

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

Here is the current enrolment status:

Time	Enrolled
Monday 1100–1300	20
Monday 1100–1300	5
Tuesday 1800–2000	11
Total currently enrolled:	36

- This class size can only support 3, or even 2 seminars.
- We probably need the evening slot?
- How many people can't attend any of the above seminars?
- How many people need Monday 1800?
- Any other problems?

1.2 Overview of course

Lectures There *may not* be lectures each week.

Seminars There *will* be seminars every week.

- *Seminars* will contain no more than 20 students (preferably 18 students), and within that small group you will conduct discussions, debates and other activities each week.
- Within the seminar group you will 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 an individual assignment, group discussions/debates/seminars and an oral exam:

Week	Date	Component	Mode	Mark
5/6	April 14, 21	Debate	Team	10%
8	May 5	Written assignment	Individual	30%
11/12	May 26, June 2	Student run seminar	Team	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 se4921 class website.

2.1 Oral Exam

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.

The 3 exam questions will consist of:

Free choice: a question of your own choice;

Seminars & Lectures one 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.

Notes may be brought into the exam, but this is an oral exam, so simply reading from a set of notes will not be regarded highly.

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

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.

4 The Profession

Soon—in most cases next year—you will be graduating as a *Software Engineer*. 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*.

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 subject 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 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* 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.

6.1 Engineering and Software Engineering

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.

Concise Oxford English Dictionary

Engineering is the art of directing the great sources of power in nature for the use and convenience of man

1828 charter of the British Institution of Civil Engineers

There is a lot of material on the class website.

Discussion should take place in small groups and in the whole class. Recommended to use the *six thinking hats* strategy of Edward de Bono

White Hat: what are the facts?

Red Hat: what are the feelings?

Black Hat: caution: what are the negative aspects?

Yellow Hat: positive: what are the good aspects?

Green Hat: creative: what new ideas can we think of?

Blue Hat: control: what do we need to think of? what have we discovered?

Purpose of the Thinking Hats

At any time, everyone wears the same hat. The idea is to discover as much as possible about a particular topic, and to stop unproductive discussion at cross purposes.

Have a good time