

## 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](#)

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3A1	<a href="#">Fluid mechanics I (double module)</a>	M(8), L(7)		<a href="#">Moodle</a>	<a href="#">Dr A. Agarwal</a>	<a href="#">Prof. G. Hunt</a> <a href="#">Dr J Li</a>
3A3	<a href="#">Fluid mechanics II (double module)</a>	M(1), L(1)		<a href="#">Moodle</a>	<a href="#">Prof. R.S. Cant</a>	<a href="#">Prof H Babinsky</a> <a href="#">Prof R. Miller</a>
3A5	<a href="#">Thermodynamics and power generation</a>	M(7)		<a href="#">Moodle</a>	<a href="#">Prof E. Mastorakos</a>	<a href="#">Dr A.J. White</a>
3A6	<a href="#">Heat and mass transfer</a>	L(3)		<a href="#">Moodle</a>	<a href="#">Prof W.N. Dawes</a>	<a href="#">Dr A Boies</a>

### [Group B: Electrical Engineering](#)

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3B1	<a href="#">Radio frequency electronics</a>	M(3)		<a href="#">Moodle</a>	<a href="#">Dr P A Robertson</a>	<a href="#">Dr P A Robertson</a>
3B2	<a href="#">Integrated digital electronics</a>	L(3)		<a href="#">Moodle</a>	<a href="#">Dr D Popa</a>	<a href="#">Dr O B Akan</a>
3B3	<a href="#">Switch-mode electronics</a>	M(2)		<a href="#">Moodle</a>	<a href="#">Dr T Long</a>	<a href="#">Dr T Long</a>
3B4	<a href="#">Electric drive systems</a>	L(2)		<a href="#">Moodle</a>	<a href="#">Dr T. Flack</a>	<a href="#">Dr T Long</a>
3B5	<a href="#">Semiconductor engineering</a>	M(8)		<a href="#">Moodle</a>	<a href="#">Dr H Joyce</a>	<a href="#">Prof S. Hofmann</a>
3B6	<a href="#">Photonic technology</a>	L(7)		<a href="#">Moodle</a>	<a href="#">Prof I.H. White</a>	<a href="#">Prof. R. Penty</a>

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### Group C: Mechanics, Materials and Design

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3C1	<a href="#">Materials processing and design</a>	M(5)		<a href="#">Moodle</a>	<a href="#">Dr H. Shercliff</a>	<a href="#">Dr J. Durrell</a>
3C5	<a href="#">Dynamics</a>	M(6)		<a href="#">Moodle</a>	<a href="#">Dr H E M Hunt</a>	<a href="#">Dr H E M Hunt</a>
3C6	<a href="#">Vibration</a>	L(6)	3C5 useful	<a href="#">Moodle</a>	<a href="#">Prof D. Cebon</a>	<a href="#">Dr T. Butlin</a>
3C7	<a href="#">Mechanics of solids</a>	M(4)		<a href="#">Moodle</a>	<a href="#">Prof V. Deshpande</a>	<a href="#">Dr C N Abadie</a>
3C8	<a href="#">Machine design</a>	M(3)		<a href="#">Moodle</a>	<a href="#">Dr D. Cole</a>	<a href="#">Dr D. Cole</a>
3C9	<a href="#">Fracture mechanics of materials and structures</a>	L(5)	3C7 assumed	<a href="#">Moodle</a>	<a href="#">Prof. V. Deshpande</a>	<a href="#">Dr G.J. McShane</a>

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

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3D1	<a href="#">Geotechnical engineering I</a>	M(1)			<a href="#">Dr G. Biscontin</a>	<a href="#">Dr G. Biscontin</a>
3D2	<a href="#">Geotechnical engineering II</a>	L(1)	3D1	<a href="#">Moodle</a>	<a href="#">Dr S.K. Haigh</a>	<a href="#">Dr S.K. Haigh</a>
3D3	<a href="#">Structural materials and design</a>	M(2)		<a href="#">Moodle</a>	<a href="#">Dr M. Overend</a>	<a href="#">Dr C. Morley</a>
3D4	<a href="#">Structural analysis and stability</a>	L(2)		<a href="#">Moodle</a>	<a href="#">Dr S Stanier</a>	<a href="#">Prof A McRobie</a>
3D5	<a href="#">Water engineering</a>	M(10)		<a href="#">Moodle</a>	<a href="#">Dr D. Liang</a>	<a href="#">Dr D. Liang</a>
3D7	<a href="#">Finite element methods</a>	L(4)		<a href="#">Moodle</a>	<a href="#">Dr J Li</a>	<a href="#">Dr C N Abadie</a>
3D8	<a href="#">Building physics and environmental geotechnics</a>	M(3)		<a href="#">Moodle</a>	<a href="#">Prof S.P.G. Madhabhushi</a>	<a href="#">Prof S.P.G. Madhabhushi</a>

### Group E: Management and Manufacturing

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3E1	<a href="#">Business economics</a>	L(8)		<a href="#">Moodle</a>	<a href="#">Dr F Schneider</a>	
3E2	<a href="#">Marketing</a>	M(9)		<a href="#">Moodle</a>	<a href="#">Dr V. Mak</a>	<a href="#">Dr V. Mak</a>
3E3	<a href="#">Modelling Risk</a>	M(9)		<a href="#">Moodle</a>	<a href="#">Dr P. Markou</a>	<a href="#">Mr T Pape</a>
3E6	<a href="#">Organisational behaviour</a>	L(8)		<a href="#">Moodle</a>	<a href="#">Dr A Richter</a>	<a href="#">Dr A Richter</a>
3E10	<a href="#">Operations management for engineers</a>	L(8)		<a href="#">Moodle</a>	<a href="#">Dr F Erhan-Oguz</a>	<a href="#">Rev R McKenzie</a>
3E11	<a href="#">Environmental sustainability &amp; business</a>	M(9)		<a href="#">Moodle</a>	<a href="#">Prof J A Howard-Grenville</a>	<a href="#">Prof J A Howard-Grenville</a>

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### [Group F: Information Engineering](#)

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3F1	<a href="#">Signals and systems</a>	M(4)		<a href="#">Moodle</a>	<a href="#">Dr T O'Leary</a>	<a href="#">Prof. M.C. Smith</a>
3F2	<a href="#">Systems and control</a>	L(5)		<a href="#">Moodle</a>	<a href="#">Dr G Vinnicombe</a>	<a href="#">Dr G Vinnicombe</a>
3F3	<a href="#">Statistical Signal Processing</a>	M(1)	3F1	<a href="#">Moodle</a>	<a href="#">Dr S.S. Singh</a>	<a href="#">Dr S.S. Singh</a>
3F4	<a href="#">Data transmission</a>	L(6)	3F1	<a href="#">Moodle</a>	<a href="#">Dr R Venkataramanan</a>	<a href="#">Dr J Sayir</a>
3F7	<a href="#">Information Theory and Coding</a>	M(5)		<a href="#">Moodle</a>	<a href="#">Dr R. Venkataramanan</a>	<a href="#">Dr J. Sayir</a>
3F8	<a href="#">Inference</a>	L(4)	3F3	<a href="#">Moodle</a>	<a href="#">Dr R.E. Turner</a>	<a href="#">Dr J M Hernandez-Lobato</a>

### [Group G: Bioengineering](#)

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3G1	<a href="#">Introduction to molecular bioengineering</a>	M(7)		<a href="#">Moodle</a>	<a href="#">Dr G. Micklem</a>	<a href="#">Dr G. Micklem</a>
3G2	<a href="#">Mathematical physiology</a>	L(3)		<a href="#">Moodle</a>	<a href="#">Prof M. Lengyel</a>	<a href="#">Dr A. Agarwal</a>
3G3	<a href="#">Introduction to neuroscience</a>	L(2)		<a href="#">Moodle</a>	<a href="#">Dr G. Hennequin</a>	<a href="#">Dr G. Hennequin</a>
3G4	<a href="#">Medical imaging and 3D computer graphics</a>	L(1)		<a href="#">Moodle</a>	<a href="#">Dr A H Gee</a>	<a href="#">Dr G.M. Treece</a>
3G5	<a href="#">Biomaterials</a>	M(8)		<a href="#">Moodle</a>	<a href="#">Dr A Markaki</a>	<a href="#">Dr Y.Y.S. Huang</a>

### [Group M: Multidisciplinary Modules](#)

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3M1	<a href="#">Mathematical methods</a>	L(10)		<a href="#">Moodle</a>	<a href="#">Prof G Csanyi</a>	<a href="#">Prof G Csanyi</a>

### [Group S: Modules Shared with Part IIB](#)

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

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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.

Module		Term (set)	Form of assessment	Prerequisites		On-line resources	Leader
Code	Title (linked to syllabus)			Assumed	Useful		
4C4	<a href="#">Design methods</a>	M(7)	Exam				<a href="#">Dr P.O. Kristensson</a>
4D16	<a href="#">Construction management (reintroduced 2018-19)</a>	L(9)	Exam			<a href="#">Moodle</a>	Dr P Heffernan
4M12	<a href="#">Partial differential equations and variational methods</a>	L(9)	Exam			<a href="#">Moodle</a>	<a href="#">Dr J.S. Biggins</a>
4M16	<a href="#">Nuclear power engineering</a>	L(9)	Exam			<a href="#">Moodle</a>	<a href="#">Dr G. Parks</a>

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