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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<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>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>
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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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<tr>
<td>3B3</td>
<td>Switch-mode electronics</td>
<td>M(2)</td>
<td>Moodle</td>
<td>Dr T Long</td>
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<tr>
<td>3B4</td>
<td>Electric drive systems</td>
<td>L(2)</td>
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<td>Dr P J G Long</td>
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<td>3B5</td>
<td>Semiconductor engineering</td>
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<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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### 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>On-line resources</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>
<td>Moodle</td>
<td>Dr H. Shercliff</td>
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<td>Dr J. Durrell</td>
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<td>3C5</td>
<td>Dynamics</td>
<td>M(6)</td>
<td>Moodle</td>
<td>Dr H E M Hunt</td>
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<td>3C6</td>
<td>Vibration</td>
<td>L(6) useful</td>
<td>Moodle</td>
<td>Prof D. Cebon</td>
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<td>Dr T. Butlin</td>
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<td>3C7</td>
<td>Mechanics of solids</td>
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<td>Dr F. Cirak</td>
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<tr>
<td>3C8</td>
<td>Machine design</td>
<td>M(3)</td>
<td>Moodle</td>
<td>Dr D. Cole</td>
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<tr>
<td>3C9</td>
<td>Fracture mechanics of materials and structures</td>
<td>L(5) assumed</td>
<td>Moodle</td>
<td>Prof. V. Deshpande</td>
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<td>Dr G. R. McShane</td>
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### Group D: Civil, Structural and Environmental Engineering

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<th>Title (linked to syllabus)</th>
<th>Term (set)</th>
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<tbody>
<tr>
<td>3D1</td>
<td>Geotechnical engineering I</td>
<td>M(1)</td>
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<td>Dr. G. Biscontin</td>
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<td>3D2</td>
<td>Geotechnical engineering II</td>
<td>L(1)</td>
<td>Moodle</td>
<td>Dr S.K. Haigh</td>
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<td>3D3</td>
<td>Structural materials and design</td>
<td>M(2)</td>
<td>Moodle</td>
<td>Dr M. Overend</td>
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<td>Dr C. Morley</td>
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<tr>
<td>3D4</td>
<td>Structural analysis and stability</td>
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<td>Dr F. Cirak</td>
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<td>3D5</td>
<td>Water engineering</td>
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<td>Moodle</td>
<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>3D8</td>
<td>Building physics and environmental geotechnics</td>
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<td>Dr R Choudhary</td>
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### Group E: Management and Manufacturing

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<td>Dr A Rosato</td>
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<td>3E2</td>
<td>Marketing</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>
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<td>Dr R. Zanjirani-Farahani</td>
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<td>3E6</td>
<td>Organisational behaviour</td>
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<td>3E11</td>
<td>Environmental sustainability &amp; business</td>
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**Group F: Information Engineering**

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<td>3F1</td>
<td>Signals and systems</td>
<td>M(4)</td>
<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>
<td>Moodle</td>
<td>Dr F Forni</td>
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<td>3F3</td>
<td>Statistical Signal Processing</td>
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<td>3F1 Moodle</td>
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<td>3F4</td>
<td>Data transmission</td>
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<td>3F1 Moodle</td>
<td>Dr R Venkataraman</td>
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<td>3F7</td>
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<td>Dr R. Venkataraman</td>
<td>Dr J. Sayir</td>
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<td>3F8</td>
<td>Inference</td>
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**Group G: Bioengineering**

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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>3G3</td>
<td>Introduction to neuroscience</td>
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<tr>
<td>3G4</td>
<td>Medical imaging and 3D computer graphics</td>
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<td>Moodle</td>
<td>Dr A H Gee</td>
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<td>3G5</td>
<td>Biomaterials</td>
<td>M(8)</td>
<td>Moodle</td>
<td>Dr Y Y S Huang</td>
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**Group M: Multidisciplinary Modules**

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<th>Code</th>
<th>Title (linked to syllabus)</th>
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<th>Prerequisites</th>
<th>On-line resources</th>
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<th>Lab Leader</th>
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<tbody>
<tr>
<td>3M1</td>
<td>Mathematical methods</td>
<td>L(10)</td>
<td>Moodle</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>
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<tr>
<th>Module Code</th>
<th>Title (linked to syllabus)</th>
<th>Term (set)</th>
<th>Form of assessment</th>
<th>Prerequisites</th>
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<tr>
<td>4C4</td>
<td>Design methods</td>
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<td>Exam</td>
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<td>4D8</td>
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<td>4M12</td>
<td>Partial differential equations and variational methods</td>
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<td>Prof. P. Davidson</td>
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<td>4M16</td>
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<td>Exam</td>
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