Description: Data Management

Subject     Cat-Nbr Class Term Mode Units Campus
CSC         3404  24435  2, 2003 EXT  1.00   TWMBA

Academic Group: FOSCI
Academic Org:   FOS003
HECS Band:     2
ASCED Code:    020399

STAFFING
Examiner: Mike McFarlane
Moderator: Grant Larcombe

PRE-REQUISITES
Pre-requisite: STA2300

RATIONALE
Increasingly there is an emphasis on the utilisation of quantitative information, whether as a result of the development of decision support systems, information management systems, or the general availability of fast and powerful analytical tools. In addition, large quantities of data primarily intended for analytical purposes are collected from automatic monitoring devices, and research instruments. Thus in order to analyse, interpret and utilise this data, it is necessary for graduates to be able to interrelate the collection, storage and retrieval of data to modern analytical and statistical packages.

SYNOPSIS
This course is intended for students experienced in statistical analysis, experimental design, and basic systems design, and focuses on the coordination, management and utilisation of data using modern computer data base management systems. This course, in emphasising the efficient analysis and utilisation of data, develops the pragmatics of managing data, and presenting information.

OBJECTIVES
On successful completion of this course students will be able to:

- develop detailed specifications using structured design techniques, for the coordinated management of scientific data;
• construct simple data bases for the efficient storage and retrieval of scientific data using 4GL data bases eg ACCESS;
• incorporate effective data validation and cleaning strategies in the collection and storage of data;
• use the features of ACCESS to generate simple reports;
• retrieve data from ACCESS data bases, to perform statistical analyses using other packages such as SPSS, EXCEL, STATGRAPHICS, and subsequently update the data bases;
• apply and interpret the results of multivariate data analyses using high level packages;
• construct effective graphical presentations of information;
• develop and maintain documentation in relation to both stored data and programs used for analysis.

TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
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</thead>
<tbody>
<tr>
<td>Management. Implications of data collection strategies for the management</td>
<td></td>
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<tr>
<td>of data.</td>
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<tr>
<td>2. Introduction to ACCESS</td>
<td>10.00</td>
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<tr>
<td>3. Data Input, Cleaning and Validation. Data Retrieval for statistical analysis. Statistic</td>
<td>20.00</td>
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<td>al analysis, reporting and presentation using ACCESS</td>
<td></td>
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<tr>
<td>4. Interactive Data Analysis and implications for data management using</td>
<td>30.00</td>
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<tr>
<td>STATGRAPHICS or EXCEL</td>
<td></td>
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<tr>
<td>5. Integration of data management requirements with analytical requirements</td>
<td>10.00</td>
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<td>6. Documentation of data, and analytical tools (programs)</td>
<td>10.00</td>
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<td>7. Graphical Displays for Presentation</td>
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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.

You will need appropriate database and statistical software to demonstrate your information system. This software must be available to the examiner. Hence you may choose from the latest version of Microsoft Access or other appropriate database software, providing you can demonstrate your running application to the Examiner.

Grauer, R.T., Barber, M 1998, Exploring Microsoft Access 97, Prentice Hall,
(This text is suggested if you use Access as part of Office 97. ISBN 0-13-754227-5.)
(This text is suggested if you use Access in Office 2000. ISBN 0-13-020476-5)
Statistical Software: e.g Excel, Statgraphics or SPSS,
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.


STUDENT WORKLOAD REQUIREMENTS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
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<tbody>
<tr>
<td>Directed Study</td>
<td>30</td>
</tr>
<tr>
<td>Private Study</td>
<td>50</td>
</tr>
<tr>
<td>Project Work</td>
<td>80</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>
</tr>
</thead>
<tbody>
<tr>
<td>ASSIGNMENT 1</td>
<td>100.00</td>
<td>15.00</td>
<td>Y</td>
<td>22 Aug 2003</td>
</tr>
<tr>
<td>ASSIGNMENT 2</td>
<td>100.00</td>
<td>10.00</td>
<td>Y</td>
<td>12 Sep 2003</td>
</tr>
<tr>
<td>ASSIGNMENT 3</td>
<td>100.00</td>
<td>25.00</td>
<td>Y</td>
<td>17 Oct 2003</td>
</tr>
<tr>
<td>MAJOR PROJECT</td>
<td>100.00</td>
<td>50.00</td>
<td>Y</td>
<td>07 Nov 2003</td>
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</tbody>
</table>

IMPORTANT ASSESSMENT INFORMATION

1 Attendance requirements:
   There are no attendance requirements for this course. However, it is the students' responsibility to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.

2 Requirements for students to complete each assessment item satisfactorily:
   To complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available for each assessment item.

3 Penalties for late submission of required work:
If students submit assignments after the due date without prior approval then a penalty of 10% of the total marks available for the assignment will apply for each working day late.

4 Requirements for student to be awarded a passing grade in the course:
   To be assured of a passing grade, students must demonstrate, via the summative assessment items, that they have achieved the required minimum standards in relation to the objectives of the course by: (i) satisfactorily completing the assignments; and (ii) obtaining at least 50% of the total weighted marks available for all summative assessment items.

5 Method used to combine assessment results to attain final grade:
   The final grades for students will be assigned on the basis of the aggregate of the weighted marks obtained for each of the summative assessment items in the course.

6 Examination information:
   There is no examination in this course.

7 Examination period when Deferred/Supplementary examinations will be held:
   There will be no Deferred or Supplementary examinations in this course.

8 University Regulations:
   Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL http://www.usq.edu.au/SECARIAT/calendar/Part5/ or in the printed version of the current USQ Handbook.

ASSESSMENT NOTES

9 Students must retain a copy of each item submitted for assessment. If requested, students will be required to provide a copy of assignments submitted for assessment purposes. Such copies should be despatched to USQ within 24 hours of receipt of a request being made.

10 The due date for an assignment is the date by which a student must despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the Examiner.

11 In accordance with University policy, the Examiner may grant an extension of the due date of an assignment in extenuating circumstances.

12 The Faculty will NOT accept submission of assignments by facsimile.

13 In the event that a due date for an assignment falls on a local public holiday in their areas, such as a Show holiday, the due date for the assignment will be the next day. Students are to note on the assignment cover the date of the public holiday for the Examiner's convenience.