment.</p> <p>Accidental submission of another students work as your own is considered to be a breach of University Rule 16.2.2 in that you are acting dishonestly since you should not have a copy of another student's work.</p> <p>The Faculty penalty for proven and serial misconduct of this nature is zero marks for the Subject. For more information go to; <wiki.it.uts.edu.au/start/Academic_Integrity>.</p>
ELSSA:	<p>If you think you need help with your English, or feel unable to express yourself correctly in assignments, contact the English Language Study Skills Assistance (ELSSA) Centre, Level 18 Tower Building, Broadway, phone 9514-2327.</p>
ALO:	<p>Academic Liaison Officers' (ALO) are academics who help students with special needs (students with temporary or permanent disabilities, students with language problems who are from non-English speaking backgrounds, or students who are primary carers).</p> <p>If you require assistance with assessment tasks and exams, the Faculty ALO will help you negotiate special conditions with your Lecturers. For example;</p> <ul style="list-style-type: none"> • the use of a dictionary and extra time in exams if your first language is not English (only available for your first two years at UTS) • tests and exams printed in larger type if you have a vision impairment • use of a lap-top if you cannot write because of an injury • extra time to complete assignments if your studies have been disrupted by illness or disability. <p>If you require it, the ALO will talk to all your Lecturers so that you don't have to explain your circumstances to each of them individually. Privacy is important and personal information is only passed on to university staff on a "need to know" basis. Students with disabilities are encouraged to contact the Special Needs Service for advice before contacting the ALO.</p> <p>The contact details for the Faculty ALOs can be found at <www.ssu.uts.edu.au/sneeds/services/assessment/alo.html></p>

Student support:	<p>Information regarding support available to students undertaking this Subject is available at; <wiki.it.uts.edu.au/start/Student_Support></p> <p>Support for learning and teamwork skills is available at; <www.bell.uts.edu.au> and <www.start.uts.edu.au></p>
Having problems?	<p>If you are experiencing problems while undertaking this Subject then help and assistance are available both within the Faculty and also within the wider University. More information is at; <wiki.it.uts.edu.au/start/Student_Support></p> <p>You should attempt to resolve the problem through the following chain: 1. Tutor, 2. Lecturer, 3. Subject Coordinator, 4. Head of Department, and finally 5. the Responsible Academic Officer, (Associate Dean Education)</p>
Student Attendance	<p>The Faculty of Information Technology expects that students will attend all scheduled sessions for a subject in which they are enrolled.</p>

Schedule

Week	Date	Topic	Reading	Assignment
1	28/7	Overview Design for reuse		
2	4/8	Review of Java Local, parameter, argument Constructor, function		
3	11/8	Design based on data flow		
4	18/8	Design based on control flow		
5	25/8	Linked lists Enumerated types	10.6, 16 5.7	1 -->
6	1/9	Design based on inheritance	13	
7	8/9	Polymorphism	13.3	
8	15/9	Events	14.1 - 14.5	<-- 1
9	22/9	Tutorial week: no classes		
	29/9	Vice-Chancellors' week: no classes		
10	6/10	MVC framework		2 -->
11	13/10	Swing components Mouse events	14.6 - 14.9	
12	20/10	Text, files Lists, tables		
13	27/10	Application case study Sample exam		<-- 2

Assignment	Given	Due	Value
1: Design, lists, inheritance	25 August	15 September	40%
2: MVC and GUIs	6 October	27 October	20%

Exam	Value
20 multiple choice questions	20%
2 coding questions	20%