Unit Outline*

MGMT8504
Data Analysis & Decision Making

D8-OFF (QT3) 2011
Singapore

Mr Peter Carter

Business School
www.business.uwa.edu.au

* This Unit Outline should be read in conjunction with the Business School Unit Outline Supplement available on the Current Students web site http://www.business.uwa.edu.au/students
UNIT DESCRIPTION

Welcome to Quarter 3, 2011, and specifically MGMT8504 Data Analysis & Decision Making, hereafter called DADM. I feel privileged to be visiting Singapore to meet you and assist you in your statistical journey as part of the whole MBA adventure.

This is not a mathematics unit, but a unit in statistics, data analysis techniques and decision-making relevant to business practice. Prior knowledge is not assumed and the focus is not on formulae, but in understanding the “story that the data tells us” and how data supports decision-making.

Some of you may have studied statistics recently as part of your undergraduate degree. Hopefully this unit will expand on your knowledge and introduce you to some additional applications.

Others may have studied statistics “a long time ago”. This unit will hopefully refresh those long-forgotten statistical concepts, as well as introduce several more that – when supported by relevant software – are useful in the workplace.

Last, but by no means least, some of you may be new to statistics before and perhaps associate this discipline with “sadistics”. It is my goal during this series of lectures, assisted by your tutor, to assure you this is absolutely not the case.

I wish you all the very best in your DADM (and MBA) studies this trimester and hope you find the unit both enjoyable and challenging. However, having been in this caper for a good while, I am realistic enough to know some of you might prefer a visit to the dentist instead. But I was hoping to avoid that sadistics theme again.

The goal of this unit is not to turn you into a statistician (heaven forbid!). Instead, the emphasis is on the interpretation of data as opposed to “number crunching” and formula derivation. If you do find the unit overwhelming, please do not hesitate to contact either your tutors or myself so we can work to alleviate your concerns.

About the lecturer

Peter Carter

BSc Statistics/Economics (University of WA)
BA Sports Management/Sports Science (University of Canberra)

Peter (Pete) Carter began lecturing in DADM at the Graduate School of Management, now the UWA Business School, in Trimester 2, 2000, during which time he has seen many DADM students come and (successfully) go. From 2003 to 2010, Pete also taught the statistics component of the Executive MBA unit MGMT8809 Senior Management Project. He has considerable teaching experience – initially as a statistics lecturer/tutor at the University of Canberra (1992-97), mathematics teacher at the Canberra Institute of Technology (1993-97), and business statistics tutor at both UWA and Murdoch University (2000-03) – and has received outstanding student evaluations, including commendations for Business School teaching awards. Away from the MBA program, Pete is a Sports section sub-editor and Australian Rules football and cricket columnist at The Sunday Times newspaper in Perth.
Unit content
DADM introduces data analysis and decision-making tools that students can use to manage their day-to-day work. Students will be able to identify situations in which quantitative analysis can support problem solving and decision-making. They will also gain practical experience in applying statistical and decision-analysis techniques and statistical packages (Excel and its add-in, PHStat) in business and management contexts. Topics to be covered include:

- Introduction to the use of statistics and decision-making techniques in business and management;
- Measurement, variability, uncertainty and probability;
- Techniques for summarising data;
- Statistical tests and inference from data; and
- Prediction and forecasting, introduction to regression and time-series analysis.

This unit provides the foundations for quantitative techniques used in other specialised MBA units.

The goal of the unit
During this unit you will develop fundamental skills for analysing problems and making decisions using quantitative data. “Nobody can escape data analysis.” (Ang Wei – PricewaterhouseCoopers, student UWA 2005)

Any manager in a business environment requires as much information as possible about the characteristics of that environment. Much of the available information is quantitative – for example, movements in interest rates, stock market prices, money supply and the level of unemployment. Market research surveys are carried out to determine the strength of product demand; an auditor is concerned about the number and size of errors found in account receivables; and a human resources manager may use aptitude test scores, in addition to a subjective assessment of candidates, for the recruitment of personnel. Even in sport, statistics are increasingly used as an objective means to assess player recruitment, to evaluate the strengths and weaknesses of opponents, to gain a tactical advantage during the game itself, to interact with fans, and to inform television viewers.

The common features of the above examples are that the information to be absorbed is numerical (quantitative) or categorical (qualitative) and, in its raw form, virtually impossible to comprehend fully. One important role of today’s managers is to make sense of data by summarising it so that a readily understood picture emerges.

This unit introduces data-analysis and decision-making tools useful for students in their day-to-day work. The emphasis is on the use of statistical packages, rather than the mechanical application of formulae, to assist in analysis. It also provides a foundation for quantitative techniques used in other MBA, MCom and MPA units, including Accounting for Planning and Control, Applied Marketing Research, Artificial Intelligence in Business, Corporate Finance, Economics, International Financial Analysis, International Management, Marketing, Multivariate Analysis, Project Management, Quality Management and Strategic Management.
Learning outcomes

On completion of this unit, students should have an understanding of:

- Data available to aid decision-making within the workplace;
- Statistical packages and add-ins available for analysing business data;
- The application of statistical techniques to practical business decision-making;
- Methods to critically appraise the accuracy, sources and relevance of data and statistical models; and
- How to critically appraise reports and arguments based on such data and models.

Educational principles and graduate attributes

In this unit you will be encouraged and facilitated to:

- Develop competency in obtaining data, whether through primary (experimentation, observation, survey) or secondary (electronic, print) sources;
- Undertake problem identification, analysis and find the appropriate statistical and decision-making tools to describe and model this data, while having an appreciation that one can use statistics without being a statistician;
- Learn skills in using specialised data packages to summarise your statistical findings in both graphical and tabular forms;
- Obtain proficiency in summarising and expressing your findings to senior management in a clear, concise and non-technical way, specifically via a “Statistics in Practice” project, where results and information have to be presented clearly, concisely and logically; and
- Achieve mastery of the subject matter, concepts and techniques, and be able to apply and adapt the acquired knowledge to your own business data analysis and decision-making.

TEACHING AND LEARNING RESPONSIBILITIES

Teaching and learning strategies

Students are encouraged to attend all lectures and to peruse the recommended sections of the textbook prior to class. However, the textbook (Levine, et al) can be over-technical in parts – its greatest plus is the superb Excel add-in, PHStat – so I would prefer you read more from a general point of view rather than trying to absorb every aspect of the text.

Feel free to stop me during lectures if there is anything you are unsure of. You are unlikely to be the only person experiencing difficulty with a particular concept, so please speak up if in doubt. Much of the material is conceptual but, unlike most other fields of mathematics, statistics lends itself to discussion and interpretation. My interpretation of a particular scenario will usually be one of a range of opinions.

Several types of activities are included in this unit to make your learning easier, engaging and stimulating. The aim is to provide you with a “toolkit” for data analysis and decision-making in your workplace, other MBA units and even your everyday life. Lectures will be combined with class discussions, practical exercises to demonstrate data collection and reinforce concepts, and the regular demonstration of statistical packages. You will have the opportunity to work individually or in pairs when completing your “Statistics in Practice” project.
While there are four tutorials (July 7 and 26, August 18 and 25), I am more than happy if you email me with any concerns you may have – particularly leading up to assessment deadlines. Because some students may be unfamiliar with Excel and PHStat – both of which will be useful for your project – a series of notes will be distributed to assist you attain competency in this area. You are not obligated to use Excel/PHStat for your project, with some past students having used Minitab, SAS and SPSS instead. Students are welcome to discuss their choice of topic with me and are required to submit a project outline by 4pm on Friday, August 5.

The DADM assessment is aimed at both testing your understanding of the concepts and ensuring that you do not fall by the wayside. In days of old, some units’ sole assessment was a 100% exam, an all-or-nothing situation that placed unfair pressure on students. This unit aims to assess you in several different ways – a 15% class quiz, a 5% project outline, tutorial exercises totalling 10%, a 30% project and a 40% final exam – with each component (hopefully) not too stressful. However, that is very easy for me to say.

Lecture activities

Hard copies of lecture slides will be provided to you and are also available on WebCT. Lectures are designed to consolidate the readings from the textbook and encourage critical appraise of business statistics and decision-making. During lectures I will present concepts and work through examples, discuss case studies, reports and articles.

Teaching and learning evaluation

You may be asked to complete two evaluations during this unit: the Student Perception of Teaching (SPOT) and the Students’ Unit Reflective Feedback (SURF). The SPOT is optional and is an evaluation of the lecturer and the unit. The SURF is completed online and is a university wide survey and deals only with the unit. You will receive an email from the SURF office inviting you to complete the SURF when it is activated. We encourage you to complete the forms as your feedback is extremely important and can be used to make changes to the unit or lecturing style when appropriate.

While DADM has previously received very positive feedback, there are still ways we could enhance your learning experience. Some initiatives taken on board within the unit include the regular demonstration of statistical software in class; the aggregation of sample quiz and exam questions for revision purposes; the provision of sample Statistics in Practice projects as a guide to students; and the use of guest speakers to highlight practical applications of statistics in business.

Attendance

Participation in class, whether it be listening to a lecture or getting involved in other activities, is an important part of the learning process, therefore it is important that you attend classes. More formally, the University regulations state that ‘to complete a course or unit students shall attend prescribed classes, lectures, seminars and tutorials’. Where a student, due to exceptional circumstances, is unable to attend a scheduled class, they are required to obtain prior approval of the unit coordinator to be absent from that class. Any student absent from class without having had such absence approved by the unit coordinator may be referred to the faculty for advice and may be required to withdraw from the unit.

While there is no Attendance assessment component within DADM, I expect to be notified if you have to miss a lecture, particularly if your absence coincides with the class quiz (July 28). Those students who anticipate being absent when the final exam is scheduled (September 10) must apply for a deferred exam, which will only be granted under exceptional circumstances.
CONTACT DETAILS

We strongly advise students to regularly access their student email accounts. Important information regarding the unit is often communicated by email and will not be automatically forwarded to private email addresses.

<table>
<thead>
<tr>
<th>Unit coordinator/lecturer</th>
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<tbody>
<tr>
<td><strong>Name:</strong></td>
<td>Mr Peter Carter</td>
</tr>
<tr>
<td><strong>Email:</strong></td>
<td><a href="mailto:fitzroypete@yahoo.com.au">fitzroypete@yahoo.com.au</a></td>
</tr>
<tr>
<td><strong>Consultation hours:</strong></td>
<td>Before and after class; email</td>
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<table>
<thead>
<tr>
<th>Lecture times:</th>
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<tbody>
<tr>
<td><strong>Block 1</strong></td>
<td></td>
</tr>
<tr>
<td>16 June</td>
<td>7.00pm – 10.00pm</td>
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<tr>
<td>17 June</td>
<td>7.00pm – 10.00pm</td>
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<tr>
<td>18 June</td>
<td>9.00am – 6.00pm</td>
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<tr>
<th><strong>Block 2</strong></th>
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<tr>
<td>28 July</td>
<td>7.00pm – 10.00pm</td>
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<tr>
<td>29 July</td>
<td>7.00pm – 10.00pm</td>
</tr>
<tr>
<td>30 July</td>
<td>9.00am – 6.00pm</td>
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| **Lecture venue:** | PSB Academy |

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<tr>
<th>Tutors</th>
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<tbody>
<tr>
<td><strong>Name:</strong></td>
<td>Clive Tilbrook &amp; Tan Yilin</td>
</tr>
<tr>
<td><strong>Email:</strong></td>
<td><a href="mailto:clive.tilbrook@softwareag.com">clive.tilbrook@softwareag.com</a></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:yilinsg@yahoo.com">yilinsg@yahoo.com</a></td>
</tr>
<tr>
<td><strong>Phone:</strong></td>
<td>TBC</td>
</tr>
<tr>
<td><strong>Consultation hours:</strong></td>
<td>By arrangement</td>
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<table>
<thead>
<tr>
<th><strong>Tutorial times:</strong></th>
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<tbody>
<tr>
<td>7.00pm – 10.00pm</td>
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<tr>
<td>7 July</td>
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<tr>
<td>26 July</td>
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<td>18 August</td>
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<td>25 August</td>
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</table>

| **Tutorial venue:** | PSB Academy |
TEXTBOOK(S) AND RESOURCES

Unit website
http://www.webct.uwa.edu.au

Recommended/required text(s)

Additionally, a book of statistically related articles (see ADDITIONAL READING in Unit Schedule) will be provided in class.

Software requirements

The textbook has an Excel Guide (Appendix D) that includes the PHStat add-in, which is downloadable at www.pearsonglobaleditions.com/levine. A prior knowledge of Excel is desirable but not essential. Applications of Excel and PHStat output are included in the lecture notes, with students required to interpret statistical output in both quizzes and the exam. Students are welcome to use a statistical package(s) of their choice to summarise data in their Statistics in Practice project.

As the unit’s emphasis is on interpretation rather than computation, there is no need to have a sophisticated scientific calculator for the quiz or exam.

Additional resources and reading material

Any statistics textbook in the library should assist you with the concepts. For your project, you are welcome to use primary or secondary data. Data can relate to your workplace (confidentiality guaranteed) or other business sources – but I don’t mind if you choose a “non-career” or “non-financial” topic. You may find one or more of the following sources useful.

- Australian Bureau of Statistics (time series, census data, etc.) www.abs.gov.au
- Database for Major Cities in the World www.citypopulation.de
- DatAnalysis (Current information on Australian Stock Exchange companies)
- FinAnalysis (Historical information on ASX companies)
- Global Market Information Database (GMID)
- Mergent Online (US companies data)
- Statistics Singapore www.singstat.gov.sg
- World Weather Information Service www.worldweather.org

And believe it or not, statisticians do have a sense of humour!
<table>
<thead>
<tr>
<th>DAY: LECTURE</th>
<th>TOPICS</th>
<th>ADDITIONAL READING</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 16 (7pm-10pm)</td>
<td><strong>MODULE 1: Course Introduction</strong>&lt;br&gt;Introduction &amp; Data Collection; Sampling &amp; Sampling Distributions</td>
<td>Economic Focus: The Reserve Army; Questionnaire Design; Statistics Jokes; Study Shows 139% Of Studies Misuse Statistics; How To Make An Imperfect Census Count; Welcome To The Quote Garden!; What Is Statistics; Basic Sampling Concepts; Sampling Definitions</td>
</tr>
<tr>
<td>June 17 (7pm-10pm)</td>
<td>Presenting Data in Tables &amp; Charts; Numerical Descriptive Measures</td>
<td>Abuse Of Statistics; How To Lie With Statistics: The Well-Chosen Average</td>
</tr>
<tr>
<td>June 18 (9am-1pm)</td>
<td><strong>MODULE 2: Dealing With Risk &amp; Uncertainty</strong>&lt;br&gt;Basic Probability; Some Important Discrete Probability Distributions; The Normal Distribution &amp; Other Continuous Distributions; Sampling &amp; Sampling Distributions</td>
<td>Computing Probabilities Of Rolling Matching Dice; Theory Of Probability; Standard Deviation</td>
</tr>
<tr>
<td>June 18 (2pm-6pm)</td>
<td>Confidence Interval Estimation; <strong>MODULE 3: Comparing Group Differences</strong>&lt;br&gt;Fundamentals of Hypothesis Testing: One-Sample Tests; Quiz Preparation</td>
<td>Estimating Confidence Intervals; So How Come A Survey Of 1,600 People Can Tell Me What About 250 Million Are Thinking?; Toss Out The Toss-Up: Bias In Heads-Or-Tails; Math Talk: The (Un)Truth About Statistics; The Decision Matrix On Trial: The OJ Simpson Trial Analogy</td>
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<tr>
<td>July 28 (7pm-10pm)</td>
<td><strong>QUIZ 1 (15%)</strong>&lt;br&gt;Multiple-Regression Demonstration; One-Sample Tests (continued); Two-Sample Tests</td>
<td></td>
</tr>
</tbody>
</table>
| July 29  
(7pm-10pm) | Two-Sample Tests (continued);  
Analysis of Variance  
**MODULE 4: Prediction & Forecasting**  
Simple Linear Regression | The Australian Unity  
Wellbeing Index;  
Statisticians – Keep It Simple;  
Celebrate A Beer With A Wage Rise;  
Correlation And Causation:  
Misuse And Misconception Of Statistical Facts;  
Pets And Healthy Hearts;  
Sydney To Hobart Yacht Race Winning Times |
| July 30  
(9am-1pm) | Simple Linear Regression (continued);  
Introduction to Multiple Regression;  
Multiple Regression Model Building;  
Multiple Regression Case Studies  
Time-Series Forecasting & Index Numbers | All-Ordinaries Index;  
Average Daily Unleaded Fuel Prices;  
Index Numbers And Time-Series Analysis;  
Time-Series Forecasting Of Monthly Data;  
Trend-Seasonal Analysis |
| July 30  
(2pm-6pm) | Time-Series Forecasting & Index Numbers (continued)  
**MODULE 5: Business Applications**  
Chi-Square Tests & Non-Parametric Tests;  
Statistical Applications in Quality Management;  
Course Wrap-up | Some Out-Of-Control Evidence |

**PLEASE NOTE:** This schedule is subject to change at the lecturer’s discretion. It is highly unlikely that we will cover every chapter of the textbook and to attempt to do so for the sake of it may detract from your learning experience.

**ASSESSMENT MECHANISM**

**The purpose of assessment**

There are a number of reasons for having assessable tasks as part of an academic program. The assessable tasks are designed to encourage you to explore and understand the subject more fully. The fact that we grade your work provides you an indication of how much you have achieved. Providing feedback on your work also serves as part of the learning process.
### Assessment mechanism summary

<table>
<thead>
<tr>
<th>ASSESSMENT</th>
<th>WEIGHT</th>
<th>DUE DATE</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz</td>
<td>15%</td>
<td>July 28</td>
<td>In class, closed book, Modules 1 and 2</td>
</tr>
<tr>
<td>Project Outline</td>
<td>5%</td>
<td>August 5</td>
<td>500 words max, submit on WebCT</td>
</tr>
<tr>
<td>Tutorial Exercises</td>
<td>10%</td>
<td>July 7, 26, August 18, 25</td>
<td>Each 2.5%, submit in class</td>
</tr>
<tr>
<td>Statistics in Practice Project</td>
<td>30%</td>
<td>September 2</td>
<td>2000 words max, submit on WebCT</td>
</tr>
<tr>
<td>Final Exam</td>
<td>40%</td>
<td>September 10</td>
<td>Closed book, all Modules</td>
</tr>
</tbody>
</table>

**Note 1:** Results may be subject to scaling and standardisation under faculty policy and are not necessarily the sum of the component parts.

**Note 2:** Your assessed work may also be used for quality assurance purposes, such as to assess the level of achievement of learning outcomes as required for accreditation and audit purposes. The findings may be used to inform changes aimed at improving the quality of Business School programs. All material used for such processes will be treated as confidential, with the outcome not effecting your grade for the unit.

### Assessment components

**Assessment 1 – Quiz (15%)**

**Objectives:**

The main aims of the class quiz are to help you keep up to speed with the unit’s workload and provide you with feedback on your progress. Most topics are cumulative, so if you do not understand foundational material you may find it difficult to understand future topics.

**Details:**

The quiz, covering Modules 1 and 2, will be held at the start of the Thursday, July 28 lecture. If a student cannot attend the quiz, he/she must notify me in advance so alternative arrangements can be made. The quiz will be of one-hour duration and consist of 10 multiple-choice and two short-answer questions, with a formula sheet provided. It will be closed book and is worth 15% of your final mark. Revision questions will be provided, while the tutorial questions due on July 7 and 19 will be geared towards the quiz.
Assessment 2 – Project Outline (5%)

Objectives:
I prefer students to complete the project in pairs, although I appreciate this is not always possible because of work commitments, so you are most welcome to “go solo”. As there is no Peer Assessment in this unit, the onus is on each partner to contribute equally to the project. In order to give you sufficient feedback before you submit the project, students are required to hand in a project outline (one per pair).

Details:
The project outline, worth 5% of your final mark and a maximum of 500 words, is due on Friday, August 5. Please submit by uploading onto WebCT (there will be a dropbox for assignments) – you can also email me a copy if you wish. Before submission, please read Item # 4 below. Specific guidelines for this outline are provided in a separate handout.

Assessment 3 – Tutorial Exercises (10%)

Objectives:
The main aims of the tutorial exercises are to help you keep up to speed with the unit’s workload, including providing you with revision material for both the quiz and exam, and allow you to develop skills using Excel and PHStat. Though I appreciate that you will discuss the questions with your colleagues, all submissions must be your own work.

Details:
The four sets of exercises, to be handed to your tutor on July 7, July 26, August 18 and August 25, are each worth 2.5% for a total of 10%. The questions will cover Modules 1-4 and will require basic computation and use of formulae, generation of statistical output (using Excel and PHStat) and written analysis.

Assessment 4 – Statistics in Practice Project (30%)

Objectives:
The Statistics in Practice project is designed to develop students’ skills in the correct usage of statistical techniques and in interpreting data for making managerial decisions. The main task for each pair/individual is to analyse real-life data and prepare a report for management based on your analysis. The focus is on using statistics as a support tool to your discussion – not as the sole basis of discussion itself. The data need not be of a business or financial nature – indeed, many past students have chosen data relating to areas of general interest, including sport. Generating your own dataset via a survey, instead of using secondary sources of data, is acceptable. The purposes of the project include:

Showing how summary statistics and charts can be used to succinctly present sample data

AND EITHER

- Identifying the most efficient combination of explanatory variables to predict the response variable for generally cross-sectional data (multiple regression);

OR

- Applying techniques to forecast the response variable for longitudinal data (time series).

Case-specific examples are provided in a separate handout.
Details:
Reports, of a maximum of 2000 words, should be submitted on WebCT by Friday, September 2. I will attempt to – but cannot guarantee – mark the projects before your final exam. Unlike your project outline, I will not accept email submissions. The project is worth 30% of your final mark. A penalty will apply to projects exceeding the specified word limit (5% for each extra 300 words, or part thereof), to a maximum of 10%. There will be a 10% deduction if a word count is not included. Late submissions will be penalised 5% per day, with this penalty only waived in exceptional circumstances. The marks breakdown is:

<table>
<thead>
<tr>
<th>Section</th>
<th>Task</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>Includes your name, the title of the report and its word count. Presentation is vital, so this is an opportunity to exhibit some flair and creativity.</td>
<td>5</td>
</tr>
<tr>
<td>Contents</td>
<td>Gives a detailed outline of the report, together with page numbers.</td>
<td>5</td>
</tr>
<tr>
<td>Executive Summary</td>
<td>A single paragraph describing in non-numeric terms the most important facts and conclusions from the report. This is often easier to write last.</td>
<td>5</td>
</tr>
<tr>
<td>Introduction</td>
<td>Several paragraphs briefly summarising the background, the question(s) of interest, and the relevant dataset(s). The key variables should be briefly outlined and relevant assumptions discussed.</td>
<td>10</td>
</tr>
<tr>
<td>Analysis &amp; Methods</td>
<td>Develop points covered in the Introduction and display data graphically. Because the report has been prepared for senior management, with little exposure to statistics, any interpretations should be explained in clear, concise terms. It is not necessary to show complex formulae or in-depth computations. A detailed break-up of A&amp;M marks is provided in a separate handout.</td>
<td>50</td>
</tr>
<tr>
<td>Conclusions &amp; Summary</td>
<td>Summarises the detail presented in the previous section and discusses possible recommendations.</td>
<td>10</td>
</tr>
<tr>
<td>References</td>
<td>Mention all data sources, websites, textbooks and articles referred to, plus all software used.</td>
<td>5</td>
</tr>
<tr>
<td>Appendices</td>
<td>Should include all tables and graphs not directly referred to in the report. All tables and graphs should have a number and a title.</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>The report should be a maximum of 2000 words, excluding Contents, charts and tables, and Appendices.</td>
<td>100</td>
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</tbody>
</table>
**Assessment 5 – Final Exam (40%)**

**Objectives:**

The final exam is structured to assess if you have **achieved the learning outcomes** of the unit.

**Details:**

The exam, covering **ALL** lecture material, but with an **emphasis on topics covered in Modules 3, 4 and 5**, is scheduled for **Saturday, September 10**. If a student **cannot** attend the exam on the specified date, he/she must **notify both the Business School and myself** in writing well in advance so alternative arrangements can be made. The exam will be of **two hours plus 10 minutes reading duration** and will comprise a mixture of multiple-choice and short-answer questions. It will be **closed book** – although you will be provided with a **formula sheet** and are allowed to take in **one double-sided A4 page of notes** – and is **worth 40%** of your final mark. **Revision questions** will be provided, while the **tutorial questions** will be geared towards the exam.

**Submission of assignments**

Please submit both your Project Outline and Statistics in Practice Project via WebCT, as the Business School needs to access electronic copies for AACSB requirements. Please remember to attach an Assignment Cover sheet to the front of your assignment. You can download the relevant Assignment Cover sheet from the Business School Current Students web page [http://www.business.uwa.edu.au/students/assessments](http://www.business.uwa.edu.au/students/assessments).

**Student Guild**

Phone: (+61 8) 6488 2295  
Facsimile: (+61 8) 6488 1041  
E-mail: enquiries@guild.uwa.edu.au  
Website: [http://www.guild.uwa.edu.au](http://www.guild.uwa.edu.au)

**Charter of Student Rights and Responsibilities**

The Charter of Student Rights and Responsibilities outlines the fundamental rights and responsibilities of students who undertake their education at UWA (refer [http://handbooks.uwa.edu.au/undergraduate/poliproc/policies/StudentRights](http://handbooks.uwa.edu.au/undergraduate/poliproc/policies/StudentRights)).

**Appeals against academic assessment**

The University provides the opportunity for students to lodge an appeal against assessment results and/or progress status (refer [http://www.secretariat.uwa.edu.au/home/policies/appeals](http://www.secretariat.uwa.edu.au/home/policies/appeals)).