School of Engineering – Visiting Student Module Choices 2020/21

Please Note:
** All modules may be subject to change and capacity restrictions **
** Eligibility to enrol on modules may be determined based on prerequisite knowledge **

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<th>Credits (ECTS)</th>
<th>Duration and semester</th>
<th>Prerequisite Subjects</th>
<th>Course Description and Learning Outcomes</th>
<th>Assessment <strong>SUBJECT TO CHANGE</strong></th>
<th>Contact Hours</th>
<th>Contact Person</th>
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<tr>
<td>Junior Freshman Engineering and Engineering with Management – Year 1 modules</td>
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<tr>
<td>Engineering Mathematics I MAU11E01</td>
<td>5</td>
<td>Semester 1</td>
<td>Equivalent to C in A level Mathematics</td>
<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/jf/MAU11E01.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/jf/MAU11E01.pdf</a></td>
<td>20% continuous assessment 80% examination</td>
<td>44</td>
<td>Prof. Patrick Fritsch <a href="mailto:fritzscp@tcd.ie">fritzscp@tcd.ie</a></td>
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<td>Engineering Mathematics II MAU11E02</td>
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<td>Equivalent to C in A level Mathematics</td>
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<td>20% continuous assessment 80% examination</td>
<td>44</td>
<td>Dr Anthony Brown <a href="mailto:anthony.brown@ucd.ie">anthony.brown@ucd.ie</a></td>
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<td>Computer Engineering I CSU11E03</td>
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<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/jf/CSU11E03.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/jf/CSU11E03.pdf</a></td>
<td>20% continuous assessment 80% examination</td>
<td>55</td>
<td>Prof. Lucy Hederman <a href="mailto:Lucy.Hederman@tcd.ie">Lucy.Hederman@tcd.ie</a></td>
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<tr>
<td>Physics PYU11E04</td>
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<td>Semester 2</td>
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<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/jf/PYU11E04.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/jf/PYU11E04.pdf</a></td>
<td>40% continuous assessment 60% examination</td>
<td>59</td>
<td>Prof Stefan Hutzler <a href="mailto:shutzler@tcd.ie">shutzler@tcd.ie</a></td>
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<tr>
<td>Chemistry CHU11E05</td>
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<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/jf/CHU11E05.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/jf/CHU11E05.pdf</a></td>
<td>20% continuous assessment 80% examination</td>
<td>48</td>
<td>Prof. Richard Hobbs <a href="mailto:hobbsr@tcd.ie">hobbsr@tcd.ie</a> Prof. Donall MacDonaill <a href="mailto:Donall.MacDonaill@tcd.ie">Donall.MacDonaill@tcd.ie</a></td>
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<td>Course</td>
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<td>Semester</td>
<td>Assessment</td>
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<tr>
<td>Electrical Engineering EEU11E06</td>
<td>5</td>
<td>Semester 2</td>
<td>20% continuous assessment 80% examination</td>
<td>Prof. Naomi Harte (<a href="mailto:nharte@tcd.ie">nharte@tcd.ie</a>)</td>
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<tr>
<td>Mechanics MEU11E07</td>
<td>5</td>
<td>Semester 2</td>
<td>20% continuous assessment 80% examination</td>
<td>Prof. Dermot O’Dwyer (<a href="mailto:dwodwyer@tcd.ie">dwodwyer@tcd.ie</a>)</td>
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<tr>
<td>Introduction to Professional Engineering MEU11E08</td>
<td>5</td>
<td>Semester 1</td>
<td>100% continuous assessment (report and presentation)</td>
<td>Prof. Kevin O’Kelly, Prof. Khurshid Ahmad, Prof. Enda Bates, Prof. Brian Broderick</td>
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<tr>
<td>Experimental Methods MEU11E11</td>
<td>5</td>
<td>Semester 1</td>
<td>25% continuous assessment 75% examination</td>
<td>Prof. John Kennedy</td>
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<tr>
<td>Introduction to Manufacturing MEU11EM1</td>
<td>5</td>
<td>Semester 1</td>
<td>40% continuous assessment 60% examination</td>
<td>Prof. Rocco Lupoi (<a href="mailto:lupoir@tcd.ie">lupoir@tcd.ie</a>)</td>
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<tr>
<td>Introduction to Computing MEU11EM4</td>
<td>5</td>
<td>Semester 2</td>
<td>100% continuous assessment</td>
<td>Prof. Kevin Kelly (<a href="mailto:kevin.kelly@tcd.ie">kevin.kelly@tcd.ie</a>)</td>
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</table>

Senior Freshman Engineering and Engineering with Management – Year 2 modules
Timetables and Module Descriptors available here:

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<tr>
<th>Course</th>
<th>Credits</th>
<th>Semester</th>
<th>Assessment</th>
<th>Lecturers</th>
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</thead>
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<tr>
<td>Engineering Maths III MAU22E01</td>
<td>5</td>
<td>Semester 1</td>
<td>10% continuous assessment 90% examination</td>
<td>Prof. Dmitri Zaitsev (<a href="mailto:zaitsev@maths.tcd.ie">zaitsev@maths.tcd.ie</a>)</td>
</tr>
<tr>
<td>Course</td>
<td>Credit Points</td>
<td>Semester</td>
<td>Pre-requisites</td>
<td>Module descriptor</td>
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<td>Engineering Maths IV MAU22E02</td>
<td>5</td>
<td>Semester 2</td>
<td>Engineering Mathematics I Engineering Mathematics II</td>
<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/sf/MAU22E02.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/sf/MAU22E02.pdf</a></td>
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<tr>
<td>Computer Engineering II CSU22E03</td>
<td>5</td>
<td>Semester 1</td>
<td>Computer Engineering I</td>
<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/sf/CSU22E03.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/sf/CSU22E03.pdf</a></td>
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<tr>
<td>Solids &amp; Structures CEU22E04</td>
<td>5</td>
<td>Semester 1</td>
<td></td>
<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/sf/CEU22E04.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/sf/CEU22E04.pdf</a></td>
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<td>Thermo-fluids MEU22E05</td>
<td>5</td>
<td>Semester 2</td>
<td></td>
<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/sf/MEU22E05.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/sf/MEU22E05.pdf</a></td>
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<tr>
<td>Electronics EEU22E06</td>
<td>5</td>
<td>Semester 1</td>
<td>Electrical Engineering (EEU11E06) or equivalent</td>
<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/sf/EEU22E06.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/sf/EEU22E06.pdf</a></td>
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<tr>
<td>Engineering and the Environment CEU22E07</td>
<td>5</td>
<td>Semester 1</td>
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<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/sf/CEU22E07.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/sf/CEU22E07.pdf</a></td>
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<tr>
<td>Computational Engineering EEU22E11</td>
<td>5</td>
<td>Semester 2</td>
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<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/sf/EEU22E11.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/sf/EEU22E11.pdf</a></td>
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</table>
### Junior Sophister Engineering and Engineering with Management – Year 3 modules
Timetables and Module Descriptors available here:

<table>
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<tr>
<th>Course</th>
<th>Semester</th>
<th>Exam Type</th>
<th>Percentage</th>
<th>Lecturer</th>
<th>Email</th>
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<tr>
<td><strong>Core modules</strong></td>
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<tr>
<td>Engineering Mathematics V</td>
<td>Semester 1</td>
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<tr>
<td><strong>MAU33E01</strong></td>
<td>5</td>
<td>Engineering Mathematics I - IV</td>
<td></td>
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<tr>
<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/js/MAU33E01.pdf">Module Descriptors</a></td>
<td>100% examination</td>
<td>44</td>
<td>Dr. Joe O’Hogain (<a href="mailto:johog@maths.tcd.ie">johog@maths.tcd.ie</a>)</td>
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<tr>
<td>Probability and Statistics</td>
<td>Semester 1</td>
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<tr>
<td><strong>EEU33E03</strong></td>
<td>5</td>
<td>Freshman mathematics modules or equivalent</td>
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<tr>
<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/js/EEU33E03.pdf">Module Descriptors</a></td>
<td>30% continuous assessment</td>
<td>70% examination</td>
<td>47</td>
<td>Prof. Anthony Quinn (<a href="mailto:aquinn@tcd.ie">aquinn@tcd.ie</a>)</td>
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<tr>
<td><strong>Mechanical &amp; Manufacturing Engineering</strong></td>
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<td>Thermodynamics</td>
<td>Semester 2</td>
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<td><strong>MEU33B01</strong></td>
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<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/js/MEU33B01.pdf">Module Descriptors</a></td>
<td>20% continuous assessment</td>
<td>80% examination</td>
<td>44</td>
<td>Prof. Tony Robinson (<a href="mailto:arobins@tcd.ie">arobins@tcd.ie</a>)</td>
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<td>Course Title</td>
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<td>Semester</td>
<td>Module Descriptor</td>
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<td>Fluid Mechanics 1</td>
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<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/js/MEU33B02.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/js/MEU33B02.pdf</a></td>
<td>20% continuous assessment 80% examination</td>
<td>Prof. Craig Meskell (<a href="mailto:cmeskell@tcd.ie">cmeskell@tcd.ie</a>)</td>
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<tr>
<td>Mechanics of Solids</td>
<td>5</td>
<td>Semester 2</td>
<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/js/MEU33B03.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/js/MEU33B03.pdf</a></td>
<td>30% continuous assessment 70% examination</td>
<td>Prof. Mark Ahearne (<a href="mailto:ahearnm@tcd.ie">ahearnm@tcd.ie</a>)</td>
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<tr>
<td>Mechanical Engineering Materials</td>
<td>5</td>
<td>Semester 1</td>
<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/js/MEU33B04.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/js/MEU33B04.pdf</a></td>
<td>20% continuous assessment 80% examination</td>
<td>Prof. Kevin O’Kelly (<a href="mailto:okellyk@tcd.ie">okellyk@tcd.ie</a>)</td>
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<tr>
<td>Mechanics of Machines</td>
<td>5</td>
<td>Semester 2</td>
<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/js/MEU33B05.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/js/MEU33B05.pdf</a></td>
<td>30% continuous assessment 70% examination</td>
<td>Prof. Ciaran Simms (<a href="mailto:csimms@tcd.ie">csimms@tcd.ie</a>)</td>
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<td>Manufacturing Technology</td>
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<td>Semester 2</td>
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<td>30% continuous assessment 70% examination</td>
<td>Prof. Daniel Trimble (<a href="mailto:dtrimble@tcd.ie">dtrimble@tcd.ie</a>)</td>
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<tr>
<td>Civil, Structural and Environmental Engineering</td>
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<td>Engineering Surveying</td>
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<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/js/CEU33A01.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/js/CEU33A01.pdf</a></td>
<td>50% continuous assessment 50% examination</td>
<td>Prof. John Gallagher (<a href="mailto:j.gallagher@tcd.ie">j.gallagher@tcd.ie</a>)</td>
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<td>Structural Design</td>
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<td><a href="https://www.tcd.ie/Engineering/assets/module-">https://www.tcd.ie/Engineering/assets/module-</a></td>
<td>15% continuous assessment 85% examination</td>
<td>Prof. Brian Broderick (<a href="mailto:bbrodrck@tcd.ie">bbrodrck@tcd.ie</a>)</td>
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<td>Module Description</td>
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<td>Hydraulics CEU33A03</td>
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<td>Structural Analysis CEU33A04</td>
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<td>Soil Mechanics CEU33A05</td>
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<td>Solids &amp; Structures (CEU22E04) Or equivalent <a href="https://www.tcd.ie/Engineering/assets/module-descriptors/js/CEU33A05.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/js/CEU33A05.pdf</a></td>
<td>20% continuous assessment 80% examination</td>
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<td>Transportation and Highway Engineering CEU33A07</td>
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<td>100% examination</td>
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<td>Geology for Engineers CEU33A08</td>
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Electronic Engineering
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<tr>
<th>Course Code</th>
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<th>Notes</th>
<th>Assessment</th>
<th>Prof.</th>
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<tr>
<td>EEU33C01</td>
<td>Signals and Systems</td>
<td>5</td>
<td>1</td>
<td>15% continuous assessment 85% examination</td>
<td></td>
<td>Prof. W. Dowling (<a href="mailto:wdowling@tcd.ie">wdowling@tcd.ie</a>)</td>
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<tr>
<td>EEU33C02</td>
<td>Digital Circuits</td>
<td>5</td>
<td>2</td>
<td>Equivalent foundation course in electronics. Suitable for computer or electronic engineering students in home university</td>
<td>20% continuous assessment 80% examination</td>
<td>Prof. Declan O'Loughlin (<a href="mailto:doloughlin@tcd.ie">doloughlin@tcd.ie</a>)</td>
</tr>
<tr>
<td>EEU33C03</td>
<td>Analogue Circuits</td>
<td>5</td>
<td>2</td>
<td>Electronics (EEU22E06) or equivalent</td>
<td>30% continuous assessment 70% examination</td>
<td>Prof. Justin King (<a href="mailto:justin.king@tcd.ie">justin.king@tcd.ie</a>)</td>
</tr>
<tr>
<td>EEU33C05</td>
<td>Telecommunications</td>
<td>5</td>
<td>2</td>
<td>Probability and random variables</td>
<td>30% continuous assessment 70% examination</td>
<td>Dr. Aleksandra Kaszubowska-Anandarajah (<a href="mailto:anandara@tcd.ie">anandara@tcd.ie</a>)</td>
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<tr>
<td>EEU33C07</td>
<td>Digital Systems Design</td>
<td>5</td>
<td>1</td>
<td></td>
<td>50% continuous assessment 50% examination</td>
<td>Prof. Shreejith Shanker (<a href="mailto:shankers@tcd.ie">shankers@tcd.ie</a>)</td>
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<td>EEU33C08</td>
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<td>5</td>
<td>2</td>
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<td>100% Continuous Assessment</td>
<td>Mr. Eugene O'Rourke (<a href="mailto:euorourk@tcd.ie">euorourk@tcd.ie</a>)</td>
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### Engineering with Management

**Senior Sophister Engineering and Engineering with Management – Year 4 modules**

Timetables and Module Descriptors available here:

- Engineering: [https://www.tcd.ie/Engineering/undergraduate/bai/year-4/](https://www.tcd.ie/Engineering/undergraduate/bai/year-4/)
- Engineering with Management: [https://www.tcd.ie/Engineering/undergraduate/engineering-management/year-4/](https://www.tcd.ie/Engineering/undergraduate/engineering-management/year-4/)

### Core modules

| Management for Engineers | CEU44E01 | 5 | Semester 1 | [https://www.tcd.ie/Engineering/assets/module-descriptors/ss/CEU44E01.pdf](https://www.tcd.ie/Engineering/assets/module-descriptors/ss/CEU44E01.pdf) | 50% continuous assessment | 50% examination | 38 | Prof. Niamh Harty (niamh.harty@tcd.ie) |
| Research Methods | MEU44E03 | 5 | Semester 1 | [https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44E03.pdf](https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44E03.pdf) | 4 assignments | 20 | Prof. John Kennedy (kenned5j@tcd.ie) |
| Mechanics of Solids | MEU44B01 | 5 | Semester 2 | [https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B01.pdf](https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B01.pdf) | 15% continuous assessment | 85% examination | 43 | Prof. Mark Ahearne (ahearnm@tcd.ie) |
| Forensic Materials Engineering | MEU44B02 | 5 | Semester 2 | [https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B02.pdf](https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B02.pdf) | 30% continuous assessment | 70% examination | 44 | |
| Heat Transfer | MEU44B04 | 5 | Semester 1 | [https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B04.pdf](https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B04.pdf) | 20% continuous assessment | 80% examination | 46 | Prof. Tim Persoons (tim.persoons@tcd.ie) |

### Mechanical & Manufacturing Engineering

<p>| Research Methods | MEU44E03 | 5 | Semester 1 | <a href="https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44E03.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44E03.pdf</a> | 4 assignments | 20 | Prof. John Kennedy (<a href="mailto:kenned5j@tcd.ie">kenned5j@tcd.ie</a>) |
| Mechanics of Solids | MEU44B01 | 5 | Semester 2 | <a href="https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B01.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B01.pdf</a> | 15% continuous assessment | 85% examination | 43 | Prof. Mark Ahearne (<a href="mailto:ahearnm@tcd.ie">ahearnm@tcd.ie</a>) |
| Forensic Materials Engineering | MEU44B02 | 5 | Semester 2 | <a href="https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B02.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B02.pdf</a> | 30% continuous assessment | 70% examination | 44 | |
| Heat Transfer | MEU44B04 | 5 | Semester 1 | <a href="https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B04.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/ss/MEU44B04.pdf</a> | 20% continuous assessment | 80% examination | 46 | Prof. Tim Persoons (<a href="mailto:tim.persoons@tcd.ie">tim.persoons@tcd.ie</a>) |</p>
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<th>Semester</th>
<th>Module Link</th>
<th>Evaluation Breakdown</th>
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<td>Prof. Daniel Trimble (<a href="mailto:dtrimble@tcd.ie">dtrimble@tcd.ie</a>)</td>
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<td>20% continuous assessment 80% examination</td>
<td>Prof. Garret O'Donnell (<a href="mailto:odonnege@tcd.ie">odonnege@tcd.ie</a>)</td>
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<td>Control Engineering 1 MEU44B09</td>
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<td>15% continuous assessment 85% examination</td>
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<td>20% continuous assessment 80% examination</td>
<td>Prof. Craig Meskell (<a href="mailto:cmeskeli@tcd.ie">cmeskeli@tcd.ie</a>)</td>
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<td><a href="https://www.tcd.ie/Engineering/assets/module-descriptors/ss/EEU4E03.pdf">https://www.tcd.ie/Engineering/assets/module-descriptors/ss/EEU4E03.pdf</a></td>
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<td>Self-Organizing Systems EEU44C07</td>
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Prof. Seamus O’Shaughnessy (oshaugse@tcd.ie)
Prof. Charles Stuart (stuartch@tcd.ie)
Prof. Stephen Spence (spences@tcd.ie)
Prof. Patrick Shiel (shielp@tcd.ie)
Prof. John Gallagher (j.gallagher@tcd.ie)
Prof. Liwen Xiao (liwen.xiao@tcd.ie)
Prof. Laurence Gill (laurence.gill@tcd.ie)
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Prof. David O'Connell (oconnedw@tcd.ie)

Prof. Laurence Gill (laurence.gill@tcd.ie)

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Prof. Brian Broderick (bbrodck@tcd.ie)

Prof. Alan O’Connor (Alan.OConnor@tcd.ie)
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