

FACC 400 Engineering Professional Practice Winter 2017

TUTORIAL DESCRIPTION

OVERVIEW

The tutorials will involve case studies that will challenge and develop further concepts discussed during the classes. The case studies will relate to concepts of ethics, responsibility, liability, sustainability, and environmental legislation. Each student will investigate only one of the case studies and participate in the presentation of this case study in one of five ways described below. Although you will participate actively in only one of the case studies, you will be responsible for developing an understanding of all of the case studies and their connection with engineering professional practice as presented in the tutorial. The final exam for the course will be in part composed of questions relating to each case study as they are discussed in the tutorial. **You are expected to attend all tutorials.**

There will be eight case studies and ~ 22 students will participate actively in each case study as illustrated in Fig. 1. Each case study will form five main *Presentation Groups*, with each group responsible for investigating the case study and presenting the information in one of the following formats:

- Infographic: 4 students
- Article: 4 students
- Video: 4 students
- Town Hall + Secretary: 6 students + 2 students
- Blog Post: 2 students

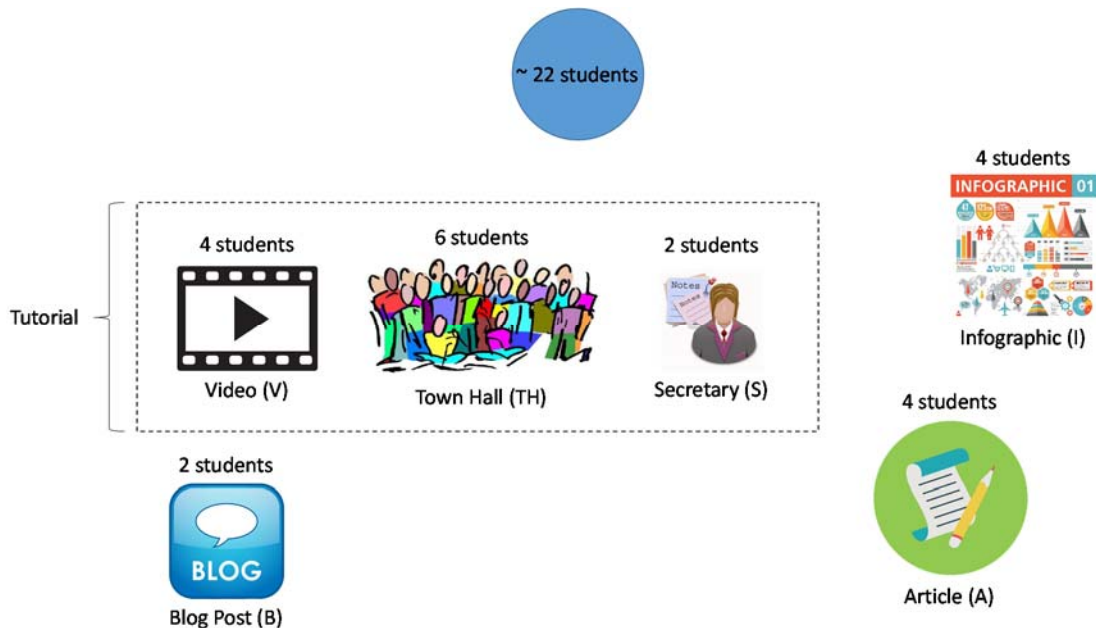


Fig. 1: Illustration of the different presentation groups for a case study.

PRESENTATION GROUPS

Article (~ 2,000 words):

The question to be addressed in the article will be assigned to the group one week *prior* to the tutorial and will involve both the case study and elements of engineering professional practice developed during class. The article must be submitted through myCourses (assignment tab) **by 5 pm one week from the day of the tutorial**. The article must be properly referenced (references are not part of the word count).

Video (~ 5 minutes):

The Video group will be responsible for preparing a **5 minute video** on the case study, providing both a general overview, timeline, perspectives from both supporters and those opposed, relevant abstractions from news articles and social media, and next steps. The video must be uploaded to YouTube and the link submitted through myCourses (assignment tab) **by 5 pm of the day before the tutorial**.

Town Hall (~ 40 minutes):

The town hall will be structured as an 'informal' public meeting where the case study will be discussed. 6 students in the Town Hall group will act as 'public figures' (the panelists); students not assigned to the case study but attending the tutorial will form the 'audience'. A moderator (one of the TAs) will run the Town Hall.

The town hall will begin with the moderator posing questions related to the case study including (1) facts, (2) positions related to supporters and those opposed, and (3) class material relating to environmental legislation, professionalism, and ethics as they pertain to the case study, and (4) certain social, economic, environmental, and political constraints or motivations. These questions will be directed to both individual panelists and the panel as a group. Ideally, panel members will begin conversations related to certain points, either furthering or disagreeing with points made by the moderator and other panel members.

The moderator will then open the floor to the audience. Members of the audience can direct questions to individual panelists or to the panel as a group. Members of the audience are also encouraged to 'take the floor' to voice their views and/or raise points not discussed by the panel. Further discussion can then ensue. All public figures are expected to contribute to the discussion.

pre-Town Hall discussion submission: the Town Hall panelists will be given several questions relating to the case study one week prior to the appropriate tutorial; responses to these questions (2-3 pages total) must be submitted through myCourses (assignment tab) **by 5 pm of the day before the tutorial**. These questions will provide an idea of the type of questions that will be asked by the moderator during the Town Hall.

Secretary (4 page submission):

Two students will serve as secretaries and take minutes from the Town Hall. They will record and summarize responses given by the panelists to the various questions posed (from the moderator and the audience), as well as ensuing discussions. The secretaries will work with the Town Hall panelists in preparing the pre-Town Hall discussion submission (note that the secretaries and public figures are

expected to contribute equally to this submission). The summary of the Town Hall must be submitted through myCourses (assignment tab) *by 5 pm one week from the day of the tutorial.*

Infographic (4 pages):

The infographic will illustrate the fundamentals of the case study as well as the points raised by panel members of the town hall, including important questions raised by the audience. The motivation is to create a visual representation of the case study. The infographic should relay information quickly, and although the text is important, it should be composed of short and concise thoughts. The information should be accessible by someone with no prior knowledge of the case study. Please see www.visualcapitalist.com for examples. The infographic must be submitted through myCourses (assignment tab) *by 5 pm one week from the day of the tutorial.*

Blog (< 600 words):

Two students will co-author a blog. The topic of the blog post must be pre-approved, and will ideally include interviews from either engineers, scientists, academics, or professionals. The blog post must be properly referenced (references are not part of the word count). Students must find appropriate blogs with which they wish to submit their blog post for publication, and make efforts to contact the editor and publish their post. The blog post must be submitted through myCourses (assignment tab) *by 5 pm one week from the day of the tutorial.*

DEBATES

In contrast to previous years, each case study will not feature a debate. However, for interested students, there will be an opportunity to participate in a two-on-two debate on one of the case studies. Debates will take place during the week of 6 March and there will be two debates (i.e., the topics from two case studies will be debated by different groups).

A maximum of 8 students can participate in the debates (4 students per debate/case study). If you sign up for the debates, then you do not need to sign up for a tutorial group.

Three weeks prior to the debate, students will be provided with the debate resolution. Both teams must prepare arguments to support **and** oppose the resolution. Teams will not know until 48 hours prior to the debate if they will form the proposition (affirmative) or opposition (negative). The debate moderator (TA or instructor) will run the debate. Each debate will last about 20 minutes and the following format will be used:

- Introduction and presentation of arguments, 4 minutes for each team
- Rebuttals, 3 minutes for each team
- 2 minute recess*
- Closing remarks, 2 minutes for each team

A coin toss will be used to decide which team begins. Time will be monitored strictly and the moderator will stop teams after their allotted times.

At the end of the debate, the audience will have an opportunity to express their views on the arguments presented by both sides.

pre-Debate submission: Each team will be responsible for composing separately and submitting 2 pages of notes (one page related to arguments relevant to the affirmative position and the other page relevant

to the opposition). Each team must submit this through myCourses (assignment tab) **by 5 pm of the day before the tutorial.**

TUTORIAL SCHEDULE

Introduction

Week of 9 January: Overview of the tutorial, summary of the case studies, presentations, and expectations.

At the end of the tutorial, registration will open for the case studies. You register through myCourses: In the top-right hand corner you click “Groups” and choose both a case study and presentation style. *You register for only **one choice**.* If in the case you register for more than one, you will be removed from all the spots registered for and be asked to re-register. The spots for each case study and presentation style are limited, and once each section is full there will be no possibility to accommodate other students into the section.

Understanding your Case Study

Week of 16 January: Case studies 1 - 4

Week of 23 January: Case studies 5 - 8

Attendance in the appropriate week is worth 5% of your tutorial grade, dependent on both attendance and an understanding of the case study.

Each student will be responsible for reading and understanding between 2 and 3 articles related to the case study *before the tutorial.*

Case Study # (week of)

1. 30 JANUARY: The Canadian oil sands
2. 6 FEBRUARY: Genetically modified foods
3. 13 FEBRUARY: Space exploration
4. 20 FEBRUARY: Drones
5. 13 MARCH: Automation and artificial intelligence OR The ethical dilemmas surrounding self-driving vehicles
6. 20 MARCH: The VW emissions scandal
7. 27 MARCH: Nuclear power
8. 3 APRIL: Cybersecurity and the Internet of Things

QUESTIONS

Questions relating to the tutorial section must first be posted in the discussion thread on myCourses where it can be answered by other students and the TAs. If you feel that the question has not been answered adequately, or if the question or comment is of a personal nature and is inappropriate for the discussion thread, then you may send an email to the appropriate TA (through myCourses).

Corresponding TA

Case Studies 1-2: *François-Johan Chassaing*

Case Studies 3-4: *Meghan Marshall*

Case Studies 5,8: Christopher Agellon

Case Studies 6,7: Pengfei Ou

GRADING

The tutorial is worth 47% of your final course grade; moreover, the final exam will comprise several questions relating to each case study as they are discussed in the tutorial. A part of the grade is composed of a peer-evaluation and self-assessment. The peer-evaluation provides an opportunity to both appreciate and be critical of the contributions of your peers in your presentation group. The evaluations, both peer and self, must be completed online *by 5 pm one week from the day of the presentation or submission of the work.*

Note: for the Debate, only members of the same team will evaluate one another. The evaluation is found in the top-right hand corner of myCourses under Surveys, and is due *by 5 pm one week from the day of the presentation or submission of the work.*

The 47% is distributed as follows, and is dependent on your presentation group:

- 5% Participation in “Understanding your Case Study” tutorial.
- 7% Peer-evaluation (within each presentation group or team)
- 5% Self-assessment

Video, Article, or Infographic

- 30% Project

Town Hall, Secretary, or Debate

- 10% pre-Town Hall / pre-Debate submission
- 20% Town Hall discussion or debate

Blog post

- 25% Blog post
- 5% Efforts to publish the blog post