4E1 – Management for Engineers [5 ECTS credits]

Lecturer(s):  Weeks 1 to 6 : Gerard Lacey (gerard.lacey@scss.tcd.ie)  
Weeks 8 to 12 : Dr Niamh Harty (niamh.harty@tcd.ie)

Module organisation
This module is taught in the first semester. It is divided into two sections. Section A runs for the first six weeks and is common to all engineering students. Section B runs for the last five weeks and is specifically for civil engineering students.

Section A – Weeks 1 to 6
Lecturer:  Gerard Lacey (gerard.lacey@scss.tcd.ie)

Module Organisation – Section A

<table>
<thead>
<tr>
<th>Semester</th>
<th>Start Week</th>
<th>End Week</th>
<th>Associated Practical Hours</th>
<th>Lectures</th>
<th>Tutorials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Per week</td>
<td>Total</td>
<td>Per week</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>18</td>
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</tbody>
</table>

Total Contact Hours: 18

Module description, aims and contribution to programme – Section A
This part of the module aims to introduce students to the concepts and tools of project management. We will use a project management simulation software Management for Engineers to develop the practical skills required to be a successful and effective project manager.

Module Outline and Learning Outcomes – Section A

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture Learning Outcomes</th>
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</thead>
</table>
| 1    | 1. Module Outline and introduction to project management concepts;  
      | 2. Team dynamics and organizational behaviour. |
| 2    | 3. Project definition and organisation. |
| 3    | 4. Project planning tools. |
| 4    | 5. Project feasibility and evaluation. |
| 5    | 6. Risk, resources and costs. |
| 6    | 7. Alternative models of project management: IT, innovation, new product development. |
Coursework

<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>End week 7</td>
<td>Individual case study on project management – submit via Turnitin.</td>
</tr>
</tbody>
</table>

**Recommended Text(s) – Section A**

**Primary Texts**

**Supplementary Texts**

**Assessment – Section A**
This section of the module will be assessed entirely by coursework. Plagiarism will be taken extremely seriously and all assessments must be submitted via the Turnitin plagiarism detection system.

<table>
<thead>
<tr>
<th>Project Management Case Study</th>
<th>70%</th>
</tr>
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<tbody>
<tr>
<td>Individual Reflective diary on Project Management Simulation</td>
<td>30%</td>
</tr>
</tbody>
</table>

**Section B – Weeks 8 to 12**

**Lecturers**: F. Cooney, I. Barrett, E Stafford, T. Allwright, K. Rudden, Dr N. Harty (module coordinator).

**Module organisation – Section B**
This part of the module runs for the last five weeks of Michaelmas Term. It comprises four lectures per week.

<table>
<thead>
<tr>
<th>Term</th>
<th>Start Week</th>
<th>Hours of Associated Practical Sessions</th>
<th>End Week</th>
<th>Lectures Per Week</th>
<th>Tutorials Per Week</th>
<th>Total Contact Hours: 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michaelmas</td>
<td>8</td>
<td>0</td>
<td>12</td>
<td>4</td>
<td>0</td>
<td>20</td>
</tr>
</tbody>
</table>

**Module description, aims and contribution to programme – Section B**
This part of the module aims to provide young graduate civil engineers with some of the management tools they will need early in their careers whether it be on a construction site or in a
design office. Emphasis is placed on ethics, health and safety and environmental issues, people management, accounting principles, and legal concepts.

**Learning outcomes – Section B**
On completion of this part of the module, the student will be able to:

1. Understand the roles of the parties to a civil engineering contract, and be aware of the different methods of dispute resolution in use in Ireland today
2. Appreciate the importance of meticulous record keeping in construction management
3. Chair a meeting with professional and other participants
4. Make decisions about ethical questions
5. Be aware of health and safety legislation, and the importance of safety management
6. Be responsible for the proper management of subordinate staff and operatives
7. Understand the importance of financial matters and the economic and commercial aspects of civil engineering projects

**Module content – Section B**
1. Law – general legal concepts, engineering contracts, dispute resolution
2. Professional ethics
3. Office accounting – Bookkeeping, budgets and financial management, current and capital expenditure, company finances
4. Conduct of meetings
5. People management – HR functions, appraisals, staff management, leadership, employment legislation
6. Safety and Health – S&H at Work Act, safety management in industry

**Teaching strategies – Section B**
Most of the lecturers on this part of the module are leaders from industry who share their experience, knowledge and expertise with the students, giving an up to date insight into current practices.

**Assessment – Section B**
This part of the module will be examined in one two-hour exam. It counts for 50% of the final mark for CE4E1.

**Required textbook – Section B**
Textbooks and further reading may be suggested by the individual lecturers.