

Appendix A: Engineering Modules for Graduate Students

Modules for 2018–19

	Number and title of module		Term	Mode	Contact	CRSID
Group A: Energy, fluid mechanics, and turbomachinery	4A2	Computational fluid dynamics	M	C	Dr Tom Hynes	tph1
	4A3	Turbomachinery I	M	E & C	Dr N. R. Atkins	nra27
	4A7	Aerodynamics	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	Prof P. A. Davidson	pad3
	4A13	Combustion and IC engines	L	E	Prof S. Hochgreb	sh372
	4A15	Aeroacoustics	M	E	Dr A. Agarwal	aa406
Group B: Electrical engineering	4B2	Power Microelectronics	M	E	Prof F. Udrea	fu10000
	4B11	Photonic Systems	M	E	Prof T.D. Wilkinson	tdw13
	4B13	Electronic Sensors and Instrumentation	L	E	Dr P. A. Robertson	par10
	4B19	Renewable Electrical Power	M	E	Dr T. J. Flack	tjf1000
	4B21	Analogue Integrated Circuit	M	E	Prof A. Nathan	an299
	4B22	Flexible Electronics	L	E	Dr F. Torrisi	ft242
	4B23	Optical Fibre Communication	L	E & C	Dr S. J. Savory	sjs1001
	4B24	Radio Frequency Systems	L	E & C	Dr M. J. Crisp	mjc87
Group C: Mechanics, materials, and design	4C2	Designing with Composites	M	E & C	Dr A. E. Markaki	am253
	4C3	Electrical and Nano materials	M	E	Dr J. H. Durrell	jhd25
	4C4	Design Methods	M	E	Dr J. M. Cullen	jmc99
	4C5	Design Case Studies	L	C	Dr P. O. Kristensson	pok21
	4C6	Advanced Linear Vibrations	M	E & C	Dr H. E. M. Hunt	hemh1
	4C7	Random and Non-linear Vibrations	M	E & C	Prof R.S. Langley	rsl21
	4C8	Applications of Dynamics	L	E & C	Prof D. Cebon	dc29
	4C9	Continuum Mechanics	L	E	Dr G. J. McShane	gjm31
Group D: Civil, structural, and environmental engineering	4C15	MEMS: Design	L	E & C	Prof A. Seshia	aas41
	4D4	Construction Engineering	L	C	Dr I. Brilakis	ib340
	4D5	Foundation Engineering	L	E & C	Dr G. Biscontin	gb479
	4D6	Dynamics in Civil Engineering	L	E & C	Prof S.P.G Madabhushi	misp1
	4D7	Concrete Structures	M	E & C	Prof C. R. Middleton	crm11
	4D8	Pre-stressed Concrete	L	E	Prof T. J. Ibell	tji10
	4D10	Structural Steelwork	M	E & C	Prof F. A. McRobie	fam20
	4D13	Architectural Engineering	M	C	Dr R. Choudhary	rc488
Group E: Management and manufacturing	4D14	Contaminated Land and Waste Containment	L	E & C	Prof A. Al-Tabbaa	aa22
	4D16	Construction Management	L	E	Dr P. B. Heffernan	pbh24
	4E1	Innovation and Strategic Management of Intellectual Property	M	E & C	Dr F. Tietze	ft263
	4E4	Management of technology	M	C	Dr T. H. W. Minshall	thwm100
	4E5	International business economics	L	C	Dr J. Kroezen	jk632
	4E6	Accounting and finance	M	C	Dr O. Cole	oc219
	4E11	Strategic management	L	C	Prof S. M. Ansi	sma31

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	Number and title of module		Term	Mode	Contact	CRSID
Group F: Information engineering	4F1	Control System Design	M	E & C	Prof M. C. Smith	mcs1000
	4F2	Robust and Non-linear Systems and Control	L	E	Prof M. C. Smith	mcs1000
	4F3	An Optimisation Based Approach to Control	L	E	Dr G. Vinnicombe	gv103
	4F5	Advanced Information Theory and Coding	L	E	Dr J. Sayir	js851
	4F7	Statistical Signal Analysis	M	E	Dr S. S. Singh	sss40
	4F8	Image processing and Image Coding	L	E	Prof J. Lasenby	jl221
	4F10	Deep Learning and Structured Data	M	E	Prof M. J. F. Gales	mjfg100
	4F12	Computer Vision	M	E	Prof R. Cipolla	rc10001
	4F13	Probabilistic Machine Learning	M	C	Prof C. E. Rasmussen	cer54
	4F14	Computer Systems	L	E & C	Dr A. H. Gee	ahg13
Group G: Engineering for the Life Sciences	4G1	Mathematical Biology of the Cell	M	C	Dr T. H. Savin	ts573
	4G2	Biosensors	L	C	Prof A. Seshia	aas41
	4G3	Computational Neuroscience	L	C	Prof M. Lengyel	ml468
	4G6	Cellular and Molecular Biomechanics	L	E	Prof V. S. Deshpande	vsd20
Group I: Imported Modules	4I10	Nuclear Reactor Engineering	M	E	Dr E. Shwageraus	es607
	4I11	Advanced Fission and Fusion Reactor Systems	L	C	Dr E. Shwageraus	es607
Group M: Multidisciplinary modules	4M12	Partial Differential Equations and Variational Methods	L	E	Prof P. A. Davidson	pad3
	4M16	Nuclear Power Engineering	L	E	Dr G. T. Parks	gtp10
	4M17	Practical Optimisation	M	C	Prof R. Sepulchre	rs771
	4M19	Advanced Building Physics	M	C	Dr M. Overend	mo318
	4M20	Robotics	M	C	Dr F. Iida	fi224
	4M21	Software Engineering and Design	L	E	Dr E. Punskeya	op205
Group R: Research modules	4M22	Climate Change Mitigation	M	C	Prof J. M. Allwood	jma42
	5R5	Advanced Experimental Methods in Geomechanics	M	C	Prof S.P.G Madabhushi	mshg1
	5R7	Advanced Numerical Methods in Geomechanics	L	C	Dr G. Biscontin	gb479
	5R10	Turbulent Reacting Flows	M	C	Prof E. Mastorakos	em257
	5R17	Integrated System Design	L	C	Dr P. O. Kristensson	pok21
Additional Borrowing Modules made available by other MPhil/MRes courses in the Department and across the University <i>Before selecting modules prefixed with 'ESD', please gain the permission of the named contact, as there will be limited places on these modules.</i>	ESD150	Driving Change Towards Sustainability	M	C	Dr R. A. Fenner	raf37
	ESD200	Sustainability Methods and Metrics	M	C	Dr R. A. Fenner	raf37
	ESD360	Resilience and Hazard Mitigation in Future Cities	L	C	Dr R. A. Fenner	raf37
	ESD450	Policy, Legislation and Government	L	C	Dr R. A. Fenner	raf37
	ESD560	Innovations in Sustainable Manufacturing	L	C	Dr D. C. Morgan	dcm32
	ESD650	International Development	L	C	Dr R. A. Fenner	raf37
	ESD700	Infrastructure Design of Poor Settlements in Developing Countries	L	C	Dr R. A. Fenner	raf37
	ETB1	Clean Fossil Fuel Technologies	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
	GRM1	Science of Graphene, Related Layered Materials, and Hybrid Systems	M	E	Prof A. Ferrari	acf26
	GRM2	Technology of Graphene, Related Layered Materials, and Hybrid Systems	L	E	Dr T. Hasan	th270
	GRM4	Novel Devices for I-Frequency (Opto)electronics and IoT	L	E	Dr A. Lombardo	al515
	NT01	Characterization techniques	M	E	Dr C. Ducati	cd251
	NT04	Nanofabrication techniques	L	E	Dr Z. Barber	zb10
Reading Groups Can replace one module	RC3	Robust Control	M + L	C	Prof M. C. Smith	mcs1000
	RC4	Manufacturing Management	L	C	Dr C. Velu	cv236
	RC13	Advanced Manufacturing Technologies	M + L	C	Professor W. O'Neill	wo207
	RC15	Engineering Design	L	C	Dr N. Crilly	ac846
	RC18	Nuclear	L	C	Dr G. T. Parks	gtp10

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