

Part IIA syllabuses; links to online resources

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Please note there are no Full Technical Reports associated with the following modules: all of the 3E modules, 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	Fluid mechanics I (double module)	M(8) , L(7)		Moodle	Prof S Barrett	Dr S.D. Mandre Prof P.G. Tucker
3A3	Fluid mechanics II (double module)	M(1) , L(1)		Moodle	Prof H. Babinsky	Prof H. Babinsky Dr C Clark
3A5	Thermodynamics and power generation	M(7)		Moodle	Dr A. White	Prof A.P. Wheeler
3A6	Heat and mass transfer	L(3)		Moodle	Dr M Onn	Prof S. Hochgreb

[Group B: Electrical Engineering](#)

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3B1	Radio frequency electronics	M(3)		Moodle	Dr I. Tavakkolnia	Dr I. Tavakkolnia
3B2	Integrated digital electronics	L(3)		Moodle	Prof O.B. Akan	Prof O.B. Akan
3B3	Switch-mode electronics	M(2)		Moodle	Dr S.M.Goetz	Prof T Long
3B4	Electric drive systems	L(2)		Moodle	Prof T Long	Prof T Long
3B5	Semiconductor engineering	M(8)		Moodle	Prof A. Ferrari	Dr A. Agrawal
3B6	Photonic technology	L(7)		Moodle	Dr Q. Cheng	Dr Q. Cheng

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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	Materials processing and design	M(5)		Moodle	Dr M. Seita	Prof J.H. Durrell
3C5	Dynamics	L(6)		Moodle	Prof H.E.M. Hunt	Dr A. Cicirello
3C6	Vibration	M(6)		Moodle	Dr T. Butlin	Dr T. Butlin
3C7	Mechanics of solids	M(4)		Moodle	Prof V.S. Deshpande	Dr B. Liu
3C8	Machine design	M(3)		Moodle	Prof M.P.F. Sutcliffe	Dr X. Na
3C9	Fracture mechanics of materials and structures	L(5)	3C7 assumed	Moodle	Prof N.A. Fleck	Dr G.J. McShane

Group D: Civil Engineering

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3D1	Geotechnical engineering I	M(1)		Moodle	Prof S.P.G. Madabhushi	Dr S. Stanier
3D2	Geotechnical engineering II	L(1)	3D1	Moodle	Dr J Hambleton	Dr S. Stanier
3D3	Structural materials and design	M(2)		Moodle	Dr R Foster	Dr R Foster
3D4	Structural analysis and stability	L(2)		Moodle	Prof S.D. Guest	Prof K.A. Seffen
3D5	Hydraulics	M(10)		Moodle	Prof D. Liang	Prof D. Liang
3D7	Finite element methods	L(4)		Moodle	Prof D. Liang	Prof D. Liang
3D9	Construction management	M(3)		Moodle	Prof I Brilakis	Prof I Brilakis

Group E: Management and Manufacturing

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3E1	Business economics	L(8)		Moodle	Dr J. Kozak Rogo	Dr J. Kozak Rogo
3E2	Marketing	M(9)		Moodle	Dr O. Merlo	Dr O. Merlo
3E3	Modelling Risk	L(8)		Moodle	Dr E. Gungor	Dr E. Gungor
3E6	Organisational behaviour	M(9)		Moodle	Dr C. Rook	Dr C. Rook
3E10	Operations management for engineers	L(8)		Moodle	Dr G Yilmaz	Dr G Yilmaz

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Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3E11	Environmental sustainability & business	M(9)		Moodle	Prof L. Reisch	Prof L. Reisch

Group F: Information Engineering

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3F1	Signals and systems	M(4)		Moodle	Dr J. Sayir	Dr J. Sayir
3F2	Systems and control	L(5)		Moodle		Prof R Sepulchre Prof G. Vinnicombe
3F3	Statistical Signal Processing	M(1)		Moodle		Dr G. Cantwell Dr G. C.
3F4	Data transmission	L(6)		Moodle		Prof A. Guilleni Fabregas Dr J. Sa
3F7	Information Theory and Coding	M(5)		Moodle		Prof R Venkataramanan Dr J. Sa
3F8	Inference	L(4)	3F3	Moodle		Prof R. Turner Dr C Steffen

Group G: Bioengineering

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3G1	Molecular bioengineering I	M(7)		Moodle	Prof T O'Leary	Dr J. Molloy
3G2	Mathematical physiology	L(3)		Moodle	Prof M. Lengyel	Dr S. Mandre
3G3	Introduction to neuroscience	L(2)		Moodle	Prof G. Hennequin	Prof G. Hennequin
3G4	Medical imaging and 3D computer graphics	L(1)		Moodle	Prof A.H. Gee	Prof G.M. Treece
3G5	Biomaterials	M(8)		Moodle	Prof S. Huang	Prof A. Markaki

Group M: Multidisciplinary Modules

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Code	Title (linked to syllabus)	(set)	Assumed			
3M1	Mathematical methods	L(10)		Moodle	Prof M. Girolami	Prof M. Girolami

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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.

Module		Term (set)	Form of assessment	Prerequisites		On-line resources	Leader
Code	Title (linked to syllabus)			Assumed	Useful		
4C4	Design methods	M(7)	Exam			Moodle	Prof J.M. Cullen
4M12	Partial differential equations and variational methods	L(9)	Exam			Moodle	Dr J Li
4M16	Nuclear power engineering	L(9)	Exam			Moodle	Dr P Cosgrove
4M21	Software engineering	L(9)	Exam			Moodle	Dr O Punskeya

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