CIVL 1140 ENVIRONMENTAL QUALITY CONTROL AND IMPROVEMENT
Spring, 2016–17 Course Syllabus

UNITS: [3-0-0:3]

INSTRUCTOR: Prof. Chii SHANG
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SCHEDULE:

<table>
<thead>
<tr>
<th>Time</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>MW 12:00 – 13:20 5620</td>
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<tr>
<td>Office</td>
<td>Anytime when I am in 3596</td>
</tr>
</tbody>
</table>

COURSE DESCRIPTION

Introduction to up-to-date environmental issues in both local and global scales; providing essential physical, chemical, biological and societal concepts required to understand the nature of pollution and environmental problems; applying science, engineering, management and social science approaches to solutions to environmental issues that affect our water, air, land, eco-systems, living environment, and sustainable development.

The objective of this course is to equip our next generation leaders in different disciplines with enhanced environmental awareness and knowledge of tools and solutions to environmental issues. They will therefore be able to make responsible decisions and actions, with due consideration of the environment and sustainability.

This course is being reinvented into an integrated blended learning and team project-based experiential learning course. It consists of team study on two real, practical environmental quality control and improvement projects, each of which lasts for over a month. For each project, introduction of the background will be first given by the instructor. Students are then expected to self-study the essential concepts needed for the project, formulating ideas that are to be discussed, debated, refined and shared in classes, with guidance from the instructing team. At last, students are asked to present the finalized solution to the project, with emphases on their analysis and multidimensional considerations from different angles including social, economic, science and engineering aspects.

REFERENCES

INTENDED LEARNING OUTCOMES (ILOS)

1. Acquire fundamental knowledge of scientific principles affecting environmental quality, and of methods of environmental quality control and improvement.

2. Develop an appreciation for the complexity and breadth of environmental problems and the solutions, if any, to those problems.


4. Be able to acquire, independently and efficiently, new knowledge relating to environmental quality.

5. Develop the ability to communicate and discuss, in an effective manner, ideas and thoughts concerning the environment.

MARK ALLOCATION

Projects (by group) 40% (20% each)
Final self-reflection report (by individual) 20%
Classroom discussion (by individual) 20%
Mini quiz/review/sharing (by individual) 10%
Peer evaluation (by individual) 10%
Attendance (2% off each from the third absence)

OUTLINE

<table>
<thead>
<tr>
<th>Date</th>
<th>Arrangement</th>
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</thead>
<tbody>
<tr>
<td>1-2-17</td>
<td>Course syllabus</td>
</tr>
<tr>
<td>6-2-17</td>
<td>Introduction 1</td>
</tr>
<tr>
<td>8-2-17</td>
<td>Introduction 2, Ways to work on a project as a team</td>
</tr>
<tr>
<td>13-2-17</td>
<td>Grouping, Project 1. Making Hong Kong Greener—Controlling global warming and carbon emission in Hong Kong (Background briefing by Prof. Shang)</td>
</tr>
<tr>
<td>15-2-17</td>
<td>Information searching (off class)</td>
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<tr>
<td>20-2-17</td>
<td>More information from Prof. Shang and group discussion on the scopes of the project and work distribution, guided by TA</td>
</tr>
<tr>
<td>22-2-17</td>
<td>In-breadth information searching (off class)</td>
</tr>
<tr>
<td>27-2-17</td>
<td>Classroom discussion on findings within the group to refine the scope of investigation and distribute work among students, guided by TA</td>
</tr>
<tr>
<td>1-3-17</td>
<td>In-depth information searching (off class)</td>
</tr>
<tr>
<td>6-3-17</td>
<td>Classroom discussion and sharing across all groups guided by Prof. Shang, confirmation of the proposed work</td>
</tr>
<tr>
<td>8-3-17</td>
<td>Information searching and finalizing the project presentation as a team (off class)</td>
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</table>
You, in 5–7 students per group, are asked to present the solution(s) to each of the three projects according to the outline above, with emphases on your analysis and multidimensional considerations from different angles including social, economic, science and engineering aspects. To cover all angles, you will be grouped in a way to maximize the variety of different group members from Schools of Engineering, Science, Social Science and Business. You are expected to discuss and work closely with your groupmates throughout the whole semester in this integrated blended learning and team project-based experiential learning course.

PROJECT PRESENTATION

You, as a group, are asked to give an e-presentation in any format, follow by a short Q&A. The length of the presentation, excluding Q&A, is limited to 20 minutes. It is not necessary to ask all members in a group to make the presentation. Nevertheless, all members in a group are expected to contribute extensively and equally. You shall submit your presentation file to me (cechii@ust.hk) after presentation so that I can upload it to the course CANVAS site. The presentation shall be focused, specific, analytical and multidimensional. The presentation shall cover all angles of your analysis in social, economic, science and engineering aspects of the projects. DO NOT STUFF WITH TOO MUCH information of low interest in your presentation.
FINAL SELF-REFLECTION REPORT

You, as an individual, are asked to write a final e-report that summarizes your learning in this course by yourself. The report shall cover everything including the materials you have learned, self-reflection on your learning outcomes, and your comments on the integrated blended learning and team project-based experiential learning, with the following breakdown:
- Materials you have learned (10%),
- Self-reflection on your learning outcomes (5%), and
- Comments on the integrated blended learning and team project-based experiential learning (5%).

The length of the report is expected to be 1,800–2,400 words (3–4 pages, single space, Time New Roman) excluding tables, figures and references. The e-report is due on 29 May 2017 and you shall submit it online. No discussion on the report and report writing among students is expected. Reports with too similar content will be considered as plagiarism and the mark will be divided among the similar reports.