PHIL3910 - Technology and Human Values
Course Outline

Course Co-ordinator: Dr. Yin Gao
Room: MC121
Ph: 02 492 15191
Fax: 02 492 16933
Email: yin.gao@newcastle.edu.au
Consultation hours: Tuesday 2-4pm or by appointment

Learning Materials/Texts:

Lecture Notes: available from the Blackboard

Supplementary Readings:

In addition to the required text, supplementary recommended reading is provided on short loans for each segment of the course. Most are available via the Internet at Short Loans Online (http://library.newcastle.edu.au/ press SHORT LOANS). The correspondences between readings and topics are listed on the Lecture abstracts posted on Blackboard. Whilst you are not required to read this material, many students will find it helpful to clarify points made in lectures, as well as for the preparation of assignments and exams. Full references follow:


Course Outline Issued and Correct as at: Week 1, Semester 1 - 2010

CTS Download Date: 04/02/2010


Course Content
The course covers the nature of human values and their implications on decision-making in engineering design, basic principles of complex system dynamic and its implications on system design as well as societal systems, analyses of major societal systems and their normative character and impacts, and an introduction to principled professional ethics.

Course outcomes
By the end of this course, you should be able to:

- Understand the nature and impact of human values in design decisions, in particular in engineering, in the context of a complex systems dynamic approach.
- Have the knowledge and skills to engage in critical assessment of design practice and in design problem solving that meets larger societal expectations as well as those of good engineering design.
- Effectively communicate your understanding of the impact of human values and technology design, interact effectively with your peers, and solve problem in diverse communal groups.
- Appreciate critically the larger framework of ecological context, as well as Western commercial, political and social systems, within which engineering practice operates, and of the professional ethics that flow from that.

Contact Hours
Lecture for 2 Hours per Week for the Full Term
Tutorial for 2 Hours per Fortnight for the Full Term
Consultation hours: Tuesday 2-4pm or by appointment

Assessment Items

- Essays / Written Assignments: Individual essay, (1000 words), 15%, is to help students start on normative, not just factual, analysis of engineering design problems, and will also sharpen critical and communication skills.
- Essays / Written Assignments: Group Project (2,500-3,000 words), 15%, provides opportunity to develop an extended normative design analysis and consists of 3-5 students getting together to produce a coherent account on one topic. This will demonstrate the application of both knowledge and skills, and provides experience in performing multi-tasking group work.
- Examination: Formal Examination, (2 hours), 50%, evaluates the depth and systematicity of student understanding of basic principles and how to apply them.
- Group/tutorial participation and contribution: Tutorial Presentation, 10%, and Discussion, 10%, allow assessment and feedback on developing knowledge of course and on developing critical capacity to analyse and argue issues in the course. Presentations and discussion will be assessed by the tutor on group basis.

End of CTS Entry
Essential Criteria in Assessment
This course contains a compulsory component item, i.e. tutorial class attendance and participation that must be satisfactorily completed in order for a student to receive a pass mark or better for the course.

Attend all tutorial classes unless medical or family emergency prevent one attending class. The rationale for this is that the tutorial classes complement the lectures in teaching students the basic skills in philosophical reasoning and writing which is necessary for students to successfully complete other assessment items. For requirement and grading criteria, see the document of *The Tutorial Program and Assessment* posted on Blackboard under Assessment. Feedback for each tutorial will be given to students in the following week’s Lecture or next tutorial class.

Group Work, Peer and/or Self-Assessment
The assessment in this course involves group work/peer and/or self-assessment. Assessment items include a group project, group presentation, in-class peer-review of the Individual Essay. Details of these activities are specified in documents of *The Tutorial Program, Assessment, General Assessment Requirement for essays*, and specific grading criteria for each item posted on Blackboard.

Online Tutorial Registration:
Students are required to enrol in the Lecture and a specific Tutorial time for this course via the Online Registration system. Refer - [http://www.newcastle.edu.au/study/enrolment/regdates.html](http://www.newcastle.edu.au/study/enrolment/regdates.html)

NB: Registrations close at the end of week 2 of semester.

Studentmail and Blackboard:
This course uses Blackboard and studentmail to contact students, so you are advised to keep your email accounts within the quota to ensure you receive essential messages. To receive an expedited response to queries, post questions on the Blackboard discussion forum or if emailing staff directly use the course code in the subject line of your email. Students are advised to check their studentmail and the course Blackboard site on a weekly basis.

Important Additional Information
Details about the following topics are available on your course Blackboard site (where relevant). Refer - [www.blackboard.newcastle.edu.au/](http://www.blackboard.newcastle.edu.au/)

- Written Assignment Presentation and Submission Details
- Online copy submission to Turnitin
- Penalties for Late Assignments
- Special Circumstances
- No Assignment Re-submission
- Re-marks & Moderations
- Return of Assignments
- Preferred Referencing Style
- Student Representatives
- Student Communication
- Essential Online Information for Students
# Key Info on weekly lecture subject and tutorial timetable

## Syllabus

<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPIC</th>
<th>READING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
<td>Hooker &amp; Herfel: Lecture 1 Notes.</td>
</tr>
<tr>
<td>2</td>
<td>Value, System and Design: Value and Value Inquiry</td>
<td>Hooker &amp; Herfel: Lecture 2 &amp; 3 Notes;</td>
</tr>
<tr>
<td>3</td>
<td>Value, System and Design: Value and Design</td>
<td>Hooker &amp; Herfel: Lecture 2 &amp; 3 Notes; Frank: Ch 2 &amp; 9; Gozoner, P. 223-4; Walters &amp; Brown, p. 67.</td>
</tr>
<tr>
<td>5</td>
<td>Non-linearity, Feedback and Stability</td>
<td>Hooker &amp; Herfel: Lectures 4&amp;5 Notes; Gunderson and Holling, ch 2.</td>
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<tr>
<td></td>
<td>Semester Break</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Liberal Value and Social Dynamics</td>
<td>Hooker &amp; Herfel: Lecture 6 Notes; John Wright: Note on Liberalism</td>
</tr>
<tr>
<td>8</td>
<td>Market Dynamics and Society</td>
<td>Hooker &amp; Herfel, Lecture 9 &amp;10 Notes; Daly Ch 2</td>
</tr>
<tr>
<td>9</td>
<td>Group project Video: Exporting Harm</td>
<td>Grossman, 2006; Basel Action Network, 2008</td>
</tr>
<tr>
<td>10</td>
<td>Technology Innovation and Social Changes</td>
<td>Hooker &amp; Herfel, Lecture 9 &amp;10 Notes</td>
</tr>
<tr>
<td>11</td>
<td>Profession, Ethics and Culture</td>
<td>Hooker &amp; Herfel, Lecture 11 Notes</td>
</tr>
<tr>
<td>12</td>
<td>Conclusion: Appropriate Technology</td>
<td>Hooker &amp; Herfel, Lecture 12 Notes; Schumacher: Ch 5</td>
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### Tutorial timetable

<table>
<thead>
<tr>
<th>Activity</th>
<th>Day</th>
<th>Time</th>
<th>Room</th>
<th>Week</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tutorial 1</td>
<td>Wednesday</td>
<td>11.00 AM - 1.00 PM</td>
<td>[ES209]</td>
<td>Weeks 3, 5, 7, 9, &amp;11 only</td>
<td>Elec. &amp; Comp. Students.</td>
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<td>Tutorial 2</td>
<td>Wednesday</td>
<td>11.00 AM - 1.00 PM</td>
<td>[ES209]</td>
<td>Weeks 2, 4, 6, 8, &amp;10 only</td>
<td>Elec. &amp; Comp. Students.</td>
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<td>Tutorial 3</td>
<td>Wednesday</td>
<td>2.00 PM - 4.00 PM</td>
<td>[EF20]</td>
<td>Weeks 3, 5, 7, 9, &amp;11 only</td>
<td>Environ &amp; Chemical Students</td>
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<td>Tutorial 4</td>
<td>Wednesday</td>
<td>2.00 PM - 4.00 PM</td>
<td>[EF20]</td>
<td>Weeks 2, 4, 6, 8, &amp;10 only</td>
<td>Telecom. Software &amp; Civil Students</td>
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<td>Tutorial 5</td>
<td>Wednesday</td>
<td>11.00 AM - 1.00 PM</td>
<td>[EF20]</td>
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<td>Tutorial 6</td>
<td>Wednesday</td>
<td>11.00 AM - 1.00 PM</td>
<td>[EF20]</td>
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<td>Civil Eng Students</td>
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<td>Tutorial 7</td>
<td>Thursday</td>
<td>2.00 PM - 4.00 PM</td>
<td>[ES209]</td>
<td>Weeks 3, 5, 7, 9, &amp;11 only</td>
<td>Civil Eng Students</td>
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<tr>
<td>Tutorial 8</td>
<td>Thursday</td>
<td>2.00 PM - 4.00 PM</td>
<td>[ES209]</td>
<td>Weeks 2, 4, 6, 8, &amp;10 only</td>
<td>Civil Eng Students</td>
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<td>Tutorial 9</td>
<td>Wednesday</td>
<td>2.00 PM - 4.00 PM</td>
<td>[ES206]</td>
<td>Weeks 3, 5, 7, 9, &amp;11 only</td>
<td>Mech Eng &amp; Mechatronic Students</td>
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<td>Tutorial 10</td>
<td>Wednesday</td>
<td>2.00 PM - 4.00 PM</td>
<td>[ES206]</td>
<td>Weeks 2, 4, 6, 8, &amp;10 only</td>
<td>Mech Eng &amp; Mechatronic Students</td>
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<tr>
<td>Tutorial 11</td>
<td>Wednesday</td>
<td>9.00 AM - 11.00 AM</td>
<td>[ES209]</td>
<td>Weeks 3, 5, 7, 9, &amp;11 only</td>
<td>Ind. Design, Civil &amp; Chem Students</td>
</tr>
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