Comm8002/4002
Quantitative Methods

Course Outline
Semester 2, 2012

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PART A: COURSE-SPECIFIC INFORMATION

1 STAFF CONTACT DETAILS
Rahul Govind
Room 3012 Quad
Phone No: 9385 1284
Email: r.govind@unsw.edu.au
Consultation Times – appointment by email

Lecturers:
Topic 1: Gary Monroe g.monroe@unsw.edu.au
Topic 2: Amirali Minbashian amiralim@unsw.edu.au
Topic 3: Lesley Land l.land@unsw.edu.au
Topic 4: Rahul Govind r.govind@unsw.edu.au

2 COURSE DETAILS

2.1 Teaching Times and Locations
Lectures will be held on Wednesdays 9 am-12 pm in Quad Lab 2

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

2.3 Summary of Course
This course introduces students to various data analysis techniques which will allow you to design research projects appropriately and conduct the necessary data analysis. In conducting empirical studies it is necessary to understand the benefits and drawbacks of various techniques so that you can select analytical techniques appropriate to answer the research questions being tested. The analysis should be designed as an integral part of a study, and precede the development of surveys and data collection.

2.4 Course Aims and Relationship to Other Courses
While it is important to have an understanding of how the analytical techniques work, the focus of this course will be gaining an understanding of what the various techniques will do for you i.e., depending on your research questions, what is the most suitable technique to be able to test these research questions, how to use them and how to interpret the output. To help with this we will be using SPSS v19/v20.

This course is one of four ASB courses for research students aimed to develop various skills needed in conducting research. Whereas the other courses cover critical reviewing and methodologies, this one aims to teach the student about a range of quantitative techniques that may be applied to gain insight from data.

2.5 Student Learning Outcomes
By the end of this course you should be able to:

1. Understand when and how a range of statistical techniques may be applied to understand data
2. Competently and confidently communicate (verbal and written) the true meaning of statistical output
3. Understand the connection between research questions and statistical techniques
4. Critically review the use of statistical techniques
ASB Graduate Attributes

This course contributes to your development of the following Australian School of Business Graduate Attributes, which are the qualities, skills and understandings we want you to have by the completion of your degree.

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>ASB Graduate Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3,4</td>
<td>1. Critical thinking and problem solving</td>
</tr>
<tr>
<td>2</td>
<td>2. Communication</td>
</tr>
<tr>
<td>4</td>
<td>3. In-depth engagement with relevant disciplinary knowledge</td>
</tr>
</tbody>
</table>

More information on the ASB Graduate Attributes and how they align with the UNSW Graduate Attributes (2010) is available on the ASB website (Learning and Teaching >Graduate Attributes).

3 LEARNING AND TEACHING ACTIVITIES

3.1 Approach to Learning and Teaching in the Course

This course is constructed so as to challenge you and encourage you to develop independent thinking. A student-centred and process based approach is taken in this course. All aspects of this course are designed to support your learning. By instructing you in the tools of analysis, reviewing how these tools are applied in academic research, providing repeated opportunities for you to practice these skills to solidify your understanding, you will then have the confidence to apply this learning and skills to your own research. To obtain full benefits from this course, you must be willing to extend yourself beyond your comfort zone.

3.2 Learning Activities and Teaching Strategies

The 3hr meetings will be a mixture of lecture, workshop and computer exercises. The mix of these will vary across weeks, depending on the topic and the needs of the students. In the lecture component we will explain the technique, discussing how, when and why they may be used and exploring the underlying bases. The workshop component will examine how the various techniques are applied and reported in academic articles so that the students understand these requirements for their research. The computer exercises allow the student opportunity to apply the techniques to various data sets. This helps to uncover various misunderstandings from the other components and develops the practical skills necessary to undertake analysis in their own research.

4 ASSESSMENT

4.1 Formal Requirements

In order to pass this course, you must:

- achieve a composite mark of at least 70% (note that individual Schools may have different requirements for specific courses)

4.2 Assessment Details

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Weight</th>
<th>Learning Outcomes assessed</th>
<th>ASB Graduate Attributes assessed</th>
<th>Length</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Exercises x3</td>
<td>60%</td>
<td>1, 2, 3</td>
<td>2, 3</td>
<td>open</td>
<td>WK 5,8,12</td>
</tr>
<tr>
<td>Article critique x3</td>
<td>40%</td>
<td>1, 3, 4</td>
<td>2, 3</td>
<td>1500 words</td>
<td>Week 13</td>
</tr>
</tbody>
</table>
4.3 Assessment Format

1. **Computer Exercises** (to be handed in to topic lecturer at beginning of scheduled class)

   There will be four computer exercises (each worth 15%) assigned to help you develop an understanding of how to apply a particular statistical technique and then clearly communicate the results. The exercises will cover various topics after they have been discussed in class and a lab session. For each of these you will hand in a 2-3 page write-up similar to the Analysis and Results section of a journal article, plus an Appendix with a more detailed explanation of the analysis undertaken. Any SPSS output should be annotated with explanatory notes. Marking criteria will include: accuracy and depth of analysis; clarity of communication.

2. **Journal article critiques** (due Week 13 Wednesday 17th Oct to topic lecturer by 5pm)

   There will be one journal article reading assigned by each of the topic lecturers (3 in total) which will provide you with examples of how various techniques are used in business research. You will be required to hand in a 1500 word, (excluding references, 12pt font, double spaced) summary containing what you have learnt from the article (each summary report worth 13.33%) with respect to the analytical techniques used. You are to focus on the method, analysis and results sections in your reading and write-up. This task helps to further develop your understanding of particular techniques, increases your appreciation for the information that can be obtained from each technique and encourages your critical thinking regarding their application. Marking criteria will include: communication of key insights from analysis; level of critical reflection.

   These articles will be posted on Blackboard in Week 1.

4.4 Late Submission

Information about late submission of assignments, including penalties, is available on the School of Marketing’s website.


**Quality Assurance**

The ASB 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 ASB programs. All material used for such processes will be treated as confidential and will not be related to course grades.

5 COURSE RESOURCES

It is strongly recommended that you purchase the first text. Not only will it help you in this course, but it will be a very useful resource for later work. The second text is also a useful resource.

“*Multivariate Data Analysis*” 7th edition by Hair, Black, Babin, Anderson (2009)


Blackboard will be used for communication purposes. Datasets will be posted on Blackboard the first week of the relevant Topic. The url will be made available in Week 1.
Copies of journal articles (for class discussion and for assessment) and any additional reading material will be handed out in class in Week 1. A list of these articles is after the Course Schedule.

Copies of lecture slides will either be handed out at the beginning of the relevant class or posted on Blackboard. Each individual lecturer will inform the class of their preference for provision of lecture slides.

If you would like some easier reading to “get you started” for some of the simpler techniques, there are a number of research texts available, eg Churchill, 1999, “Marketing Research, Methodological Foundations”, Addison-Wesley
Sage publications also produce a range of books, each on a single technique, explaining its bases and application.

The following articles will be posted on BlackBoard in Week 1


Additional reading:


**Week 11:** Rao, V. R. (2008), Developments in Conjoint Analysis, Chapter 2 in *Handbook of Marketing Decision Models*, B. Wierenga (ed.).


Papers to Critique:

**Critique 1** (hand in write-up to Amirali Minbashian)


**Critique 2** (hand in write-up to Lesley Land)


**Critique 3** (hand in write-up to Rahul Govind)
6 COURSE EVALUATION AND DEVELOPMENT

Each year feedback is sought from students about the courses offered in the School and continual improvements are made based on this feedback. In this course we will seek your feedback through UNSW’s Course and Teaching Evaluation and Improvement (CATEI) Process. We also welcome informal feedback during the course and, if appropriate, will adjust the course as it progresses in line with this feedback.

7 COURSE SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture Content/Topic</th>
<th>Readings</th>
<th>Other activities/Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 18 Jul</td>
<td><strong>Topic 1:</strong> Intro to Data Analysis</td>
<td>Introduction to course Types of data, coding, data cleaning</td>
<td>Ch 1 &amp; 2</td>
</tr>
<tr>
<td>2 25 Jul</td>
<td>Gary Monroe</td>
<td>Exploratory data analysis</td>
<td>Ch 2</td>
</tr>
<tr>
<td>3 1 Aug</td>
<td><strong>Topic 2:</strong> ANOVA Amirali Minbashian</td>
<td>ANOVA</td>
<td>Ch 8</td>
</tr>
<tr>
<td>4 8 Aug</td>
<td>Amirali Minbashian</td>
<td>ANCOVA &amp; MANOVA</td>
<td>Ch 8</td>
</tr>
<tr>
<td>5 15 Aug</td>
<td></td>
<td>Repeated measures</td>
<td>Ch 8 Brandon et al. (2007)</td>
</tr>
<tr>
<td>6 22 Aug</td>
<td><strong>Topic 3:</strong> Regression Lesley Land</td>
<td>Multiple regression</td>
<td>Ch 4, 5, &amp; 7. Li &amp; Ye (1999)</td>
</tr>
<tr>
<td>7 29 Aug</td>
<td></td>
<td>Moderators &amp; Mediators</td>
<td>Ch 4, 5, &amp; 7 Carte &amp; Russell (2003)</td>
</tr>
<tr>
<td>9 19 Sep</td>
<td><strong>Topic 4:</strong> FA &amp; CA Rahul Govind</td>
<td>Factor analysis and Reliability Analysis</td>
<td>Ch 3 Lee (2009)</td>
</tr>
<tr>
<td>10 26 Sep</td>
<td></td>
<td>Conjoint Analysis</td>
<td>Ch 6</td>
</tr>
<tr>
<td>11 3 Oct</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>12 10 Oct</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 17 Oct</td>
<td></td>
<td></td>
<td>CE 3: Conjoint Analysis 3 critiques Due: 17th Oct</td>
</tr>
</tbody>
</table>
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: http://www.lc.unsw.edu.au/plagiarism/index.html 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: http://www.lc.unsw.edu.au/plagiarism/plagquiz.html
For information on how to acknowledge your sources and reference correctly, see: http://www.lc.unsw.edu.au/onlib/ref.html

For the ASB Harvard Referencing Guide, see ASB Referencing and Plagiarism webpage (ASB >Learning and Teaching>Student services>Referencing and plagiarism)

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.


2.1 Workload

It is expected that you will spend at least ten 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.

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://my.unsw.edu.au/student/atoz/BehaviourOfStudents.html

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 lectures, tutorials or on the course web site. From time to time, the University will send important announcements to your university e-mail 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 SPECIAL CONSIDERATION AND SUPPLEMENTARY EXAMINATIONS

You must submit all assignments and attend all examinations scheduled for your course. You should seek assistance early if you suffer illness or misadventure which affects your course progress.

General Information on Special Consideration:

1. All applications for special consideration must be lodged online through myUNSW within 3 working days of the assessment (Log into myUNSW and go to My Student Profile tab > My Student Services channel > Online Services > Special Consideration). You will then need to submit the originals or certified copies of your completed Professional Authority form (pdf - download here) and other supporting documentation to Student Central. For more information, please study carefully the instructions and conditions at: https://my.unsw.edu.au/student/atoz/SpecialConsideration.html.

2. Please note that documentation may be checked for authenticity and the submission of false documentation will be treated as academic misconduct. The School may ask to see the original or certified copy.
3. Applications will not be accepted by teaching staff. The lecturer-in-charge will be automatically notified when you lodge an online application for special consideration.

4. Decisions and recommendations are only made by lecturers-in-charge (or by the Faculty Panel in the case of UG final exam special considerations), not by tutors.

5. Applying for special consideration does not automatically mean that you will be granted a supplementary exam or other concession.

6. Special consideration requests do not allow lecturers-in-charge to award students additional marks.

**ASB Policy on requests for Special Consideration for Final Exams in Undergraduate Courses:**

The policy of the School of Marketing is that the lecturer-in-charge will need to be satisfied on each of the following before supporting a request for special consideration:

1. Does the medical certificate contain all relevant information? For a medical certificate to be accepted, the degree of illness, and impact on the student, must be stated by the medical practitioner (severe, moderate, mild). A certificate without this will not be valid.

2. Has the student performed satisfactorily in the other assessment items? Satisfactory performance would require at least 50% in individual components and meeting the obligation to have attended 80% of tutorials.

3. Does the student have a history of previous applications for special consideration? A history of previous applications may preclude a student from being granted special consideration.

Special Consideration and the Final Exam:
Applications for special consideration in relation to the final exam are considered by an ASB Faculty panel to which lecturers-in-charge provide their recommendations for each request. If the Faculty panel grants a special consideration request, this will entitle the student to sit a supplementary examination. No other form of consideration will be granted. The following procedures will apply:

1. Supplementary exams will be scheduled centrally and will be held approximately two weeks after the formal examination period. The dates for ASB supplementary exams for Session 1, 2012 are:
   - 28 November 2012 – exams for the School of Accounting
   - 29 November 2012 – exams for all Schools except Accounting and Economics
   - 30 November 2012 – exams for the School of Economics

If a student lodges a special consideration for the final exam, they are stating they will be available on the above dates. **Supplementary exams will not be held at any other time.**

2. Where a student is granted a supplementary examination as a result of a request for special consideration, the student’s original exam (if completed) will be ignored and only the mark achieved in the supplementary examination will count towards the final grade. Failure to attend the supplementary exam will not entitle
the student to have the original exam paper marked and may result in a zero mark for the final exam.

If you attend the regular final exam, you are extremely unlikely to be granted a supplementary exam. Hence if you are too ill to perform up to your normal standard in the regular final exam, you are strongly advised not to attend. However, granting of a supplementary exam in such cases is not automatic. You would still need to satisfy the criteria stated above.

The ASB’s Special Consideration and Supplementary Examination Policy and Procedures for Final Exams for Undergraduate Courses is available at: http://www.asb.unsw.edu.au/currentstudents/resources/forms/Documents/supplementaryexamprocedures.pdf.

4 STUDENT RESOURCES AND SUPPORT

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

- **ASB Education Development Unit (EDU):**
  http://www.asb.unsw.edu.au/learningandteaching
  Academic writing, study skills and maths support specifically for ASB students. Services include workshops, online and printed resources, and individual consultations. EDU Office: Room GO7, Ground Floor, ASB Building (opposite Student Centre); Ph: 9385 5584; Email: edu@unsw.edu.au

- **ASB Student Centre:**
  http://www.asb.unsw.edu.au/requests
  Advice and direction on all aspects of admission, enrolment and graduation
  Ground Floor, West Wing, ASB Building; Ph: 9385 3189

- **Blackboard eLearning Support:**
  For online help using Blackboard, follow the links from www.elearning.unsw.edu.au to UNSW Blackboard Support / Support for Students. For technical support, email: itservicecentre@unsw.edu.au; Ph: 9385 1333

- **UNSW Learning Centre:**
  www.lc.unsw.edu.au
  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

- **IT Service Centre:**
  Technical support for problems logging in to websites, downloading documents etc. https://www.it.unsw.edu.au/students/index.html
  UNSW Library Annexe (Ground floor)

- **UNSW Counselling and Psychological Services:**
  http://www.counselling.unsw.edu.au
  Free, confidential service for problems of a personal or academic nature; and workshops on study issues such as 'Coping With Stress' and 'Procrastination'. Office: Level 2, Quadrangle East Wing; Ph: 9385 5418

- **Student Equity & Disabilities Unit:**
  http://www.studentequity.unsw.edu.au
  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; Ph: 9385 4734