MNGT5520
Quantitative Business Modelling for Managers

Course Outline
Session 4, 2017

Part A: Course-Specific Information
Part B: Key Policies, Student Responsibilities and Support
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PART A: COURSE-SPECIFIC INFORMATION

1. STAFF CONTACT DETAILS
Course Coordinator and Facilitator: Scott Muller
Mobile: +61 (0)404 448 187
Email: scott.muller@unsw.edu.au

The Course Coordinator and Facilitator is located off campus except for during the designated class/workshop sessions.

2. COURSE DETAILS

2.1 Teaching Times and Locations
Updated information about class times and locations can be found on the AGSM website and by logging into the Google Calendar.

2.2 Units of Credit
The course is worth six (6) units of credit.

2.3 Summary of Course
This course teaches students the skills required to model, analyse and solve complex business problems that can affect a firm’s bottom line (i.e. revenues and costs). The course further teaches how best to present numerical data efficiently and effectively to a business audience.

2.4 Course Aims and Relationship to Other Courses
Every business uses numerical data and must rely on the visual representation of that data to communicate to its managers, shareholders and interested parties. Businesses also strive to optimise their finances – whether through profit maximisation or cost minimisation – and they necessarily rely on numerical techniques to determine appropriate strategies to meet that aim. Quantitative modelling and the visualisation of data are, therefore, of importance to all managers. They relate generally, and often specifically, to the content of the full spectrum of MBA courses (both quantitative and qualitative).

2.5 Course Learning Outcomes
By the end of this course students will be able to:

- identify and apply appropriate business optimisation modelling theories and techniques to general management and business decisions within diverse situations
- identify core variables of interest within quantitative business problems, understand how best to numerically analyse such problems, and also the most effective way in which to present the outcomes of such analysis to a senior business audience
- make effective practical assumptions relating to the analysis of quantitative business data
- research and analyse complex issues and problems in business and develop appropriate models to augment the choice of optimum solutions
- design, build and manipulate (including via the conduct of scenario and sensitivity analysis) complex numerical models relating to forecasting, optimisation and simulation; and understand and relay the limitations of each of the these models
• produce written documents and oral presentations that communicate effectively information for the intended audience and purpose

• participate collaboratively, effectively and responsibly in a team to achieve specified outcomes

• demonstrate an understanding of the limits in precision and the risks associated with business models.

The Course Learning Outcomes are what you should be able to do by the end of this course if you participate fully in learning activities and successfully complete the assessment items.

The Learning Outcomes in this course also help you to achieve some of the overall Program Learning Goals and Outcomes for all undergraduate postgraduate coursework students in the UNSW Business School. Program Learning Goals are what we want you to be or have by the time you successfully complete your degree (e.g. ‘be an effective team player’). You demonstrate this by achieving specific Program Learning Outcomes – what you are able to do by the end of your degree (e.g. ‘participate collaboratively and responsibly in teams’).

### MBA Program Learning Goals and Outcomes

**Learning Goal 1: Business Management Knowledge**
Students should be able to identify and apply current knowledge of disciplinary and interdisciplinary theory and professional practice to general management and business within diverse situations

**Learning Goal 2: Critical Thinking**
Students should understand and be able to identify, research and analyse complex issues and problems in business and develop appropriate solutions

**Learning Goal 3: Communication**
Students should be able to produce written documents and oral presentations that communicate effectively complex disciplinary ideas and information for the intended audience and purpose

**Learning Goal 4: Teamwork**
Students should be able to participate collaboratively and responsibly in teams and to reflect upon their own contribution to the team and on the necessary processes and knowledge within the team to achieve specified outcomes

**Learning Goal 5: Responsible Business**
Students should be able to appraise ethical, environmental and sustainability considerations in decision making and in practice in business
Students should be able to consider the social and cultural implications of management practices and of business activities

**Learning Goal 6: Leadership**
Students should be able to reflect upon their own personal leadership style and the leadership needs of business and of teams

**Learning Goal 7: International Perspective**
Students should understand the needs of undertaking business within a global context
Students should be able to apply business management knowledge to business situations within global markets with due recognition for differences in cultural, legal, commercial and other issues

**Learning Goal 8: Risk Management**
Students should be able to demonstrate an understanding of the limits in precision and the risks associated with business models
Students should be able to appraise risk and to develop risk mitigation strategies applicable to business undertaken within uncertain and volatile environments
The following table shows how your Course Learning Outcomes relate to the overall Program Learning Goals and Outcomes, and indicates where these are assessed (they may also be practised in tutorials and other activities):

<table>
<thead>
<tr>
<th>Program Learning Goals and Outcomes</th>
<th>Course Learning Outcomes</th>
<th>Course Assessment Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>This course helps you to achieve the following MBA Program Learning Goals:</td>
<td>On successful completion of the course, you should be able to:</td>
<td>This learning outcome will be assessed in the following items:</td>
</tr>
</tbody>
</table>
| 1 Business Management Knowledge | Identify and apply appropriate business optimisation modelling theories and techniques to general management and business decisions within diverse situations. Identify core variables of interest within quantitative business problems, understand how best to numerically analyse such problems, and also the most effective way in which to present the outcomes of such analysis to a senior business audience; | • Homework Case Studies  
• Individual Assignment  
• Group Term Project |
| 2 Critical Thinking | Research and analyse complex issues and problems in business and develop appropriate models to augment the choice of optimum solutions  
Make effective practical assumptions relating to the analysis of quantitative business data;  
Design, build and manipulate (including via the conduct of scenario and sensitivity analysis) complex numerical models relating to forecasting, optimisation and simulation; and understand and relay the limitations of each of these models. | • Homework Case Studies  
• Individual Assignment  
• Group Term Project |
| 3 Communication | Produce written documents and oral presentations that communicate effectively information for the intended audience and purpose | • Class Participation  
• Homework Case Studies  
• Individual Assignment  
• Group Term Project |
| 4 Teamwork | Participate collaboratively, effectively and responsibly in a team to achieve specified outcomes | • Class participation  
• Group Term Project |
| 5 Responsible Business | Not presently assessed in this course | |
| 6 Leadership | Not presently assessed in this course | |
| 7 International Perspective | Not presently assessed in this course | |
| 8 Risk Management | Demonstrate an understanding of the limits in precision and the risks associated with business models | • Homework Case Studies  
• Individual Assignment  
• Group Term Project |
3. LEARNING AND TEACHING ACTIVITIES

This course uses an adult-learning approach that stresses proactive and interactive teaching and learning. Direct student contribution, including critical and lateral discussion that reflects students’ readings and experiences, is expected and encouraged. Students must be willing and able to be proactive and self-driven with regard to mastering the content of this course.

This course is weighted towards practical application of theory through design, build and open discussion of many quantitative models. Face-to-face sessions encompass both lectures and workshops because the course content must be first learned, then practised and performed in order to be perfected. The course includes a variety of practical and experiential learning exercises, therefore students will be required to have access to a laptop during all class sessions.

Lectures build student understanding of the main ideas/theories and incorporate interactive learning processes and will synthesise materials from a range of sources. Workshops provide an interactive environment through which to enhance learning via collaboration. By actively and conscientiously engaging in these activities, students will increase their confidence and competence across the areas of course content.

Moreover, to be effective students are required to undertake self-driven research and study in order to prepare for each class session. Each week this will involve, among other things:

1. printing and reviewing class slides, which, along with supporting material, will be made available via the course website;
2. identifying practical business applications for the theory being learned, and being prepared to fully explain and justify those choices;
3. preparing all workshop questions (when relevant);
4. downloading any necessary data files for the relevant session, which will be made available via the course website; and
5. proactive self-driven research of appropriate Excel functionality if a student lacks understanding of same.

4. ASSESSMENT

4.1 Formal Requirements

In order to pass this course, you must:

- achieve a composite mark of 50% across the various assessment tasks; and
- apply a high level of effort to each and every assessment task.

4.2 Assessment Details

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
<th>Length</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Participation &amp; Homework Case Studies</td>
<td>10%</td>
<td>n/a</td>
<td>Continuous</td>
</tr>
<tr>
<td>Individual Assignment</td>
<td>45%</td>
<td>1 × written report (maximum of 1,500 words) PLUS 1 × quantitative model (Excel spreadsheet)</td>
<td>9.30am Monday – 13 March 2017</td>
</tr>
<tr>
<td>Group Term Project</td>
<td>45%</td>
<td>1 × written report (maximum of 2,500 words) PLUS 1 × quantitative model (Excel spreadsheet) PLUS 1 × 15-minute formal presentation</td>
<td>9.30am Monday – 27 March 2017 (presentations will occur in class from 6pm to 9pm that same day)</td>
</tr>
</tbody>
</table>
The three assessment tasks in this course comprise:

1. **Class Participation & Homework Case Studies** – this progressively assesses a student’s contribution to the class environment and shared learning. Each student must:
   - be proactively involved in the classroom environment (for example, by contributing to discussions and collaboratively assisting others to learn);
   - attempt all in-class exercises;
   - attempt all Homework Case Studies; and
   - present their solution of one or more Homework Case Studies to the class (note: students will be randomly selected to determine which Homework Case Studies they must present);

2. **Individual Assignment** – this assesses a student’s ability to build efficient and effective numerical models to solve business problems. More specific details will be made available on the course website at the commencement of the course; and

3. **Group Term Project** – this assesses the full spectrum of learning for the course, along with teamwork and collaboration skills, via a major piece of group work. Students self-select groups of between 3 and 5 members then model either a set question or a real business problem of their own choice. Students must also present their Term Project models and solutions in an open class forum at the end of the course. More specific details will be made available on the course website at the commencement of the course.

4.3 Assignment Preparation and Submission

Unless otherwise stipulated in the specific details pertaining to a piece of assessment, please prepare and submit your assignments in accordance with the following rules:

**Assignment length**

What is **included** in the word count?
- Executive Summary (if required), all text, tables, figures, diagrams, charts and appendices.

What is **excluded** from the word count?
- Reference list or bibliography

Any text (including appendices) that goes beyond the word count will not be read in grading the assignment.

**Assignment format**

For consistency across all assignments, students are required to supply assignments in a standard format, which is detailed below. Assignments should always be submitted in Word format.

<table>
<thead>
<tr>
<th>Headings</th>
<th>Body text</th>
<th>Page setup</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Font: Times New Roman</td>
<td>• Font: Times New Roman</td>
<td>• Top: 2.54 cm</td>
</tr>
<tr>
<td>• Font size: 12 points</td>
<td>• Font size: 12 point</td>
<td>• Bottom: 2.54 cm</td>
</tr>
<tr>
<td>• Line spacing: Double</td>
<td>• Line spacing: Double</td>
<td>• Left: 3.17 cm</td>
</tr>
<tr>
<td>• Text style: Bold</td>
<td>• Text style: Normal</td>
<td>• Right: 3.17 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Header: 1.25 cm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Footer: 1.25 cm</td>
</tr>
</tbody>
</table>
Note: The left and right margins are wider than the default margins in Word.

**Paragraph breaks**

First line indent: 1.27cm

**Diagrams and tables**

Students are encouraged to include diagrams and tables in their assessments, but must ensure they do not take up more than 20% of the assignment. Diagrams and tables must:

- be formatted with single line spacing
- be formatted with a minimum font size of 8 points
- be positioned vertically in between paragraphs.

**Assignment file name**

Please follow the naming convention that will be set out at the end of the assignment question on the course website.

**Assignment submission**

1. You must submit your assignment through your online classroom as per the instructions in your LMS User Manual.
2. Assignment submission in your LMS is performed via Turnitin, the similarity detection software used by UNSW students and teaching staff to prevent plagiarism by ensuring referencing is correct and that work has not been inadvertently copied from elsewhere. You can access Turnitin under the ‘Assessments’ section in your Moodle course site.
3. You are able to submit a draft version of your assignment prior to the due date. This enables you to view the Turnitin similarity report on your work and decide whether it complies with the guidelines regarding referencing and plagiarism, before you submit your final version for marking. More information about plagiarism can be found here: [https://student.unsw.edu.au/plagiarism](https://student.unsw.edu.au/plagiarism)
4. Please note that draft assignments submitted in this way will be regarded as the final version at the due date if you have not uploaded a subsequent, finalised version (each file uploaded overwrites the previous version).
5. Late submissions are possible but will be marked as such and will be subject to late penalties of 5% of the assignment weighting for each day late. If for any reason you are unable to submit a late submission via Turnitin please contact your Facilitator or AGSM Student Experience.
6. Extensions to assignment deadlines will be granted only in exceptional circumstances, and where adequate supporting documentation can be provided. Please note that work commitments do not constitute grounds for an extension. Requests must be made through the special consideration process. For details about this process, see: [https://student.unsw.edu.au/special-consideration](https://student.unsw.edu.au/special-consideration)
7. You will be advised of your mark by your Facilitator within 14 days of assignment submission date.
8. Please keep a copy of your assignment.
Quality Assurance
The UNSW Business School is actively monitoring student learning and quality of the student experience in all its programs. A random selection of completed assessment tasks may be used for quality assurance, such as to determine the extent to which program learning goals are being achieved. The information is required for accreditation purposes, and aggregated findings will be used to inform changes aimed at improving the quality of UNSW Business School. All material used for such processes will be treated as confidential and will not be related to course grades.

5. COURSE RESOURCES
The course presentation slides form the notes for this course. There is no prescribed text, but students may find additional reference books useful learning and/or supporting resources. Several appropriate books may be found in the university library.

Course website
The course website will be used for the dissemination of course presentation slides (i.e. course notes) and other relevant material such as assignments. You can access the course website using your student number (username) and zPass (password) by visiting: https://moodle.telt.unsw.edu.au/login/index.php

6. OTHER RESOURCES
BusinessThink is UNSW’s free, online business publication. It is a platform for business research, analysis and opinion. If you would like to subscribe to BusinessThink, and receive the free monthly e-newsletter with the latest in research, opinion and business, go to http://www.businessthink.unsw.edu.au.

7. COURSE EVALUATION AND DEVELOPMENT
Feedback is sought from students about the courses offered in the AGSM MBA Program, and continual improvements are made based on this feedback. Early on in the session, feedback is generally collected in Weeks 3 or 4, and subsequently communicated to students. Significant changes to courses and programs within the Program based on formal end-of-Session feedback are communicated to subsequent cohorts of students.
8. **PROPOSED COURSE SCHEDULE**

<table>
<thead>
<tr>
<th>Week</th>
<th>Content</th>
<th>Homework question due at start of class …</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Class 1:</strong> General Modelling</td>
<td>n/a</td>
</tr>
<tr>
<td>2</td>
<td><strong>Class 2:</strong> Spreadsheet Essentials &amp; Data Visualisation</td>
<td>M&amp;K Sales Tracker</td>
</tr>
<tr>
<td>3</td>
<td><strong>Class 3:</strong> Forecasting (Part 1)</td>
<td>Houses Inc</td>
</tr>
<tr>
<td>4</td>
<td><strong>Class 4:</strong> Forecasting (Part 2)</td>
<td>Sam’s Sausages</td>
</tr>
<tr>
<td>5</td>
<td><strong>No class.</strong> Individual Assignment development session</td>
<td>n/a</td>
</tr>
<tr>
<td>6</td>
<td><strong>Class 5:</strong> Optimisation (Part 1)</td>
<td>South American Tinting</td>
</tr>
<tr>
<td>7</td>
<td><strong>Class 6:</strong> Optimisation (Part 2)</td>
<td>Ampol</td>
</tr>
<tr>
<td>8</td>
<td><strong>Class 7:</strong> VBA Essentials</td>
<td>Combo Corporation</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> Individual Assignment is due by 9.30am on Monday 13 March 2017</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td><strong>Class 8:</strong> Simulation (Part 1)</td>
<td>Nil</td>
</tr>
<tr>
<td>10</td>
<td><strong>Class 9:</strong> Simulation (Part 2)</td>
<td>Refresh-U</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> Group Term Project is due by 9.30am on Monday 27 March 2017</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td><strong>Term Project Presentations</strong></td>
<td>People First</td>
</tr>
</tbody>
</table>

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PART B: KEY POLICIES, STUDENT RESPONSIBILITIES AND SUPPORT

1. ACADEMIC HONESTY AND PLAGIARISM

The University regards plagiarism as a form of academic misconduct, and has very strict rules regarding plagiarism. For UNSW policies, penalties, and information to help you avoid plagiarism see: https://student.unsw.edu.au/plagiarism as well as the guidelines in the online ELISE and ELISE Plus tutorials for all new UNSW students: http://info.library.unsw.edu.au/skills/tutorials/InfoSkills/index.htm.

To see if you understand plagiarism, do this short quiz: https://student.unsw.edu.au/plagiarism-quiz

For information on how to acknowledge your sources and reference correctly, see: https://student.unsw.edu.au/referencing


2. STUDENT RESPONSIBILITIES AND CONDUCT

Students are expected to be familiar with and adhere to university policies in relation to class attendance and general conduct and behaviour, including maintaining a safe, respectful environment; and to understand their obligations in relation to workload, assessment and keeping informed.

AGSM MBA Programs and UNSW policies
In general, UNSW policies apply to staff and students of AGSM MBA Programs. Where there are additional points or procedures which apply specifically to AGSM MBA Programs they are set out on the AGSM website:

https://www.business.unsw.edu.au/agsm/students/resources/students-rights-responsibilities

If students are in doubt about the policy or procedure relating to a particular matter they should seek advice from the Student Experience.

Information and policies on these topics can be found in the ‘A-Z Student Guide’: https://student.unsw.edu.au/guide

See, especially, information on ‘Attendance and Absence’, ‘Assessment Information’, ‘Examinations’, ‘Workload’ and policies such as ‘Occupational Health and Safety’.
2.1 Workload

It is expected that you will spend at least **10 hours** per week studying this course. This time should be made up of reading, research, working on exercises and problems, and attending classes. In periods where you need to complete assignments or prepare for examinations, the workload may be greater.

Over-commitment has been a cause of failure for many students. You should take the required workload into account when planning how to balance study with employment and other activities.

2.2 Attendance

Your regular and punctual attendance at lectures and seminars is expected in this course. University regulations indicate that if students attend less than 80% of scheduled classes they may be refused final assessment.

https://www.business.unsw.edu.au/agsm/students/student-enrolment-information#attendance-participation

2.3 General Conduct and Behaviour

You are expected to conduct yourself with consideration and respect for the needs of your fellow students and teaching staff. Conduct which unduly disrupts or interferes with a class, such as ringing or talking on mobile phones, is not acceptable and students may be asked to leave the class. More information on student conduct is available at: https://student.unsw.edu.au/guide

2.4 Occupational Health and Safety

UNSW Policy requires each person to work safely and responsibly, in order to avoid personal injury and to protect the safety of others. For more information, see http://www.ohs.unsw.edu.au/

2.5 Keeping Informed

You should take note of all announcements made in class or on the course website. From time to time, the University will send important announcements to your university email address without providing you with a paper copy. You will be deemed to have received this information. It is also your responsibility to keep the University informed of all changes to your contact details.
3. STUDENT RESOURCES AND SUPPORT

eLearning
To access Moodle, go to: https://moodle.telt.unsw.edu.au/login/index.php
Login with your student zID (username) and zPass (password).

Moodle eLearning support
Should you have any difficulties accessing your course online, please contact the eLearning support below:

For login issues:

UNSW IT Service Centre
Hours: Monday to Friday: 8am – 8pm
       Saturday and Sunday: 11am – 2pm
Email: ITServiceCentre@unsw.edu.au
Phone: Internal: x51333
       External: 02 9385 1333
       International: +61 2 9385 1333

For assistance in using Moodle, including how to upload assessments:

The AGSM eLearning Coordinator
Hours: Monday to Friday: 9am – 5pm
Email: elearning@agsm.edu.au
Phone: Internal: x19541
       External: 02 9931 9541
       International: +61 2 9931 9541

For help with technical issues and problems:

External TELT Support
Hours: Monday to Friday: 7.30am – 9.30pm
       Saturdays and Sundays: 8.30am – 4.30pm
Email: externalteltsupport@unsw.edu.au
Phone: Internal: x53331
       External: 02 9385 3331
       International: +61 2 9385 3331

Administrative support

Student Experience
If you have any administrative queries, they should be addressed to Student Experience.
Student Experience
AGSM MBA Programs
Additional student resources and support

The University and the UNSW Business School provide a wide range of support services for students, including:

- **Business School Education Development Unit (EDU)**
  https://www.business.unsw.edu.au/students/resources/learning-support
  The EDU provides academic writing, study skills and maths support specifically for Business students. Services include workshops, online resources, and individual consultations.
  EDU Office: Level 1, Room 1033, Quadrangle Building.
  Phone: +61 2 9385 5584; Email: edu@unsw.edu.au

- **UNSW Learning Centre**
  http://www.lc.unsw.edu.au
  Provides academic skills support services, including workshops and resources, for all UNSW students. See website for details.

- **Library training and search support services**
  http://info.library.unsw.edu.au/web/services/services.html

- **UNSW Counselling and Psychological Services**
  https://student.unsw.edu.au/wellbeing
  Provides support and services if you need help with your personal life, getting your academic life back on track or just want to know how to stay safe, including free, confidential counselling.
  Office: Level 2, East Wing, Quadrangle Building;
  Phone: +61 2 9385 5418.

- **Student Equity & Disabilities Unit**
  http://www.studentequity.unsw.edu.au
  Provides advice regarding equity and diversity issues, and support for students who have a disability or disadvantage that interferes with their learning.
  Office: Ground Floor, John Goodsell Building;
  Phone: +61 2 9385 4734; Email: seadu@unsw.edu.au