

Appendix A: Engineering Modules for Graduate Students

Modules for 2025-26

	Number and title of module		Term	Mode	Contact	CRSID
Group A: Energy, fluid mechanics, and turbomachinery	4A2	Computational fluid dynamics	M	C	Dr J. V. Taylor	jvt24
	4A3	Turbomachinery I	M	E & C	Prof R. J. Miller	rjm76
	4A4	Aircraft Stability and Control	M	C	Dr M. Vera Morales	mv234
	4A7	Aerodynamics and Design	M	C	Dr J. P. Jarrett	jjp1001
	4A9	Molecular Thermodynamics	M	E	Dr A. J. White	ajw36
	4A10	Flow Instability	L	E	Prof G. R. Hunt	grh20
	4A12	Turbulence and Vortex Dynamics	L	E	Dr J. Li	jl305
	4A13	Combustion and Engines	L	E	Prof N. Swaminathan	ns341
	4A15	Aeroacoustics	L	E	Dr A. Agarwal	aa406
Group B: Electrical engineering	4B2	Power Microelectronics	M	E	Prof F. Udrea	fu10000
	4B5	Quantum and Nano-technologies	M	E	Dr L. Sapienza	ls2052
	4B11	Photonic Systems	M	E	Prof T. D. Wilkinson	tdw13
	4B19	Renewable Electrical Power	M	E	Prof H Joyce	hjj28
	4B23	Optical Fibre Communication	L	E & C	Prof S. J. Savory	sjs1001
	4B28	Very Large-scale Integration (VLSI)	M	E & C	Dr M. W. C. Tang	wct26
	4B29	Wireless Communication	L	E & C	Prof O. Akan	
Group C: Mechanics, materials, and design	4C2	Designing with Composites	M	E & C	Prof A. Markaki	am253
	4C3	Advanced Functional Materials and Devices	M	E	Prof J. H. Durrell	jhd25
	4C4	Design Methods	M	E	Prof J M Cullen	jcm99
	4C5	Design Case Studies	L	C	Prof N. Crilly	nc266
	4C6	Advanced Linear Vibrations	M	E & C	Dr T. Butlin	tb267
	4C8	Applications of Dynamics	L	E & C	Dr X. N. H. Na	xnhn2
	4C11	Data-driven and Learning-based Methods in Mechanics and Materials	L	C	Dr B. Liu	bl377
Group D: Civil, structural, and environmental engineering	4D2	Advanced Structural Design	L	C	Dr R. Foster	rmf41
	4D5	Foundation Engineering	M	E	Prof S. K. Haigh	skh20
	4D7	Concrete and Prestressed Concrete	M	E & C	Prof J. J. Orr	jjo33
	4D9	Offshore Geotechnical Engineering	L	E	Dr S. A. Stanier	sas229
	4D10	Structural Steelwork	M	E & C	Dr J. Becque	jab311
	4D13	Architectural Engineering	M	C	Prof R. Choudhary	rc488
	4D15	Water Management under Climate Change	L	C	Dr E. Borgomeo	eb973
	4D17	Plate and Shell Structures	L	E	Dr K. A. Seffen	kas14
Group E: Management and Manufacturing (See also 5R20 'Designed to Lead')	4E1	Innovation and Strategic Management of Intellectual Property	M	C	Dr F. Tietze	ft263
	4E3	Business Innovation in a Digital Age	L	C	Dr K. Sayegh	ks2004
	4E4	Management of Technology	M	E	Dr L. Mortara	lm367
	4E5	International Business	L	C	Dr S. Welch	sws33
	4E6	Accounting and finance	M	E	Dr L. Mischenko	lm918
	4E11	Strategic management	L	C	Dr C. Coleridge	cc905
	4E12	Project Management	L	E	Dr N. Oraopoulos	no245
Group F: Information engineering	4F1	Control System Design	M	E & C	Prof G. Vinnicombe	gv103
	4F2	Robust and Non-linear Control	L	C	Prof F. Forni	ff286
	4F3	An Optimisation Based Approach to Control	L	E	Prof I. C. Lestas	icl20
	4F5	Advanced Information Theory and Coding	M	E	Dr A. Guillen i Fabregas	ag495
	4F7	Statistical Signal and Network Models	L	E	Prof G. Godsill	sgj30
	4F10	Deep Learning and Structured Data	M	E	Prof M. Gales	mjfg100
	4F12	Computer Vision	M	E	Prof R. Cipolla	rc10001
	4F13	Probabilistic Machine Learning	M	C	Dr H. Ge	hg344
	4F14	Computer Systems	L	E & C	Dr A. H. Gee	ahg13

- Explanation of terms is on the following page

Group G: Engineering for the Life Sciences	4G2	Bioelectronics	M	C	Prof G. Malliaras	gm603
	4G3	Computational Neuroscience	L	C	Prof M. Lengyel	ml468
	4G7	Control and Computation in Living Systems	M	E & C	Dr T. O'Leary	tso24
	4G9	Biomedical Engineering	L	C	Dr T. Bashford	tb508
Group I: Imported Modules	4I10	Nuclear Reactor Engineering	M	E	Dr E. Shwageraus	es607
	4I11	Advanced Fission and Fusion Reactor Systems	L	C	Dr N.Read	nr438
Group M: Multidisciplinary modules	4M12	Partial Differential Equations and Variational Methods	L	E	Prof J. Biggins	jsb56
	4M16	Nuclear Power Engineering	L	E	Dr P. Cosgrove	pmc55
	4M17	Practical Optimisation	M	C	Prof G. Wells	gnw20
	4M19	Advanced Building Physics	M	C	Prof G. R. Hunt	grh20
	4M20	Introduction to Robotics	M	C	Prof F. Forni	ff286
	4M21	Software Engineering and Design	L	E	Dr E. Punskeya	op205
	4M22	Climate Change Mitigation	M	C	Prof J. M. Allwood	jma42
	4M23	Electricity and Environment	L	C	Prof M. Pollitt	mgp20
	4M24	Computational Statistics and Machine Learning	M	E & C	Prof M. Girolami	mag92
Additional Borrowing Modules made available by other courses. Note that permission from the module leader is needed to take these modules. Note: If you are interested in NT01, please contact the GSO immediately	ESD150	Driving Change Towards Sustainability	M	C	Dr D. C. Morgan	dcm32
	ESD200	Sustainability Methods and Metrics	M	C	Dr A. Cabrera Serrenho	ag806
	ESD380	Resilience of Infrastructure Systems	L	C	Dr D. C. Morgan	dcm32
	ESD560	Innovations in Sustainable Manufacturing	L	C	Dr D. C. Morgan	dcm32
	ESD650	International Development	M	C	Dr D. C. Morgan	dcm32
	ESD950	Water Management for Development in a Changing Climate	L	C	Dr E. Borgomeo	eb973
	ETB1	Future Fuels	M	C	Dr S. A. Scott	sas37
	ETB2	Renewable Energy 1: Wind, Wave, Tidal and Hydro	L	C	Dr S. A. Scott	sas37
	ETB3	Renewable Energy 2: Solar and Biofuels	M + L	C	Prof N. Swaminathan	ns341
	NT01	Nanocharacterisation	M	C	[Contact GSO]	rwdc2
	NT04	Nanofabrication	M	C	[Contact GSO]	rwdc2
NT09	Nanoelectrochemistry	L	C	[Contact GSO]	rwdc2	
Group R: Research Modules Specifically for postgraduate research students.	5R5	Advanced Experimental Methods in Geomechanics	L	C	Prof S.G.P. Madabhushi	mosp1
	5R20	Designed to Lead (equivalent to 4M26)	M	C	Ms Kasia Lanucha	kl333
Reading Groups Can replace one module (if two modules would otherwise be taken)	RC3	Robust Control	M + L	C	Prof M. C. Smith	mcs1000
	RC4	Manufacturing Management	L	C	Dr F. Tietze	ft263
	RC15	Engineering Design	L	C	Dr T. Bashford	tb508
	RC18	Nuclear	L	C	Prof G. T. Parks	gtp10

- 'M' refers to the Michaelmas (Winter) term; 'L' refers to the Lent (Spring) term.
- 'Mode' refers to mode of assessment: either by coursework (C), by written examination (E), or both (E&C). Note that the expected mode of examination is the Module Research Essay, but you are able to take the normal assessment by informing the Postgraduate Office before the METEOR deadline.
- The email addresses of contacts consist of that person's CRSID, ending with @cam.ac.uk. For example, if somebody's CRSID is rwdc2, that person's email address is rwdc2@cam.ac.uk.
- Syllabuses for all modules borrowed from Part IIB of the Engineering Tripos can be found here: <http://teaching.eng.cam.ac.uk/node/3003>
- Please note that some written examinations may clash with others. These are the examinations for modules which have been placed in the same 'set'. Please do not take more than one module from the same 'set' if both modules are assessed, wholly or partly, by written examination (the rules applying to undergraduate students do not otherwise apply). A list of sets can be found here: <http://teaching.eng.cam.ac.uk/download/file/6146>