The University of Southern Queensland  

Course Specification

Description: Advanced Programming in Java

<table>
<thead>
<tr>
<th>Subject</th>
<th>Cat-Nbr</th>
<th>Class</th>
<th>Term</th>
<th>Mode</th>
<th>Units</th>
<th>Campus</th>
</tr>
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<tr>
<td>CSC</td>
<td>4403</td>
<td>10442</td>
<td>1, 2002</td>
<td>EXT</td>
<td>1.00</td>
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Academic Group: FOSCI  
Academic Org: FOS003  
HECS Band: 2  
ASCED Code: 020103

STAFFING
Examiner: Jinli Cao  
Moderator: Yan Li

OTHER-REQUISITES
Recommended Pre-requisite: CSC2402

RATIONAL
Java is not only an internet language, but also a general purpose object-oriented programming language. Its portability, safety, and simplicity features made it the internet language of choice overnight. It is quickly becoming a programming language that every programmer and computer scientist must know. This course will teach not only the Java programming language, but also the Java programming style and the topics on advanced data structure design using Java and Java's internet applications.

SYNOPSIS
This course covers the techniques of object-oriented programming in Java, and the characteristics of the Java programming language. The language features such as applets, packages, exception handling and multithreading with concurrent programming are discussed. Java graphical user interface and animation tools are important parts of this course. The advanced topics -- network programming and client/server and Remote Method Invocation (RMI) as well as Java Database Connection (JDBC) are introduced with an executable example.

OBJECTIVES
On successful completion of this course students will:

- have developed a deep understanding of various object-oriented design techniques;
- be able to develop object-oriented applications in Java;
• be able to design Java applet for internet applications;
• be able to develop current programming applications;
• be able to develop Java graphical interfaces and animation tools.

TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
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<tbody>
<tr>
<td>1. OO concepts and structures in JAVA</td>
<td>20.00</td>
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<tr>
<td>2. Java program and data structures</td>
<td>15.00</td>
</tr>
<tr>
<td>3. Threads and concurrent programming</td>
<td>20.00</td>
</tr>
<tr>
<td>4. Java applet programming and animation</td>
<td>20.00</td>
</tr>
<tr>
<td>5. Graphics and user interfaces</td>
<td>15.00</td>
</tr>
<tr>
<td>6. Input, output and files</td>
<td>10.00</td>
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</table>

TEXT and MATERIALS required to be PURCHASED or ACCESSED:

Books can be ordered by fax or telephone. For costs and further details use the ‘Book Search’ facility at http://bookshop.usq.edu.au by entering the author or title of the text.

Mathematics and Computing CDRom (to be purchased from the USQ Bookshop).

REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Many other books and tutorials are available on the internet. We will provide the links to these sites.


STUDENT WORKLOAD REQUIREMENTS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Study</td>
<td>120</td>
</tr>
<tr>
<td>Project Work</td>
<td>50</td>
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**ASSESSMENT DETAILS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks Out of</th>
<th>Wtg(%)</th>
<th>Required</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>PROJECT PROPOSAL</td>
<td>10.00</td>
<td>10.00</td>
<td>Y</td>
<td>04 Mar 2002</td>
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<tr>
<td>PROJECT PROGRESS REPORT</td>
<td>10.00</td>
<td>10.00</td>
<td>Y</td>
<td>04 Mar 2002</td>
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<tr>
<td>ASSIGNMENT 1</td>
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<td>COMPLETED PROJECT REPORT</td>
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</table>

**NOTES:**

1. Further details about the due dates are detailed in the assessment section of the Course Specifications.
2. Further details about the due dates are detailed in the assessment section of the Course Specifications.
3. Further details about the due dates are detailed in the assessment section of the Course Specifications.
4. Further details about the due dates are detailed in the assessment section of the Course Specifications.

**OTHER REQUIREMENTS**

1. It is the students' responsibility to actively participate in all classes scheduled for them, and to study all material provided to them or required to be accessed by them to maximize their chance of meeting the objectives of the course and to be informed of course-related activities and administration.
2. There is no examination. Students must submit all assessment items.
3. To be assured of gaining a pass in this course, students must gain at least 60% of the marks for each assessment item.
4. Final grades for students will be determined by the addition of the marks obtained in each assessment item, weighted as in the Assessment Details and by considering the students' level of achievement of the objectives of the course.
5. The due date for assignments is the date by which a student must despatch an assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the Examiner. In accordance with the University's Policy on Assignments (Regulation 5.6.1), the Examiner of a course may grant an extension of the due date of an assignment in extenuating circumstances. This policy may be found in the USQ Handbook, the Distance Education Student Guide and the Faculty of Sciences' Orientation Handbook for new on-campus students. All students are advised to study and follow the guidelines associated with this policy. Assessment items submitted after the Due Date will be penalised 10% for each day late unless the student can convince the examiner that such a penalty is not warranted. Students must retain a copy of any item submitted for assessment. This must be produced within 48 hours if required by the Examiner.
Note on project: Students will develop an application or a mini-project using Java. The project will be assessed on Project Proposal (aims and motivation, research plan, 2 pages); Progress report (progress and revised plan, 2 pages); Final project report plus coding (10-15 pages).

Students need to discuss their project with the examiner via Email.