

## Subject Information Guide

### STATISTICAL CONSULTING STAT904

**Semester 1, 2014**

#### Administration and contact details

<b>Host Department</b>	School of Mathematics and Applied Statistics
<b>Host Institution</b>	University of Wollongong
<b>Name of lecturers</b> <b>Phone</b> <b>Email</b> <b>Homepage</b>	<p>Name: David Steel Phone: 02 4221 3823 Email: dsteel@uow.edu.au</p> <p>Name: Thomas Suesse Phone: 02 4221 4173 Email: tsuesse@uow.edu.au</p> <p>Homepage: <a href="http://eis.uow.edu.au/smas/index.html">http://eis.uow.edu.au/smas/index.html</a></p>
<b>Name of Honours coordinator</b>	James McCoy
<b>Phone number</b>	02 42215189
<b>Email Address</b>	jamesm@uow.edu.au

#### Subject details

<b>Handbook entry URL</b>	<a href="https://solss.uow.edu.au/owa/sid/CAL.USER_SUBJECTINFO_SCREEN?p_faccode=24&amp;p_subcode=STAT904&amp;p_depabb=MAAS&amp;p_cal_subject_id=149996&amp;p_year=2014&amp;p_cal_type=P&amp;p_cal_types=UP&amp;p_display=NO">https://solss.uow.edu.au/owa/sid/CAL.USER_SUBJECTINFO_SCREEN?p_faccode=24&amp;p_subcode=STAT904&amp;p_depabb=MAAS&amp;p_cal_subject_id=149996&amp;p_year=2014&amp;p_cal_type=P&amp;p_cal_types=UP&amp;p_display=NO</a>
<b>Subject homepage URL</b>	NA
<b>Honours student hand-out URL</b>	<a href="http://www.uow.edu.au/informatics/maths/students/current/honours/index.html">www.uow.edu.au/informatics/maths/students/current/honours/index.html</a>
<b>Start date:</b>	3/03/2014
<b>End date:</b>	2/06/2014
<b>Contact hours per week:</b>	2
<b>Lecture day and time:</b>	MON 11:30-13:30
<b>Description of electronic access</b>	UOW eLearning space (Moodle) Email: dsteel@uow.edu.au UOW eLearning space (Moodle)

arrangements  
for students  
(for example,  
WebCT)

Email: [dsteel@uow.edu.au](mailto:dsteel@uow.edu.au)

## Subject content

### 1. Subject content description

After successful completion of this subject, students should be able to perform the following tasks;

- (i) Identify and deal with ethical issues arising through the consulting relationship
- (ii) Conduct an initial interview as a statistical consultant, eliciting the problem and directing appropriate follow-up.
- (iii) Appraise statistical consulting sessions conducted by others.
- (iv) Analyse and report to a client in a timely and effective manner.
- (v) Research topics previously unknown to them.
- (vi) Identify relevant analysis and design approaches in practical situations.

### 2. Week-by-week topic overview

In this subject we consider the issues associated with the role of statistical consultant and client. Topics include: communication skills, choosing analysis techniques, developing appropriate study designs, questionnaire development and piloting, researching the unknown, sample size, initial interviews, follow-up interviews, analysing data, reporting, and time management.

### 3. Assumed prerequisite knowledge and capabilities

Major in undergraduate statistics, including common statistical methods such as ANOVA, linear and logistic regression, t- tests, chi-squared tests.

### 4. Learning outcomes and objectives

**AQF specific Program Learning Outcomes and Learning Outcome Descriptors:**

AQF Program Learning Outcomes addressed in this subject	Associated AQF Learning Outcome Descriptors for this subject
conduct efficiently a consulting session with a client	<b>K1,S5,A1</b>
find information on statistical methodology using the resources of the Library and the World Wide Web	<b>S5, A2</b>
explain the important principles behind designing and conducting an experiment or sample survey	<b>S5, A2</b>
determine appropriate statistical procedures to use on a wide variety of data sets	<b>S5, A2</b>

**Learning Outcome Descriptors at AQF Level 8**

**Knowledge**

K1: coherent and advanced knowledge of the underlying principles and concepts in one or more disciplines

K2: knowledge of research principles and methods

**Skills**

S1: cognitive skills to review, analyse, consolidate and synthesise knowledge to identify and provide solutions to complex problem with intellectual independence

S2: cognitive and technical skills to demonstrate a broad understanding of a body of knowledge and theoretical concepts with advanced understanding in some areas

S3: cognitive skills to exercise critical thinking and judgement in developing new understanding

S4: technical skills to design and use in a research project

S5: communication skills to present clear and coherent exposition of knowledge and ideas to a variety of audiences

**Application of Knowledge and Skills**

A1: with initiative and judgement in professional practice and/or scholarship

A2: to adapt knowledge and skills in diverse contexts

A3: with responsibility and accountability for own learning and practice and in collaboration with others within broad parameters

A4: to plan and execute project work and/or a piece of research and scholarship with some independence

## 5. Learning resources

- Text/printed notes  
Notes will be distributed to students as required and made available on the UOW eLearning Space..
- Software (local access)  
Access to a standard statistical software package such as SPSS, Stata, JMP, SAS, or R will be required to undertake some statistical analysis for assignments.

## 6. Assessment

All assignments will be issued on the eLearning Space. All assignments must be lodged as a single PDF document on the eLearning Space for this subject by 2pm on the due date.

The assessment in this subject will include 10 weekly assignments; a report on consultations; a summary of important points; and a report and presentation on a research topic. Details are given below.

**Weekly Assignments:** The ten weekly assignments are each worth 6% giving a total of 60% of the final mark. The week specified in the following table indicates when assignments will

be issued and the due dates. It is important that you at least read an assignment before the lecture in the week after it is handed out so that you can ask relevant questions.

Weekly Assignments	Week Out	Date Out	Week Due	Date Due
1	1	3 Mar	3	17 Mar
2	2	10 Mar	4	24 Mar
3	3	17 Mar	5	1 Apr
4	4	24 Mar	6	7 Apr
5	5	31 Mar	7	14Apr
6	6	7 Apr	8	28Apr
7	7	14 Apr	9	6 May
8	8	28 Apr	10	5 May
9	9	5 May	11	19 May
10	10	12 May	12	26 May

**Consultant Observations:** Each student will also be asked to observe some real consultations and provide a report on them. This assessment must be submitted by 5pm in week 13 (2 Jun) and will count for 15% of the final mark.

To be involved in real consulting students will have to make themselves available outside standard class contact times. Any anticipated problem in this regard should be brought to the attention of Prof Steel.

**Summary of important points:** In week 12, a summary of important points covered in the subject must be submitted by 5pm on 26 May. This will count for 10% of the final mark.

**Report and Presentation:** Each student will be allocated a topic to research and provide a written report and give a 15-minute presentation at the lecture in week 13 (2 Jun)). This will count for 15% of the final mark.

In allocating marks to any component the clarity of presentation will be taken into account as well as content. The appropriateness of the length of any reports will also be taken into account. Information on length, style and format of written work will be given for each assignment.

## Institution Honours program details

<b>Weight of subject in total honours assessment at host department</b>	<b>1/8</b>
<b>Thesis/subject split at host department</b>	<b>BMath(Hons): Thesis worth 25%</b> <b>BMathAdv(Hons): Thesis worth 37.5%</b>
<b>Honours grade ranges at host department:</b>	
<b>H1</b>	85-100
<b>H2a</b>	75-84
<b>H2b</b>	65-74
<b>H3</b>	50-64