

Engineering Modules for Graduate Students

Modules for 2013–14

	Number and title of module		Term	Mode of examination
Group A: Energy, fluid mechanics, and turbomachinery	4A2	Computational fluid dynamics	M	Coursework
	4A3	Turbomachinery I	M	Exam and coursework
	4A7	Aerodynamics	M	Coursework
	4A9	Molecular thermodynamics	M	Exam
	4A10	Flow instability	L	Exam
	4A11	Turbomachinery II	L	Exam and coursework
	4A12	Turbulence and vortex dynamics	L	Exam
	4A13	Combustion and IC engines	L	Exam
	4A15	Aeroacoustics	M	Exam
Group B: Electrical engineering	4B2	Power Microelectronics	M	Exam
	4B5	Nanotechnology	M	Exam and coursework
	4B6	Solid state devices and chemical/biological sensors	L	Exam
	4B7	VLSI design, technology, and CAD	L	Exam and coursework
	4B11	Photonic systems	M	Exam
	4B13	Electronic sensors and instrumentation	L	Exam
	4B14	Solar-electronic power: generation and distribution	M	Exam and coursework
	4B19	Renewable electrical power	M	Exam
	4B20	Display technology	L	Exam
	4B21	Analogue Integrated Circuit	L	Exam
Group C: Mechanics, materials, and design	4C2	Designing with composites	M	Exam and coursework
	4C3	Electrical and nano materials	M	Exam
	4C4	Design methods	M	Exam
	4C5	Design case studies	L	Coursework
	4C6	Advanced linear vibrations	M	Exam and coursework
	4C7	Random and non-linear vibrations	M	Exam and coursework
	4C8	Applications of dynamics	L	Exam and coursework
	4C9	Continuum mechanics	M	Exam
	4C15	MEMS: design	L	Exam and coursework
4C16	Advanced machine design	L	Exam and coursework	
Group D: Civil, structural, and environmental engineering	4D4	Construction Engineering	L	Coursework
	4D5	Foundation engineering	L	Exam and coursework
	4D6	Dynamics in civil engineering	L	Exam and coursework
	4D7	Concrete structures	M	Exam and coursework
	4D8	Pre-stressed concrete	L	Exam and coursework
	4D10	Structural steelwork	M	Exam and coursework
	4D13	Architectural engineering	M	Coursework
	4D14	Contaminated land and waste containment	M	Exam and Coursework
	4D15	Sustainable water engineering	L	Coursework
4D17	Plate and shell structures	M	Coursework	
Group E: Management and manufacturing	4E3	Information Systems	M	Coursework
	4E4	Management of technology	M	Coursework
	4E5	International business economics	L	Coursework
	4E6	Accounting and finance	M	Coursework
	4E11	Strategic management	L	Coursework

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Group F: Information engineering	4F1	Control system design	M	Exam and coursework
	4F2	Robust and non-linear systems and control	L	Exam
	4F3	Optimal and predictive control	L	Exam
	4F5	Advanced communications and coding	M	Exam
	4F7	Digital filters and spectrum estimation	M	Exam
	4F8	Image processing and image coding	L	Exam
	4F10	Statistical pattern processing	M	Exam
	4F11	Speech and language processing	L	Exam
	4F12	Computer vision and robotics	M	Exam
	4F13	Machine learning	L	Coursework
Group G: Engineering for the Life Sciences	4G2	Biosensors	L	Coursework
	4G3	Computational Neuroscience	L	Coursework
	4G4	Biomimetics	L	Coursework
	4G5	Molecular Modelling	M	Coursework
	4G6	Cellular and molecular biomechanics	M	Exam
Group I: Imported modules	4I5	Nuclear Materials	M	Exam
	4I7	Electricity and environment	M	Coursework
	4I8	Medical physics	L	Exam
	4I10	Nuclear Reactor Engineering	M	Exam
	4I11	Advanced Fission and Fusion Systems	L	Exam
Group M: Multidisciplinary modules	4M6	Materials and processes for microsystems (MEMS)	M	Exam and coursework
	4M12	Partial differential equations and variational methods	L	Exam
	4M14	Sustainable development	M	Coursework
	4M15	Sustainable energy	M	coursework
	4M16	Nuclear power engineering	L	Exam
	4M17	Practical Optimisation	M	Coursework
	4M18	Present and future energy systems	M	Exam
	4M19	Advanced building physics	M	Coursework
*Group R: Research modules	5R5	Advanced experimental methods in geomechanics		Coursework
	5R7	Advanced numerical methods in geomechanics		Coursework
	5R9	Experimental methods in fluids		Coursework
	5R10	Turbulent reacting flows		Coursework
	5R13	Experimental methods in mechanics		Coursework
	5R14	Nonlinear Solid Mechanics		Coursework
	5R17	Integrated System Design		Coursework
	5R18	Environmental Fluid Mechanics		Coursework
*Reading Groups Can replace one module	RC3	Robust control		Professor M C Smith
	RC4	Manufacturing management		Professor M J Gregory
	RC13	Flexible manufacturing technology		Professor I H Hutchings
	RC14	Computational sensorimotor control		Profess D Wolpert
	RC15	Engineering design		Dr N Crilly

***For details of the Research Modules and the Reading Groups contact the member of staff in charge.**