

Part IIA syllabuses; links to online resources

Index

- [Group A: Energy, Fluid Mechanics and Turbomachinery](#)
- [Group B: Electrical Engineering](#)
- [Group C: Mechanics, Materials and Design](#)
- [Group D: Civil Engineering Engineering](#)
- [Group E: Management and Manufacturing](#)
- [Group F: Information Engineering](#)
- [Group G: Bioengineering](#)
- [Group M: Multidisciplinary Modules](#)
- [Group S: Modules Shared with Part IIB](#)

[Interactive booklists for Part IIA are available on Moodle.](#)

[Engineering Areas](#)

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
Cod e	Title (linked to syllabus)	(set)	Assumed			
3A1	Fluid mechanics I (double module)	M(8) , L(7)		Moodle	Prof A. Agarwal	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 J.V. Taylor
3A5	Thermodynamics and power generation	M(7)		Moodle	Dr A.J. White	Prof A.P. Wheeler
3A6	Heat and mass transfer	L(3)		Moodle	Prof S. Hochgreb	Prof A.M. Boies

[Group B: Electrical Engineering](#)

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Cod e	Title (linked to syllabus)	(set)	Assumed			
3B1	Radio frequency electronics	M(3)		Moodle	Dr P.A. Robertson	Dr M.J. Crisp
3B2	Integrated digital electronics	L(3)		Moodle	Dr O.B. Akan	Dr O.B. Akan
3B3	Switch-mode electronics	M(2)		Moodle	Prof S. Goetz	Prof F. Udrea
3B4	Electric drive systems	L(2)		Moodle	Dr T.J. Flack	Dr T.J. Flack
3B5	Semiconductor engineering	M(8)		Moodle	Prof. S. Hofmann	Prof. S. Hofmann

Part IIA syllabuses; links to online resources

Published on CUED undergraduate teaching site (<https://teaching23-24.eng.cam.ac.uk>)

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Cod e	Title (linked to syllabus)	(set)	Assumed			
3B6	Photonic technology	L(7)		Moodle	Dr Q. Cheng	Dr Q. Cheng

[Group C: Mechanics, Materials and Design](#)

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Cod e	Title (linked to syllabus)	(set)	Assumed			
3C1	Materials processing and design	M(5)		Moodle	Dr H. Shercliff	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
Cod e	Title (linked to syllabus)	(set)	Assumed			
3D1	Geotechnical engineering I	M(1)		Moodle	Dr S. Stanier	Prof S.K. Haigh
3D2	Geotechnical engineering II	L(1)	3D1	Moodle	Prof S.K. Haigh	Prof S.K. Haigh
3D3	Structural materials and design	M(2)		Moodle	Prof J. Orr	Prof J. Orr
3D4	Structural analysis and stability	L(2)		Moodle	Prof F. Cirak	Prof K.A. Seffen
3D5	Water engineering	M(10)		Moodle	Prof D. Liang	Prof D. Liang
3D7	Finite element methods	L(4)		Moodle	Prof F. Cirak	Prof G.N. Wells
3D8	Geo-Environmental engineering	L(7)		Moodle	Prof A. Al-Tabbaa	Prof S.P.G. Madabhushi

[Group E: Management and Manufacturing](#)

Part IIA syllabuses; links to online resources

Published on CUED undergraduate teaching site (<https://teaching23-24.eng.cam.ac.uk>)

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Cod e	Title (linked to syllabus)	(set)	Assumed			
3E1	Business economics	M(9)		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 M. Herrera	Dr M. Herrera
3E6	Organisational behaviour	M(9)		Moodle	Dr Y.J. Kim	Dr Y.J. Kim
3E10	Operations management for engineers	L(8)		Moodle	Dr F. Erhan-Oguz	Dr F. Erhan-Oguz
3E11	Environmental sustainability & business	L(8)		Moodle	Prof L. Reisch	Prof L. Reisch

Group F: Information Engineering

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

Group G: Bioengineering

Module		Term	Prerequisites	On-line resources	Leader	Lab Leader
Cod e	Title (linked to syllabus)	(set)	Assumed			
3G1	Molecular bioengineering I	M(7)		Moodle	Dr S. Bakshi	Dr S. Bakshi
3G2	Mathematical physiology	L(3)		Moodle	Prof A.J. Kabla	Prof A.J. Kabla
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

Part IIA syllabuses; links to online resources

Published on CUED undergraduate teaching site (<https://teaching23-24.eng.cam.ac.uk>)

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

[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	Form of assessment	Prerequisites		On-line resources	Leader
Cod e	Title (linked to syllabus)	(set)		Assumed	Useful		
4C4	Design methods	M(7)	Exam			Moodle	Prof J.M. Cullen
4D16	Construction management	M(7)	Exam			Moodle	Prof I Brilakis
4M12	Partial differential equations and variational methods	L(9)	Exam			Moodle	Prof J.S. Biggins
4M16	Nuclear power engineering	L(9)	Exam			Moodle	Prof G. Parks

Source URL (modified on 01-11-23): <https://teaching23-24.eng.cam.ac.uk/content/part-ii-a-syllabuses-links-online-resources>