4E1 – Management for Engineers [5 ECTS credits]

**Lecturer(s):** Dr Niamh Harty (niamh.harty@tcd.ie)

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

**Section A – Weeks 1 to 6**

**Lecturer:** Dr Niamh Harty (niamh.harty@tcd.ie) and guests including Professor Gerard Lacey

**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></td>
<td></td>
<td></td>
<td>Per week</td>
<td>Total</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>18</td>
</tr>
</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 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>
</tr>
</thead>
</table>
| 1 to 6 | • Module Outline and introduction to project management concepts;  
|       | • Team dynamics and organizational behaviour.  
|       | • Project definition and organisation.  
|       | • Project planning tools.  
|       | • Project feasibility and evaluation.  
|       | • Risk, resources and costs.  
<p>|       | • Alternative models of project management: IT, innovation, new product development. |</p>
<table>
<thead>
<tr>
<th>Week</th>
<th>Coursework</th>
</tr>
</thead>
<tbody>
<tr>
<td>End week 6</td>
<td>Individual reflective diary on Harvard Simulation Software – submit via Turnitin. Score on simulation</td>
</tr>
<tr>
<td>End week 7 (Reading Week)</td>
<td>Individual case study on project management – submit via Turnitin.</td>
</tr>
</tbody>
</table>

**Recommended Text(s) – Section A**
Texts will be recommended at the start of term.

**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>Assessment</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management Case Study</td>
<td>60%</td>
</tr>
<tr>
<td>Individual Reflective diary on Project Management Simulation</td>
<td>20%</td>
</tr>
<tr>
<td>Score on the simulation</td>
<td>20%</td>
</tr>
</tbody>
</table>
**Section B – Weeks 8 to 12**

**Lecturers:** Dr N. Harty (module coordinator), I. Barrett (HR Manager, Walls Construction), E. Stafford (Director, KPMG CIM Audit), T. Allwright (Engineering Safety Consultant), N. O’Higgins (Partner, Arthur Cox).

**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>End Week</th>
<th>Lectures Per Week</th>
<th>Tutorials Per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michaelmas</td>
<td>8</td>
<td>12</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td>0</td>
</tr>
</tbody>
</table>

Total Contact Hours: 20

**Module description, aims and contribution to programme – Section B**
This part of the module aims to provide to young graduate engineers some of the management tools they will need early in their careers. 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:

1. Understand the Law of Contract, and be aware of the different types of contract and methods of dispute resolution in use in Ireland today.
2. Appreciate the importance of meticulous record keeping in project management
3. Be able to chair and minute a meeting with professionals and other participants
4. Be able to make decisions about ethical questions
5. Be aware of health and safety legislation, and the importance of safety management
6. Be aware of the proper management of subordinate staff and operatives, and current HR trends
7. Understand the importance of financial matters and the economic and commercial aspects of 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
**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.