Part IIB syllabuses; links to online resources

Published on CUED undergraduate teaching (http://teaching.eng.cam.ac.uk)

Part IIB syllabuses; links to online resources

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Note that all modules are assessed by 100% Coursework, or 100% Examination, or 75% Examination and 25% Coursework. In all cases, the definitive form of assessment is given in the Faculty Board's Modules & Sets document. The Faculty Board also publish an outline of the coursework requirements for Part IIB 100% coursework modules but you should see the module syllabus pages for further details.

Interactive booklists for Part IIB are available on Moodle.

Course material on Moodle

Group A: Energy, Fluid Mechanics and Turbomachinery

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<tr>
<td>4A2</td>
<td>Computational fluid dynamics</td>
<td>M(1)</td>
<td>Coursework</td>
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<td>Moodle</td>
<td>Dr J Li</td>
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<td>4A3</td>
<td>Turbomachinery</td>
<td>M(4)</td>
<td>Exam and coursework</td>
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<td>Prof W.N. Dawes</td>
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<td>4A4</td>
<td>Aircraft stability and control</td>
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<td>Coursework</td>
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<td>4A7</td>
<td>Aircraft Aerodynamics and Design</td>
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<td>4A9</td>
<td>Molecular thermodynamics</td>
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<td>4A10</td>
<td>Flow instability</td>
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<td>4A12</td>
<td>Turbulence and vortex dynamics</td>
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<td>Combustion and engines</td>
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Group B: Electrical Engineering

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<td>4B5</td>
<td>Quantum and Nanotechnologies</td>
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<td>Exam</td>
<td>3B5</td>
<td>Moodle</td>
<td>Dr C. Durkan</td>
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<td>4B11</td>
<td>Photonic systems</td>
<td>M(5)</td>
<td>Exam</td>
<td>3B6</td>
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<td>Prof. T. Wilkinson</td>
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### Module IIB: Electronic sensors and instrumentation
- **Code**: 4B13
- **Title**: Electronic sensors and instrumentation
- **Term**: L(1)
- **Form of Assessment**: Exam
- **Prerequisites**: 3B1
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr P A Robertson

### Module IIB: Renewable electrical power
- **Code**: 4B19
- **Title**: Renewable electrical power
- **Term**: M(2)
- **Form of Assessment**: Exam
- **Prerequisites**: 3B3, 3B4, 3B6
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr T. Flack

### Module IIB: Analogue integrated circuits
- **Code**: 4B21
- **Title**: Analogue integrated circuits
- **Term**: M(3)
- **Form of Assessment**: Exam
- **Prerequisites**: 3B1, 3B2, 3B5
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr S Sambandan

### Module IIB: Optical Fibre Communication
- **Code**: 4B23
- **Title**: Optical Fibre Communication
- **Term**: L(2)
- **Form of Assessment**: Exam and coursework
- **Prerequisites**: 3B6, 3F4
- **Assumed Useful**: Online resources
- **Leader**: Moodle Prof S J Savory

### Module IIB: Radio frequency systems
- **Code**: 4B24
- **Title**: Radio frequency systems
- **Term**: L(4)
- **Form of Assessment**: Exam and coursework
- **Prerequisites**: 3B1
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr M J Crisp

### Module IIB: Embedded systems for the internet of things
- **Code**: 4B25
- **Title**: Embedded systems for the internet of things
- **Term**: M(7)
- **Form of Assessment**: Coursework
- **Prerequisites**: 3B2
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr R Stanley-Marbell

### Group C: Mechanics, Materials and Design

### Module C2: Designing with composites
- **Code**: 4C2
- **Title**: Designing with composites
- **Term**: M(3)
- **Form of Assessment**: Exam and Coursework
- **Prerequisites**: 3B5
- **Assumed Useful**: Online resources
- **Leader**: Moodle Prof M.P.F. Sutcliffe

### Module C3: Advanced Functional Materials and Devices
- **Code**: 4C3
- **Title**: Advanced Functional Materials and Devices
- **Term**: M(8)
- **Form of Assessment**: Exam
- **Prerequisites**: 3B5
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr J H Durrell

### Module C4: Design methods
- **Code**: 4C4
- **Title**: Design methods
- **Term**: M(2)
- **Form of Assessment**: Exam
- **Prerequisites**: 3B5, 4C4
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr JM Cullen

### Module C5: Design case studies
- **Code**: 4C5
- **Title**: Design case studies
- **Term**: L(4)
- **Form of Assessment**: Coursework
- **Prerequisites**: 3B5, 4C4
- **Assumed Useful**: Online resources
- **Leader**: Moodle Prof P Kristensson

### Module C6: Advanced linear vibrations
- **Code**: 4C6
- **Title**: Advanced linear vibrations
- **Term**: M(4)
- **Form of Assessment**: Exam and Coursework
- **Prerequisites**: 3C6
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr JP Talbot

### Module C7: Random and non-linear vibrations
- **Code**: 4C7
- **Title**: Random and non-linear vibrations
- **Term**: M(5)
- **Form of Assessment**: Exam and Coursework
- **Prerequisites**: 3C6
- **Assumed Useful**: Online resources
- **Leader**: Moodle Prof. AA Seshia

### Module C8: Vehicle Dynamics
- **Code**: 4C8
- **Title**: Vehicle Dynamics
- **Term**: L(8)
- **Form of Assessment**: Exam and Coursework
- **Prerequisites**: 3C5, 3C6
- **Assumed Useful**: Online resources
- **Leader**: Moodle Prof D Cebon

### Module C9: Continuum mechanics
- **Code**: 4C9
- **Title**: Continuum mechanics
- **Term**: L(7)
- **Form of Assessment**: Exam
- **Prerequisites**: 3C7, 3D7
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr G McShane

### Group D: Civil, Structural and Environmental Engineering

### Module D4: Construction engineering
- **Code**: 4D4
- **Title**: Construction engineering
- **Term**: L(11)
- **Form of Assessment**: Coursework
- **Prerequisites**: 3D1, 3D2, 4D16
- **Assumed Useful**: Online resources
- **Leader**: Moodle Prof G Viggiani

### Module D5: Foundation engineering
- **Code**: 4D5
- **Title**: Foundation engineering
- **Term**: M(8)
- **Form of Assessment**: Exam
- **Prerequisites**: 3D2
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr S Stanier

### Module D6: Dynamics in civil engineering
- **Code**: 4D6
- **Title**: Dynamics in civil engineering
- **Term**: L(2)
- **Form of Assessment**: Exam and Coursework
- **Prerequisites**: 3D2, 3D4, 3D7
- **Assumed Useful**: Online resources
- **Leader**: Moodle Prof F A McRobie

### Module D7: Concrete and Prestressed concrete
- **Code**: 4D7
- **Title**: Concrete and Prestressed concrete
- **Term**: M(4)
- **Form of Assessment**: Exam and Coursework
- **Prerequisites**: 2P8, 3D3, Eurocode 0
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr J Orr

### Module D9: Offshore Geotechnical Engineering
- **Code**: 4D9
- **Title**: Offshore Geotechnical Engineering
- **Term**: L(5)
- **Form of Assessment**: Exam
- **Prerequisites**: 3D2
- **Assumed Useful**: Online resources
- **Leader**: Moodle Dr C.N. Abadie

### Module D10: Structural steelwork
- **Code**: 4D10
- **Title**: Structural steelwork
- **Term**: M(3)
- **Form of Assessment**: Exam and Coursework
- **Prerequisites**: 3D4, 3D3
- **Assumed Useful**: Online resources
- **Leader**: Moodle Prof F A McRobie
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<td>4E1</td>
<td>Innovation and strategic management of intellectual property</td>
<td>M(9)</td>
<td>Coursework</td>
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<td>4E3</td>
<td>Business innovation in a digital age</td>
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<td>4E6</td>
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<td>4E1</td>
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<td>Project management</td>
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### Group F: Information Engineering

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<td>M(5)</td>
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<td>4F2</td>
<td>Robust and nonlinear systems and control</td>
<td>L(7)</td>
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<td>4F3</td>
<td>An optimisation based approach to control</td>
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<td>4F5</td>
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<td>4F7</td>
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<td>4F8</td>
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<td>4F1</td>
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<td>4F1</td>
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<td>4G4</td>
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### Group I: Imported Modules

Note that these modules are all imported from other courses, and hence might be timetabled at unusual times and in unusual places, and have a different course structure to other IIB modules. Also, many of them have a cap on numbers. However, they do provide a tremendous opportunity to learn about a wider range of technology than the Engineering Tripos would otherwise provide.

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<td>4M12</td>
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<td>4M22</td>
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