Part IIA syllabuses; links to on-line resources

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Part IIA syllabuses; links to on-line resources

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Interactive booklists for Part IIA are available on Moodle.

Please note there are no Full Technical Reports associated with the following modules: 3B4, 3C7, all of the 3E modules, only one lab from 3F2, 3G1 and 3M1. Full details are given in the coursework section of the syllabus page.

Group A: Energy, Fluid Mechanics and Turbomachinery

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<tr>
<th>Module</th>
<th>Term (set)</th>
<th>Prerequisites</th>
<th>On-line resources</th>
<th>Leader</th>
<th>Lab Leader</th>
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<tbody>
<tr>
<td>3A1</td>
<td>Fluid mechanics I (double module)</td>
<td>M(8), L(7)</td>
<td>Moodle</td>
<td>Dr A. Agarwal</td>
<td>Prof. G. Hunt, Dr J Li</td>
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<tr>
<td>3A3</td>
<td>Fluid mechanics II (double module)</td>
<td>M(1), L(1)</td>
<td>Moodle</td>
<td>Prof. R.S. Cant</td>
<td>Prof H Babinsky, Prof R. Miller</td>
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<tr>
<td>3A5</td>
<td>Thermodynamics and power generation</td>
<td>M(7)</td>
<td>Moodle</td>
<td>Dr G. Pullan</td>
<td>Dr A.J. White</td>
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<tr>
<td>3A6</td>
<td>Heat and mass transfer</td>
<td>L(3)</td>
<td>Moodle</td>
<td>Prof. S. Hochgreb</td>
<td>Dr A Boies</td>
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Group B: Electrical Engineering

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<th>Module</th>
<th>Term (set)</th>
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<th>On-line resources</th>
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<tbody>
<tr>
<td>3B1</td>
<td>Radio frequency electronics</td>
<td>M(3)</td>
<td>Moodle</td>
<td>Dr P A Robertson</td>
<td>Dr P A Robertson</td>
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<tr>
<td>3B2</td>
<td>Integrated digital electronics</td>
<td>L(3)</td>
<td>Moodle</td>
<td>Dr D Popa</td>
<td>Dr O B Akan</td>
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<td>3B3</td>
<td>Switch-mode electronics</td>
<td>M(2)</td>
<td>Moodle</td>
<td>Dr T Long</td>
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<td>3B4</td>
<td>Electric drive systems</td>
<td>L(2)</td>
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<td>Dr T Flack</td>
<td>Dr P J G Long</td>
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<td>3B5</td>
<td>Semiconductor engineering</td>
<td>M(1), L(0)</td>
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<td>Dr H Joyce</td>
<td>Prof S. Hofmann</td>
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<td>3B6</td>
<td>Photonic technology</td>
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<td>Moodle</td>
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<td>Prof. R. Penty</td>
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### Group C: Mechanics, Materials and Design

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<th>Module Code</th>
<th>Title (linked to syllabus)</th>
<th>Term (set)</th>
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<th>Lab Leader</th>
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<tbody>
<tr>
<td>3C1</td>
<td>Materials processing and design</td>
<td>M(5)</td>
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<td>Dr H. Shercliff</td>
<td>Dr J. Durrell</td>
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<td>3C5</td>
<td>Dynamics</td>
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<td>Dr H E M Hunt</td>
<td>Dr H E M Hunt</td>
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<td>3C6</td>
<td>Vibration</td>
<td>L(6)</td>
<td>3C5 useful</td>
<td>Moodle</td>
<td>Prof D. Cebon</td>
<td>Dr T. Butlin</td>
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<tr>
<td>3C7</td>
<td>Mechanics of solids</td>
<td>L(4)</td>
<td>3C7 assumed</td>
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<td>Prof V. Deshpande</td>
<td>Dr G.R. McShane</td>
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<td>3C8</td>
<td>Machine design</td>
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<td>Dr D. Cole</td>
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<td>3C9</td>
<td>Fracture mechanics of materials and structures</td>
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### Group D: Civil, Structural and Environmental Engineering

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<th>Title (linked to syllabus)</th>
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<tr>
<td>3D1</td>
<td>Geotechnical engineering I</td>
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<td>Dr G. Biscontin</td>
<td>Dr G. Biscontin</td>
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<td>3D2</td>
<td>Geotechnical engineering II</td>
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<td>3D1</td>
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<td>Dr S.K. Haigh</td>
<td>Dr S.K. Haigh</td>
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<td>3D3</td>
<td>Structural materials and design</td>
<td>M(2)</td>
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<td>Dr M. Overend</td>
<td>Dr C. Morley</td>
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<td>Structural analysis and stability</td>
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<td>Dr F Cirak</td>
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<td>Water engineering</td>
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<td>Dr D. Liang</td>
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<td>3D7</td>
<td>Finite element methods</td>
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<td>Dr J Li</td>
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<td>Building physics and environmental geotechnics</td>
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### Group E: Management and Manufacturing

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<th>On-line resources</th>
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<tr>
<td>3E1</td>
<td>Business economics</td>
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<td>3E2</td>
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<td>Dr V. Mak</td>
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<td>3E3</td>
<td>Modelling Risk</td>
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<td>Dr F Erhan-Oguz</td>
<td>Dr R. Zanjirani-Farahani</td>
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<td>3E6</td>
<td>Organisational behaviour</td>
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<td>Dr J Stollberger</td>
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<td>3E10</td>
<td>Operations management for engineers</td>
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<td>Dr F Erhan-Oguz</td>
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<td>3E11</td>
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### Group F: Information Engineering

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<th>Code</th>
<th>Module</th>
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<th>Lab Leader</th>
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<tr>
<td>3F1</td>
<td>Signals and systems</td>
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<td>Moodle</td>
<td>Dr T O'Leary</td>
<td>Prof. M.C. Smith</td>
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<td>3F2</td>
<td>Systems and control</td>
<td>L(5)</td>
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<td>Moodle</td>
<td>Dr F Forni</td>
<td>Dr T Hughes</td>
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<td>3F3</td>
<td>Statistical Signal Processing</td>
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<td>Moodle</td>
<td>Prof. S. Godsill</td>
<td>Prof. S. Godsill</td>
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<td>3F4</td>
<td>Data transmission</td>
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<td>Moodle</td>
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<td>Dr J Sayir</td>
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<td>3F7</td>
<td>Information Theory and Coding</td>
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<td>Dr R. Venkataramanan</td>
<td>Dr J. Sayir</td>
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<td>3F8</td>
<td>Inference</td>
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<td>Dr J M Hernan dez-Lobato</td>
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### Group G: Bioengineering

<table>
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<tr>
<th>Code</th>
<th>Module</th>
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<th>On-line resources</th>
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<th>Lab Leader</th>
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<tr>
<td>3G1</td>
<td>Introduction to molecular bioengineering</td>
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<td>Dr G. Micklem</td>
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<td>3G2</td>
<td>Mathematical physiology</td>
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<td>3G3</td>
<td>Introduction to neuroscience</td>
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<td>3G4</td>
<td>Medical imaging and 3D computer graphics</td>
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<td>Moodle</td>
<td>Dr A H Gee</td>
<td>Dr G.M. Treece</td>
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<td>3G5</td>
<td>Biomaterials</td>
<td>M(8)</td>
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<td>Dr Y Y S Huang</td>
<td>Dr M. Oyen</td>
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### Group M: Multidisciplinary Modules

<table>
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<tr>
<th>Code</th>
<th>Module</th>
<th>Term (set)</th>
<th>Prerequisites Assumed</th>
<th>On-line resources</th>
<th>Leader</th>
<th>Lab Leader</th>
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<tr>
<td>3M1</td>
<td>Mathematical methods</td>
<td>L(10)</td>
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<td>Moodle</td>
<td>Prof G Csanyi</td>
<td>Prof G Csanyi</td>
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### Group S: Modules Shared with Part IIB

Note that these modules do not have supervisions, or any IIA coursework associated with them.

4M16 is a prerequisite for further nuclear power courses in part IIB. It is recommended that those who wish to take further nuclear power courses in part IIB should take 4M16 as part of IIA.

4D16 and 4D8 are offered on alternating years.
<table>
<thead>
<tr>
<th>Module Code</th>
<th>Title (linked to syllabus)</th>
<th>Term (set)</th>
<th>Form of assessment</th>
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<tr>
<td>4C4</td>
<td>Design methods</td>
<td>M(7)</td>
<td>Exam</td>
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<tr>
<td>4D8</td>
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<td>Exam</td>
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<td>4M12</td>
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