

General Scheme 2022-23 v4 (22nd Sep 2022)

Course	Lecturer	M	H	T
First Year				
P1 Calculus 1	Prof. M.J. Booth	4		
P1 Linear Algebra and Complex Algebra	Prof. C. Monroe	8		
P1 Ordinary Differential Equations 1	Prof. H.J. Burd	8		
P1 Ordinary Differential Equations 2	Prof. N. Ares and Prof. M.S. Thompson	4		4
P1 Calculus 2	Prof. V. Grau	4		
P1 Calculus 3	Prof. J. Kwan	4		
P2 Components and Circuits 1	Prof. D. Rogers	8		
P2 Components and Circuits 2	Prof. T. Wilson		8	
P2 Active Circuits and Devices	Prof. P. Stavrinou		12	
P2 Digital Electronics	Prof. P. Maiolino			8
P3 Statics	Prof. T. Adcock	8		
P3 Materials and Solid Mechanics	Dr. D. Eakins	8	4	
P3 Bending and Torsion	Prof. O. Adamidis		8	
P3 Dynamics	Prof. A.B. Zavatsky		8	
P4 Thermodynamics	Prof. F. Leach and Prof. M. Davy	8	4	
P4 Fluid Mechanics	Prof. T. Povey and Prof. P.T. Ireland		14	
P4 Dimensional Analysis	Prof. A. Castrejon-Pita		4	
P4 Heat and mass transfer	Prof. P.T. Ireland			6
P5 Engineering in Practice	Ms B. Hughes	4	4	
P5 Introduction to Computing	Dr. I. Mear	2	2	
P5 Introduction to Drawing	Mr P.B. Bailey	1		
P5 Introduction to Laboratory Work	Prof. F. Leach	2		
P5 Mechanical Laboratory - Introduction to Frar	Mr. B. Scott	1		
P5 Computing Laboratory	Dr. I. Mear	X	X	X
P5 Drawing and Design	Mr P.B. Bailey	X		
P5 Electrical Laboratory	Dr. E. O'Hara	X	X	X
P5 Mechanical Laboratory	Mr. B. Scott	X	X	X
P5 Thermodynamics Laboratory	Prof. B. Williams		X	X
P5 Workshop Practice	Mr P.B. Bailey		X	X
Instruction on Prelims Examination processes	Prof. C. Monroe			1
Second Year				
A1 Linear Algebra	Prof. P. Goulart	8		
A1 Statistics and Probability	Dr. L. Kunze	4		
A1 Vector Algebra	Prof. W. Armour	4		
A1 Partial Differential Equations	Prof. C. MacMinn		8	
A1 Time-Frequency Analysis	Prof. M. Chatzis		8	
A2 Introduction to Control Theory	Prof. M.R. Cannon and Prof. H. Steel	12		
A2 Introduction to Computer Engineering	Prof. N. Hawes	8		
A2 Sensing, Signals and Communications	Prof. D.C. O'Brien		12	
A3 Elastic Analysis of Structures	Prof. A.B. Zavatsky	4		
A3 Mechanics of Materials	Prof. J.E. Huber	8		
A3 Dynamics of Machines	Prof. Z. You		8	
A3 Mechanical Vibrations	Prof. M. Chatzis	4		
A3 Structural Failure	Prof. B. Rossi		8	
A4 Applied Fluid Mechanics	Prof. D.R.H. Gillespie	2	4	
A4 Energy Systems	Prof. B. Williams and Prof. D. Rogers		16	
A4 Thermodynamics	Dr. T. Hermann and Prof. D.R.H. Gillespie	10		
A5 Electrical Machines and Heat Transfer Labo	Dr. D. Gangloff and Prof. B. Rosic		X	
A5 Structures and Materials Laboratory	Mr. B. Scott and Prof. Z. You	X		
A5 Dynamics Laboratory	Dr. J. Raymond	X		
A5 Communications Laboratory	Prof. D.C. O'Brien and Dr. E. O'Hara	X		
A5 Instrumentation and Control Laboratory	Prof. P. Goulart		X	
A5 Thermofluids Laboratory	Prof. L. Di Mare	X	X	
Introduction to third year options	Prof. J.P. Coon			1
Second year induction	Prof. T. Adcock	1		

Third Year

B1 Engineering Computation - Numerical Algorithms	Prof. W. Armour	4	
B1 Engineering Computation - Optimisation	Prof. V. Prisacariu	4	
B1 Engineering Computation - Finite Elements	Prof. A. Jerusalem	4	
B1 Introduction to Projects	Prof. J.P. Coon and Prof. L. Di Mare and Prof. K. Kamnitsas	1	
B1 Engineering Computation Class 1	Prof. W. Armour	1	
B1 Engineering Computation Class 2	Prof. V. Prisacariu	1	
B1 Engineering Computation Class 3	Prof. A. Jerusalem	1	
B2 Technical Writing and Communication Skills	Prof. C. MacMinn	1	1
B2 Teamwork and Project Management	Prof. T. Denison	4	
B2 Technology Strategy	Prof. H. Townley	4	
B2 Project Financing	Prof. B.W. Byrne	4	
B2 Engineering Sustainability and the Environment	Dr. J. Raymond	4	
B2 Safety and Risk	Prof. F. Leach		8
B2 Engineering Ethics	Prof. K. Chana		4
B2E2 Personal, People, Project, Performance Management	Prof. J. Bergmann	8	
B2E2 Financial, Operation, Global, Supply Management	Prof. J. Bergmann	8	
B2E2 Advanced Entrepreneurship	Prof. P. Savaget		16
B3 Project			
B3 Introduction to Design	Ms B. Hughes	1	
B4 Laboratory Work			
B5 Theory of Elasticity	Prof. L. Brassart	6	
B5 Engineering Applications and Methods	Prof. D.A. Hills		6
B5 Non-linear Material Behaviour and Plasticity	Prof. C.R. Siviour		4
B5 Solid Mechanics Laboratory	Dr. A. Pellegrino and Mr. B. Scott		X
B6 Chemical Thermodynamics	Prof. J. Kwan	8	
B6 Chemical Reaction Equilibrium	Prof. R. Banares-Alcantara		4
B6 Engineering Alloys	Dr. D. Eakins		4
B6 Thermodynamics Laboratory	Prof. C.R. Siviour and TBA		X
B7 Applied Thermodynamics	Prof. M. Davy	4	
B7 Multiphase Flow and Heat Transfer	Prof. E. Walsh	4	
B7 Separation Processes	Dr B. Nie	8	
B7 Fluid Flow and Heat and Mass Transfer Lab	Dr B. Nie		X
B8 Metals	TBA		6
B8 Polymers and Ceramics	Prof. C.R. Siviour		6
B8 Composites	Prof. J.C. Tan		4
B8 Materials Laboratory	Dr. I. Dyson and Dr. K. Dragnevski		X
B9 Reinforced Concrete Structures	Prof. B. Rossi	8	
B9 Civil Engineering Hydraulics	Prof. C. MacMinn		8
B9 Reinforced Concrete and Civil Engineering Laboratory	Prof. S. Acikgoz and Prof. O. Adamidis and Dr. T. Nishino		X
B10 Basic Soil Mechanics	Prof. O. Adamidis and Dr. V. Nardelli	8	
B10 Soil Mechanics Applications	Prof. C.M. Martin		8
B10 Soil Mechanics Laboratory	Dr. T. Nishino		X
B11 Process Design Fundamentals	Prof. R. Banares-Alcantara and Prof. C.H. Ye	8	
B11 Chemical Reactors	Prof. J. Kwan	8	
B11 Chemical Processes Laboratory	Prof. R. Banares-Alcantara and Dr B. Nie	X	X
B12 Semiconductor Devices	Prof. S. Collins	8	4
B12 Power Electronics	Prof. D. Rogers		4
B12 Semiconductors Laboratory	Prof. P. Stavrinou and Dr. E. O'Hara		X
B13 Analogue and Digital Circuits	Prof. S.J. Sheard		8
B13 Communications	Prof. J.P. Coon		8
B13 Circuits and Communications Laboratory	Prof. D.C. O'Brien		X
B14 Signal Analysis	Dr. X. Dong	4	
B14 Image Processing	Dr. M. Fallon	4	
B14 Estimation	Dr. L. Kunze	4	
B14 Inference	Dr. L. Kunze		4
B14 Information Engineering Laboratory	Dr. X. Dong		X

B15 Linear Dynamic Systems	Prof. P. Goulart	4	
B15 Optimal Control	Prof. P. Goulart and Prof. A. Papachristodoulou	8	
B15 Controller Performance	Prof. A. Papachristodoulou	4	
B15 Control Laboratory	Prof. M.R. Cannon		X
B16 Software Design in C/C++ 1	Prof. N. Hawes	4	
B16 Software Design in C/C++ 2	Dr. I. Havoutis	4	
B16 Algorithms and Data Structures 1	Prof. A. Vedaldi	4	
B16 Algorithms and Data Structures 2	Prof. V. Prisacariu	4	
B16 Programming Laboratory	Dr. L. Kunze		X
B17 Biomechanics	Prof. A.B. Zavatsky	8	
B17 Biomedical Fluid Mechanics	Prof. R. Cleveland		8
B17 Biomechanics Laboratory	Prof. J. Bergmann		X
B18 Cellular Physiology	Prof. C.H. Ye	4	
B18 Systems Physiology	Prof. M.S. Thompson		4
B18 Wearable Technology	Prof. D. Clifton and Prof. C. Proctor		4
B18 Medical Imaging	Prof. J.A. Noble and Prof. K. Kamnitsas	4	
B18 Wearable Technology Laboratory	Prof. D. Clifton and Prof. C. Proctor		X
B19 Turbulence and Boundary Layers	Prof. E. Walsh		6
B19 Compressible Flow	Prof. T. Povey		6
B19 Turbomachinery	Prof. B. Rosic		4
B19 Fluid Mechanics Laboratory	Dr L. Doherty		X
EEM options and placements	Prof. J. Bergmann	1	
Library resources	Ms. A. Vetrugno	1	
Fourth Year			
C1 Powertrains	Prof. F. Leach		4
C1 Engine Balancing, Bearing Forces & Lubrication	Prof. M. Davy		4
C1 Power Transmission	Prof. M. Davy		8
C2 Viscous Flow and Turbulence	Prof. L. Di Mare	4	
C2 Wing Theory and Compressible Flow	Prof. D.R.H. Gillespie	4	
C2 Aircraft Flight and Propulsion	Prof. L. He	4	
C2 Turbomachinery	Prof. B. Rosic	4	
C3 Creep	Prof. A. Jerusalem		4
C3 Fracture	Prof. J.E. Huber		4
C3 Impact	Dr. A. Pellegrino		4
C3 Shock	Dr. D. Eakins		4
C4 Finite Element Method	Dr. E. Tarleton	8	
C4 Modelling of Alloys	Prof. A. Korsunsky	4	
C4 Modelling of Polymers	Prof. J.C. Tan	4	
C5 Plates and Shells	Prof. Z. You	4	
C5 Advanced Structural Analysis	Prof. M. Chatzis	4	
C5 Structural Steel Design	Prof. S. Acikgoz	4	
C5 Structural Dynamics	Prof. M. Chatzis	4	
C6 Mechanics of Soils	Prof. O. Adamidis		4
C6 Offshore Foundations	Prof. H.J. Burd		4
C6 Slope Stability	Prof. C.M. Martin		4
C6 Site Investigation	Dr. V. Nardelli		4
C7 Engineering Hydrology	Prof. C. MacMinn	4	
C7 Coastal Engineering	Prof. W. De Vos Mostert	4	
C7 Offshore Engineering	Prof. W. De Vos Mostert	4	
C7 Fluid Structure Interactions	Dr. T. Nishino	4	
C8 Wind Energy	Dr. C.R. Vogel	4	
C8 Solar and Photovoltaics	Prof. S. Morris	4	
C8 Marine Energy	Dr. C.R. Vogel	4	
C8 Carbon Capture and Storage	Prof. R. Banares-Alcantara	4	
C9 Environmental Engineering 1	Prof. S. Jefferis and Prof. W. Huang	8	
C9 Environmental Engineering 2	Prof. I. Thompson	8	

C10 Bioprocess Engineering	Prof. I. Thompson	4	
C10 Engineering Principles for Synthetic Biology	Prof. W. Huang		8
C10 Bioseparation	Prof. C.H. Ye	4	
C11 Process Design and Integration	Prof. R. Banares-Alcantara	4	
C11 Hazards and Safety	Prof. R. Banares-Alcantara	4	
C11 Advanced Distillation	Dr B. Nie		8
C12 Interfacial Chemistry and Applications	Prof. W. Huang	8	
C12 Product Design	Prof. C.H. Ye	4	
C12 Polymer Production	Prof. J. Kwan	4	
C13 Production Processes	Prof. J.C. Tan	8	
C13 Additive Manufacturing	Prof. A. Korsunsky	4	
C13 Modern Manufacturing Systems	Prof. S.J. Sheard		4
C14 Applied Optics	Prof. S. Morris	8	
C14 Metamaterials and Plasmonics	Prof. E. Shamonina	8	
C15 Analogue Microelectronics	Prof. S. Collins		8
C15 Digital Integrated Circuits	Prof. N. Zilberman	8	
C16 Introduction to Information Theory	Prof. J.P. Coon	8	
C16 Wireless Communications	Prof. J.P. Coon		8
C17 Overview of Power Converters			
C17 Power Converters for Electrical Machines			
C18 Computer Vision	Prof. V. Prisacariu and Prof. A. Vedaldi	8	
C18 Robotics	Dr. J. Gammell and Dr. M. Fallon	8	
C19 Machine Learning: Generative	Prof. H.I. Posner	8	
C19 Machine Learning: Discriminative	Prof. J. Foerster	8	
C20 Convex Optimisation	Prof. H. Steel	4	
C20 Robust Control	Dr. K. Gatsis	4	
C20 Distributed Systems	Prof. K. Margellos	4	
C20 Robust Optimisation	Prof. K. Margellos	4	
C21 System Identification	Prof. S.R. Duncan		4
C21 Non-linear Systems	Prof. M.R. Cannon	4	
C21 Model Predictive Control	Prof. M.R. Cannon	4	
C21 Dynamic Programming and Reinforcement Learning	Dr. K. Gatsis	4	
C22 Medical Image Analysis	Prof. J. Rittscher and Prof. K. Kamnitsas	8	
C22 Biomedical Informatics	Prof. D. Clifton and Dr. T. Zhu	8	
C23 Non-invasive therapy	Prof. E. Stride and Prof. R. Carlisle	8	
C23 Neurotechnology for therapies and prosthetics	Prof. T. Denison	4	
C23 Tissue Engineering	Prof. C.H. Ye	4	
C24 Dynamical Systems	Prof. C. Monroe	8	
C24 Perturbation Methods	Prof. C. MacMinn	4	
C24 Advanced Probability	Dr. J-P. Calliess	4	
C25 Optimization	Prof. M. Chen	8	
C25 Advanced Transforms	Prof. W. Armour	8	
C26 Electrochemical principles	Prof. C. Monroe	8	
C26 Energy storage and conversion devices	Prof. D. Howey	8	
C27 Personal, People, Project, Performance Management	Prof. J. Bergmann	8	
C27 Financial, Operation, Global, Supply Management	Prof. J. Bergmann	8	
C28 Mechanics and biomineralisation	Prof. A. Korsunsky	4	
C28 Mechanics and connective tissues	Prof. A. Korsunsky	4	
C28 Mechanics and fluids	Prof. A. Jerusalem	4	
C28 Mechanics and electrophysiology	Prof. A. Jerusalem	4	
C29 Advanced Computer Architecture	Prof. N. Zilberman	4	
C29 Memory and Storage	Prof. N. Zilberman	4	
C29 Computer Networks	Prof. D. de Roure	4	
C29 Cloud computing and accelerators	Prof. N. Zilberman	4	