

SENG4921: Professional Issues and Ethics

Introduction

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1 What we want to do today

- Discuss lecture and seminar times and course organization.
- Overview of course.
- Course objectives.
- The role of discussion.
- Next week.

1.1 Course organization

- Discussion groups.
- Seminar times

Current enrolment status: goto mUNSW webpage

Time	Enrolled
Monday 1400–1600	29
Monday 1800–2000	25
Wednesday 1200–1400	26
Total currently enrolled in course:	80

- We would prefer closer to 25 in each seminar, and *in any case will restrict seminars to 27!*
- We would like that to be done voluntarily, but if necessarily the CSE Student Office will enforce the limit of 27.
- Please consider moving, otherwise the CSE SO will enforce the limit within tomorrow.

1.2 Overview of course

Lectures There *may not* be lectures each week.

Seminars There *will* be seminars every week.

- Each seminar will conduct discussions, debates and other activities each week.
- Within the seminar group you will, at times, be split into smaller teams of 3–4 for group activities.
- The purpose of the seminars is to get *you* to discuss.
- Each seminar will have a facilitator, whose job will be to get *you* to talk, *not* to instruct you. Perhaps more to *provoke* you.

2 Assessment

Assessment will be via a debate(?), an essay done singly or in pairs, a student run seminar and an oral exam:

Week	Component	Mode	Mark
4 & 5	Debate(?)	Teams of 3	10%
8 to 10	Written assignment	Individual or pairs	30%
11, 12 & 13	Student run seminars	Groups of 4, 5 or 6	20%
June	Oral exam	Individual	40%

Additionally, a participation mark of 10% given by the facilitators may be used to moderate the mark if a component is missing.

More details will appear on SENG4921 class website.

Debates?

The normal schedule for this course includes 2 weeks or debates, but this year the course is running with larger seminar classes—in excess of 26 students per seminar—and that makes debates unattractive.

We would need to run the debates across 3 weeks.

We will be looking for another activity to replace the debates and will make a decision as soon as possible.

Any ideas, suggestions welcome!

2.1 Oral Exam

Oral Exam Format

The format of the oral exam is as follows:

Time: 15 minutes;

Questions: 3; 5 minutes each;

One way: there will be no discussion, for each question you will talk for up to 5 minutes.

Oral Exam Questions

The 3 exam questions will consist of:

Free choice: a question of your own choice;

Seminars & Lectures one each from a published list of questions chosen randomly as follows:

- Three (3) question numbers will be chosen randomly (from a deck of cards) by the student.
- One of the three questions is chosen by the student, or
- All three questions are rejected and the student chooses another three questions and answers one question for *half* marks.

The lists of questions on the Seminars and Lectures will be published at the end of the semester, before the exam.

It must be emphasised that *this is an oral exam, so simply reading from a set of notes will be marked down*. A policy on what may be brought into the examination will be announced later.

There will be two examiners for each session and the sessions will be recorded.

3 Course objectives

We aim to raise your awareness of, and ability to discuss, professional and ethical aspects of your chosen profession.

*You may initially think that **ethics** is something rather esoteric, insubstantial, irrelevant.*

We hope that you will come to realise that ethical issues cannot be avoided in your profession. They are there whether you acknowledge them or not; and more importantly the consequences are always there.

*We hope you will realise that **ethics and professional practice are strongly related. For example, bad ethical behaviour is not conducive to good system design.***

We hope that you will come to appreciate the responsibilities to the user and society implicit in much system design.

*The concept of **Software Engineering** is founded on a strong ethical imperative.*

3.1 Some Specific Objectives

1. To understand the difference between *ethics* and *law*; between *ethical* and *legal*.
2. To understand the significance being a professional; responsibility to clients and the public.
3. To understand the responsibility to produce fault-free software; it is one thing to appreciate that faulty software can cause significant consequences, even death, but what would you have done?
4. To critically evaluate system failure.
5. To understand the significance and consequences of IP, patents, DRM, dataveillance, social sites like facebook, etc, all of the many issues enabled by modern computing capabilities and facilities.
6. To understand your responsibilities to the professions of *software engineering* and *computer science*.

4 Software Engineering and Computer Science

Soon—in most cases next year—you will be graduating as a *Software Engineers*, or *Computer Scientists*. We don't know whether you have considered the words in that phrase before, but we want you to think about the connotations of *Engineer* and specifically *Software Engineer*, as well as *Computer Scientist*.

You can take this as a questioning of:

“Do you understand to what you are graduating?”

4.1 Ethics

There are at least two different modes of ethical reasoning

Deontological in which the reasoning is based on axioms or laws, for example, *“You shall not lie”*

Teleological in which the reasoning is based on outcomes.

Mirroring the above you also have *Codes of conduct* and *Codes of ethics*: one obliges you to behave a particular way, the other empowers you to decide on the course of action.

In this course, we will be particularly concerned with developing your capacity to reason about the possible outcomes.

In many cases there will not be a best, or optimal, outcome

There will be a dilemma.

4.2 Public Brain Washing

The computing profession/industry has succeeded in educating the general population to expect software to fail.

This is an extraordinary achievement.

But should we be proud of it?

5 The Role of Discussion

This is the sort of course that is not learnt best by listening to a lecture.

That is why you will be organized into discussion groups of around 15–20 members with a facilitator.

You will be expected to take an active role in the discussion groups.

6 Lectures

Most of the lectures are given by visitors, and while there will usually be lectures notes and podcasts, it is important that we show respect to the lecturers and attend the lectures. It is very disappointing for a lecturer to prepare a lecture and come to the lecture and find only a handful of students attending the lecture.

We believe that it show gross disrespect to the visitors.

Also, please note that occasionally podcast recording fails and there may not be podcasts for all lectures.

6.1 Next week: Week 1

Lecture: Associate Professor Stephen Cohen will present the first of two lectures on Ethics and Professional Responsibility.

Seminar: discussion on *Engineering* in general and *Software Engineering* and *Computer Science* in particular.

We will be looking at issues such as:

Codes of ethics Codes of ethics of professional societies.

Software system failures case studies of systems that failed; some of which killed people.

Intellectual property (IP) what is IP? What is it for? How does it work? What are the social consequences? What do you know about patents?

DRM what do you know about this?

Dataveillance What do you know about this?

Debates

Take part with a small team in a debate.

Student run seminars

In student run seminars you will get the chance to choose a small team run the whole show yourself.

6.2 Engineering, Software Engineering and Computer Science

[Week 1 seminar](#) *that's next week*

An opportunity to think about the profession into which you are about to graduate.

Two basic questions:

1. What is *Engineering*?
2. Is *Software Engineering* Engineering?

What does the word “engine” mean?

history of *engine*

The word *engine* entered Middle English in the sense “ingenuity, cunning” coming via Old French *engin* from Latin *ingenium* “talent, device” (the root also of *ingenious*) ... from which in the mid 17th century arose the idea of a machine.