UNSW Australia

**ELEC4122**

Term 1, 2019

# Seminar Classes

From Week 3 onwards, the 2-hr seminar class will be based around a presentation by a team of up to 5 students on one of the topics listed below. (Each team presents TWO seminars.) In these presentations, the team is expected to give a *comprehensive coverage of the ethical implications of the topic*. This necessarily involves a description of the problem including *a clear statement of the questions* that you are attempting to answer. Being able to formulate and ask appropriate questions is an important skill and marks are influenced by the quality of your questions. There should be an analysis of various ethical viewpoints that might be adopted in answering your questions and some *conclusions must be attempted*. The group will be *expected to defend its conclusions with explicit ethics arguments*. Possible more general ethical implications associated with the topic should be investigated. Students are expected to research their topics.

If a set-piece presentation (e.g. a speech), it is expected to last 50 to 55 min, and to be followed by general discussion. However, the presentation need not be continuous set-piece. It is your presentation; you can arrange it as you see fit; the time is a guideline to how much 'content' we expect you to include in the presentation.

One student in the team must 'chair' the class, including the discussion-time. *This student must not be involved in any formal presentation.* Each of the team's presentations must be chaired by a different student. The Chair has the hardest task. (Advice for them is in moodle.)

Each team must prepare a summary of the ethical problems posed & their conclusions and post this on `moodle` (before or after class). One student in the team must take notes (aka minutes) during class, and put these notes on `moodle` after class so there is a record of the discussion that everyone can use. *The note-taking student need not be involved in any formal presentation and must not be the Chair.* Two different students must take the notes during the two different presentations.

All students in the audience will be expected to contribute to the discussion. In particular, *all students in the seminar class must listen to the presentation and are expected to formulate a relevant question to ask the presenting team.* If you do not participate, then you will **not** get participation marks.

After class, students will have the opportunity to continue the discussion in `moodle`. It is unlikely all questions will be resolved in the classroom. Some will require some research. *You should provide feedback to your class-mates after their first presentation so that they can improve for the second presentation.* The discussion space provided for the topic is private to your seminar class.

### Teams & Topics

Your seminar class is strictly limited to 20 students and presentations will be made by teams of 5 students. You select your team by using the team selection tool in moodle. The allocation of seminar topics will then follow in time for Week 3.

### Presentations' assessment

In preparing your seminars, take careful account of the following allocation of marks.

*Ethics content* (15 marks): problem identification, ethical reasoning & arguments, conclusions
*Other content* (4): technical background & social context
*Presentation method* (5): structure, persuasiveness, conciseness, etc
*Presentation quality* (4): clarity, platform manner, etc
*Discussion* (6): leading/chairing class-room discussion, addressing the question asked
*Teamwork* (3): effectively work together
*Referencing* (1): acknowledging sources of ideas, figs, etc (on summary sheet)
*Summary* (2): keeping to 1 page, problem introduced
*Discussion notes* (5): accurate record of questions & comments from the class-room
*Answering in moodle* (5): responding to questions raised after class in `moodle`

This gives a total of 50 marks.

Marks are divided amongst the team's members in accord with specific information provided by those same team's members. Incomplete teams receive an allowance for being short-handed.
After your first presentation, you must complete the two-part Team Leadership Reflection Exercise foud in moodle. This asks 13 T/F questions and 2 very short reflective questions about how your team functioned. Until you complete this exercise, *your seminar mark for this course cannot be finalised*.

The mark for leading the discussion will be determined by the presenting group's *response to the questions asked* by the other students and the tutor. Asking these questions contributes to the participation mark of the non-presenting students.

Students *must not read from prepared scripts* in an oral presentation. Working from notes makes it far more engaging and interesting. And simply talking through your summary sheet is usually tedious. Remember, *students must not commit plagiarism*.

### Participation

Students in the audience are reminded that participation requires ... participation.

STUDENT SEMINAR TOPICS

Under the general headings given, students are required to *identify some specific ethical questions*, of interest to engineers, and then *attempt to answer* these questions. They are also expected to provide some general ethical material that is background but necessary to understand the topic.

A. *Engineering as social experimentation: the case of gene therapies* This *must* include discussion of the concept of *social experimentation*. To what extent are engineers responsible for the impact of their technologies? What about the unforeseeable affects?

B. *Sustainability: the case of food production technologies*
This *must* include discussion of the meaning of the concept of *sustainability*. Reference must be made to Engineers Australia's sustainability policy (see `moodle`).
*Note and be warned: Sustainability is about more than ecology.*

C. *Workplace behaviours*
Workplaces involve inter-personal relationships and consequent ethical considerations about behaviour, e.g. bullying, harassment, nepotism, rewards, etc. Under Australian legislation, an employer must take "all reasonable steps" to prevent discrimination & harassment in the workplace[1] and UNSW has adopted relevant policies.[2]
*Note and be warned: This is about discussing ethics not laws.*

D. *Environmental ethics & the use of heavy metals in electrical infrastructure*
It doesn't matter what the priamary energy source is, an electricity system needs components. And tehse make use of some very nasty metals.

E. *Intellectual property*
The rights and duties of both those who own & those who want to use intellectual property (of relevance to engineering).
*Note and be warned: This is about discussing ethics not laws.*

F. *Humans and autonomous vehicles*
Much discussion looks at "the trolley problem." But is this really the critical ethics issue?

G. *Privacy, social networks & big data*
Innovation in search, tracking and on-line storage technologies exposes people's personal information in new ways. What is privacy? Does it matter? What is the engineer's role?

H. *Warfare in cyber-space*
Ethical issues surrounding the *role of engineers* in the development/use of weapons traditionally focuses on guns, etc. Extend this. Future 'wars' and violence may be in cyberspace.
*Note and be warned: This is not an excuse to explore science fiction.*

[1] `www.humanrights.gov.au/employers/toolkits-guidelines-and-other-resources`
[2] e.g., `www.gs.unsw.edu.au/policy/documents/equitystatement.pdf`