Division of Information and Communication Sciences
Department of Computing

TECH840 Software Development Methods, Tools and CASE
2002 - Semester 2

http://www.comp.mq.edu.au/courses/tech840

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Time and place (day-time offering):

Lectures:
Thursday 18.05 - 21.55 W5C302

References:

Prerequisite reading:

Principal reading:
Lecture Notes on the Web

Compulsory reading:
Rational Suite and Rational Unified Process online and web documentation and discussion papers
PowerDesigner online and web documentation and discussion papers

Other readings:
Unit objectives:
The aim of this course unit is to examine the methods and tools of modern large-scale application software production. The unit explores the available technology and techniques of software development rather than the process, management, or social implications (ref. TECH841). A related aim of the unit is to achieve a proficiency in using integrated CASE environments for application analysis, design and implementation.

Unit organization:
The first six weeks of the unit will consist of intensive lectures to build up the necessary background knowledge for the rest of the unit. The lectures will be supplemented by hands-on workshops to introduce the software development tools (Rational Suite and PowerDesigner).

Weeks 7 and 8 (just before the mid-semester break) will be dedicated to learning a software programming environment (JDeveloper and Oracle).

At the end of week 8, each student will be assigned randomly a mini-seminar topic. The 20-minute seminar presentations will be given and assessed in lectures in weeks 10 – 13. Also at the end of week 8, the students will be given a software development and programming project. Week 9 will be dedicated to “questions-and-answers” about the project. The project will be towards the end of the semester.

Assessment:

Mini-seminar (20%):

Project (30%):

Final examination (50%)

Students must perform satisfactorily in all three assessment components of the unit in order to pass.

Software

The unit involves the use of upper- and lower-engineering CASE tools covering the lifecycle of software development – from requirements determination via design and testing to defect and change management. The tools to be used in this offering of the unit are Rational Suite and PowerDesigner.

Withdrawal

The withdrawal dates for the first semester are:

on or before 31 August:

NE - not effectively enrolled, no record on academic transcript, no HECS charge

after 31 August:

FW - failure recorded, HECS paid
W - withdrawal without penalty because of “unavoidable disruption”, W printed on the record, HECS paid

**Code of Behaviour**

The Code of Behaviour sets out our expectations concerning the use of the computing facilities. The University Council has approved a set of rules governing access to and the use of the University's computing facilities. Students who break them may be suspended from using the systems and, in serious cases, may be referred to the Discipline Committee of the University.

The rules set out the rights and, conversely, the responsibilities of all users of the facilities. In particular, they are based on the principle that the files in an account are the owner’s personal property and should be treated as such. Unauthorised use of someone else's account is a serious offence, whether it be copying their files (stealing), or changing them (damage), or merely gaining access to them (trespass). You will be expected to observe these rules and also any other regulations posted in the Department's laboratories.

**Special considerations:**

If *illness* or *misadventure* makes it impossible for you to sit the final examination, or interfere significantly with your performance in the exam, you are permitted to request "special consideration" (see the University Calendar).

To be eligible for such consideration, you are required to sit a special (supplementary) examination, and should note the following:

- If you are granted special consideration, we will require you to sit a *supplementary examination*. We will not consider your performance in the final examination at all in assessing your final grade.

- You must ensure that you are readily *available* to be contacted, and must hold yourself available to sit for the supplementary examination at short notice on the date and time we set. If you elect to be away from your contact address during the week of the special examination, and so cannot be contacted, or are unavailable to sit for the examination, your grade for this unit will be reported as FA.

- It is essential that you notify the *Registrar* in writing of your misadventure, accompanied by *documentary evidence*. If your application is the result of illness, your medical certificate should indicate the nature of the illness, and its effect on your ability to sit for or to perform in the examination.

- The purpose of any supplementary examination is to resolve the temporary difficulty caused by your illness or misadventure, and is not to give you an advantage over other students by allowing you extra time to study. We will, therefore, hold the special examination as soon as possible, and in determining your grade, we will take into account the possibility of *extra study time* available to you.

- As a *special consideration can only result in being granted a supplementary examination*, it is pointless to lodge the request if you do not intend to sit the special examination.
<table>
<thead>
<tr>
<th>Week</th>
<th>Lectures and/or Tutorials/Workshops</th>
<th>Assessments</th>
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<tbody>
<tr>
<td>1</td>
<td>Jul 29</td>
<td>Managing Complexity with Abstraction. The Object-Oriented Paradigm.</td>
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<tr>
<td>2</td>
<td>Aug 5</td>
<td>Building a Requirements and Specification Model. (Rational Requisite Pro)</td>
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<td>5</td>
<td>Aug 26</td>
<td>Java Fundamentals. Designing for Java. (Rational Rose; PowerDesigner)</td>
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<td>6</td>
<td>Sep 2</td>
<td>Database Fundamentals. Designing for Database. (PowerDesigner)</td>
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<td>7</td>
<td>Sep 9</td>
<td>Java Programming (JDeveloper)</td>
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<td>8</td>
<td>Sep 16</td>
<td>Java and Database Programming (JDeveloper, Oracle)</td>
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<td></td>
<td><strong>Project out</strong></td>
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<tr>
<td>9</td>
<td>Oct 8</td>
<td>Project “Questions and Answers”.</td>
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<td>10</td>
<td>Oct 14</td>
<td>Seminar presentations. Project “Questions and Answers”.</td>
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<td>11</td>
<td>Oct 21</td>
<td>Seminar presentations. Project “Questions and Answers”.</td>
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<td>12</td>
<td>Oct 28</td>
<td>Seminar presentations. Testing and Change Management. (Rational Test)</td>
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<td>13</td>
<td>Nov 14</td>
<td>Seminar presentations. Project Solution. Unit Review. Structure of the Final Examination.</td>
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*Break (Sept 21 - Oct 7)*