

PART IA BOOKLIST 2005/06

The Library Shelfmark indicates where these works can be found in the Library. An additional copy of books marked with a star (*) will be available in a *Special Part I Reference Collection* kept in the Reading Room; the attention of Directors of Studies (for College Librarians) will be drawn to these titles. (In the case of this list most, if not all, items may be designated as "starred" items.) N.B. Normally the latest editions of all works apply.

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PAPER 1

<u>MECHANICS</u> [Dr HEM Hunt] Michaelmas		
* MERIAM, J.L. & KRAIGE, L.G.	ENGINEERING MECHANICS VOL 1: STATICS <u>Wiley</u> 5th edition 2003	RA 196
* MERIAM, J.L. & KRAIGE, L.G. †	ENGINEERING MECHANICS VOL 2: DYNAMICS <u>Wiley</u> 5th edition 2003	RA 197
* PRENTIS, J.M.	ENGINEERING MECHANICS <u>O.U.P.</u> , 1979 (<i>Paperback, good introductory text</i>)	RA 135
* PRENTIS, J.M. †	DYNAMICS OF MECHANICAL SYSTEMS <u>Ellis Horwood</u> 2nd edition 1980 (<i>Paperback</i>)	RA 117
* HIBBELER, R.C. †	ENGINEERING MECHANICS (SI UNITS) DYNAMICS <u>Macmillan</u> 3rd edition 2004 STATICS <u>Macmillan</u> 3 rd edition 2004	RA 202 RA 200
(† Equivalent coverage of whole course)		

<u>MECHANICAL VIBRATIONS</u> [Prof RS Langley] Lent and Easter		
(1)*MERIAM, J.L. & KRAIGE, L.G.	ENGINEERING MECHANICS VOL 2: DYNAMICS <u>Wiley</u> , 5th edition 2003	RA 197
(2)*PRENTIS, J.M.	DYNAMICS OF MECHANICAL SYSTEMS <u>Ellis Horwood</u> 2 nd edition 1980 (<i>Paperback</i>)	RA 117
(3)*HIBBELER, R.C.	ENGINEERING MECHANICS: DYNAMICS (SI UNITS) <u>Prentice Hall</u> 3rd edition SI version 2004	RA 202
(4)*MEIROVITCH, L.	ELEMENTS OF VIBRATION ANALYSIS <u>McGraw-Hill</u> , 2 nd edition 1986	RT 97
(5)*DEN HARTOG, J.P.	MECHANICAL VIBRATIONS <u>Dover</u> , 1984 reprint	RT 28

<u>THERMOFLUID MECHANICS</u> [Dr H Babinsky & Prof JB Young] Lent and Easter JD 7/6		
*SONNTAG, R.E., BORGNACKE, C., & VAN WYLEN, G.J.	FUNDAMENTALS OF THERMODYNAMICS <u>Wiley</u> , 6th edition 2003	VA 186
*MASSEY, B.S.	MECHANICS OF FLUIDS <u>Taylor & Francis</u> 8 th edition 2005	TA 483

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		<i>CUED Library Shelfmark</i>
*NAKAYAMA, Y., BOUCHER, R.F. (ed)	INTRODUCTION TO FLUID MECHANICS <u>Arnold</u> 1999	TA 444
*HOMSY, G.M.(ed)	MULTIMEDIA FLUID MECHANICS (CD-Rom) <u>Cambridge University Press</u> , 2 nd edition, 2004	TA 473
*VAN DYKE, M.	AN ALBUM OF FLUID MOTION <u>Parabolic Press</u> 1982	TA 313
*SAMIMY, M., BREUER, K.S., LEAL, L.G., & STEEN, P.H.	A GALLERY OF FLUID MOTION <u>Cambridge University Press</u>	Folio TA 472

PAPER 2

<u>STRUCTURAL MECHANICS</u> [Dr CR Middleton & Dr SD Guest] Michaelmas and Lent JD 7/6		
<u>Introduction:</u>		
[1]*GORDON, J.E.	STRUCTURES OR WHY THINGS DON'T FALL DOWN <u>Penguin</u> 1978	FJ 347
[2]*HEYMAN, J.	THE SCIENCE OF STRUCTURAL ENGINEERING <u>Imperial College Press</u> 1999	FJ 562
<u>Equilibrium:</u>		
[3]*MERIAM, J.L. & KRAIGE, L.G.	ENGINEERING MECHANICS VOL 1: STATICS <u>Wiley</u> 5th edition 2003	RA 196
[4]*FRENCH, M.	INVENTION AND EVOLUTION <u>CUP</u> 2nd edition 1994	AP 292
<u>Beams:</u>		
[5]*CRANDALL, S.H. DAHL, N.C. & LARDNER, T.J.	INTRODUCTION TO THE MECHANICS OF SOLIDS <u>McGraw-Hill</u> (1972) with SI Units (includes some Part IB material)	FG 30
[6]*HEYMAN, J.	STRUCTURAL ANALYSIS: A HISTORICAL APPROACH <u>CUP</u> 1998	AA 331

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<u>MATERIALS</u> [Dr HR Shercliff & Dr MPF Sutcliffe] Lent & Easter JD 10/6 mpfs hs		
*CALLISTER, W.D.	MATERIALS SCIENCE & ENGINEERING: AN INTRODUCTION <u>Wiley</u> 6th edition 2003 (5th edition JA 168)	JA 181
*ASHBY, M.F. & JONES, D.R.H.	ENGINEERING MATERIALS 1 <u>Butterworth Heinemann</u> 3 rd edition 2005	JA 184
*ASHBY, M.F. & JONES, D.R.H.	ENGINEERING MATERIALS 2 <u>Elsevier Butterworth Heinemann</u> 3 rd edition 2005	JA 191
*ASHBY, M.F.	MATERIALS SELECTION IN MECHANICAL DESIGN <u>Elsevier Butterworth Heinemann</u> 3 rd edition 2005	JA 183
*SCHAFFER, J.P., SAXENA, A., ANTOLOVICH, S.D., SANDERS, T.H. & WARNER, S.B.	THE SCIENCE AND DESIGN OF ENGINEERING MATERIALS <u>McGraw-Hill</u> 2 nd edition 1999	JA 170
*NEWY, C. & WEAVER, G.	MATERIALS PRINCIPLES AND PRACTICE <u>Butterworths</u> (Open University) 1990	JA 150

PAPER 3

<u>LINEAR CIRCUITS AND DEVICES</u> [Dr DM Holburn, Dr F Udrea & Prof GAJ Amaratunga] Michaelmas and Lent dmh 21/6		
*SMITH, R.J. & DORF, R.C.	CIRCUITS, DEVICES AND SYSTEMS <u>Wiley</u> , 5th edition 1992	NN 405
*AHMED, H. & SPREADBURY, P.J.	ANALOGUE AND DIGITAL ELECTRONICS FOR ENGINEERS <u>C.U.P.</u> 1984	NT 396
*BRADLEY, D.	BASIC ELECTRICAL POWER AND MACHINES <u>Chapman & Hall</u> 1994	NE 129
*HOROWITZ, P & HILL, W.	THE ART OF ELECTRONICS, <u>CUP</u> , 2 nd edition 1989	NT 415
*WARNES, L.A.A.	ELECTRONICS AND ELECTRICAL ENGINEERING <u>Palgrave Macmillan</u> , 3 rd edition 12003	NN 446

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<u>DIGITAL CIRCUITS AND INFORMATION PROCESSING</u> [Prof RV Penty] Lent JD 7/6		
* FLOYD, T.L.	DIGITAL FUNDAMENTALS Pearson Prentice Hall 8 th edition 2005	NQ 90
* HEFFER, D.E., KING, G.A. & KEITH, D.	BASIC PRINCIPLES AND PRACTICE OF MICROPROCESSORS <u>Arnold</u> 1986	NQ 53
* SMITH, R.J. & DORF, R.C.	CIRCUITS, DEVICES AND SYSTEMS <u>Wiley</u> 5th edition 1992	NN 405
*DOWSING, R.D., WOODHAMS, F.W.D. & MARSHALL, I.	COMPUTERS FROM LOGIC TO ARCHITECTURE <u>McGraw-Hill</u> 2nd edition 2000	EQ 283
*TINDER, R.F.	ENGINEERING DIGITAL DESIGN <u>Academic Press</u> 2nd edition 2000	NQ 76
*GIBSON, J.R.	ELECTRONIC LOGIC CIRCUITS <u>Arnold</u> 1992	NN 429
*DOWNTON, A.C.	COMPUTERS AND MICROPROCESSORS <u>Chapman and Hall</u> 1992	EQ 269

<u>ELECTROMAGNETICS</u> [Dr TD Wilkinson] Lent JD 10/6		
*CARTER, R.G.	ELECTROMAGNETISM FOR ELECTRONICS ENGINEERS <u>Chapman & Hall</u> 2nd edition 1992 <i>(This book is the one closest in level to the first-year course and is recommended as the best for students to buy. It does not cover the Part IB materials however)</i>	NA 142
*OATLEY, Sir Charles	ELECTRIC AND MAGNETIC FIELDS <u>C.U.P.</u> 1976 <i>(This is more advanced, and more mathematical than Carter, and covers the first-year work in more detail. Requires some knowledge of vectors)</i>	NA 113
*HAMMOND, P.	ELECTROMAGNETISM FOR ENGINEERS: AN INTRODUCTORY COURSE <u>Oxford University Press</u> 4th edition 1997	NA 145
*CHABAY, R.	ELECTRIC AND MAGNETIC INTERACTIONS <u>John Wiley & Sons</u> , 1995	NA 150
*SADIKU, M.N.O.	ELEMENTS OF ELECTROMAGNETICS <u>Oxford University Press</u> 3rd edition 2001	NA148

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PAPER 4

<u>MATHEMATICAL METHODS</u> [Dr ARL Travis, Dr FH Hunt, Dr AJ White] Michaelmas, [Dr RW Prager] Lent [Prof MC Smith] Easter JD 10/6 fhh		
<i>MCS 16/6</i>		
*JAMES, G. et al	MODERN ENGINEERING MATHEMATICS <u>Addison-Wesley</u> , 3rd edition 2001	EA 166
*JAMES, G. et al	ADVANCED MODERN ENGINEERING MATHEMATICS <u>Pearson/Prentice Hall</u> , 3rd edition 2004	EA 180
*KREYSZIG, E.	ADVANCED ENGINEERING MATHEMATICS <u>McGraw-Hill</u> , 8th edition 1998 (A comprehensive reference to standard mathematical formulae and techniques.)	EA 164
* BOSTOCK, L. & CHANDLER, S.	MATHEMATICS - THE CORE COURSE FOR A-LEVEL <u>Stanley Thornes (Publishers) Ltd</u> 1981	MATHS 'A' REF
* BOSTOCK, L. CHANDLER, S. & ROURKE, C.	FURTHER PURE MATHEMATICS <u>Stanley Thornes (Publishers) Ltd</u> 1982	MATHS 'A' REF
* PERKINS, M. & PERKINS, P.	ADVANCED MATHEMATICS BOOK 1 <u>Unwin Hyman</u> 1982	MATHS 'A' REF
*SIVIA, D.S. & RAWLINGS, S.G.	FOUNDATIONS OF SCIENCE MATHEMATICS <u>OUP</u> 1999	EA 174

<u>COMPUTING</u> [Dr AH Gee] Michaelmas and Lent JD (6/6)		
*DEITEL, H.M. & DEITEL, P.J.	C++ HOW TO PROGRAM <u>Pearson Education</u> 5th edition 2005	EQP 281
*BERMAN, A.M.	DATA STRUCTURES VIA C++: OBJECTS BY EVOLUTION <u>Oxford University Press</u> 1997 (Chapters 5 and 6 contain course material on searching and sorting. Appendix A contains a useful review of C++ programming syntax. Students with some programming experience might like to explore the advanced topics covered in the rest of the book)	EQP 244
*McCONNELL, S.C.	CODE COMPLETE: A PRACTICAL HANDBOOK OF SOFTWARE CONSTRUCTION <u>Microsoft Press</u> 2nd edition, 2004	EQP 248

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COURSEWORK PAPERS

<u>DIMENSIONAL ANALYSIS</u> [Dr GT Parks] Michaelmas JD 7/6		
*PANKHURST, R.C.	DIMENSIONAL ANALYSIS & SCALE FACTORS <u>Chapman & Hall</u> 1964	EV 8
<u>PRODUCT DESIGN</u> [Prof KM Wallace] Lent JD 17/6		
*GLEGG, G.L.	THE DESIGN OF DESIGN <u>C.U.P.</u> 1969	AP 62
*FRENCH, M.J.	INVENTION AND EVOLUTION <u>C.U.P.</u> , 2nd edition 1994	AP 292
*CROSS, N.	ENGINEERING DESIGN METHODS <u>Wiley</u> 3rd edition 2000	AP 303
*FRENCH, M.J.	FORM, STRUCTURE AND MECHANISM <u>Macmillan</u>	AP 272
*ULRICH, K.T. & EPPINGER, S.D.	PRODUCT DESIGN AND DEVELOPMENT <u>McGraw-Hill/Irwin</u> 3rd edition 2004	BN 220
*KEATES, L.S. & CLARKSON, P.J.	COUNTERING DESIGN EXCLUSION - AN INTRODUCTION TO INCLUSIVE DESIGN <u>Springer</u> 2003	AP312
<u>DRAWING</u>	[Prof KM Wallace] Michaelmas, Lent and Easter JD(6/6)	
<i>Note: Booklets on projection theory and the intersection of surfaces are issued to undergraduates as part of the course</i>		
*B.S.I (British Standards Institution)	PP 8888: 1:2005 DRAWING PRACTICE: A GUIDE FOR SCHOOLS AND COLLEGES TO BS 8888: 2004,	Folio AR 72
*RHODES, R.S. & COOK, L.B.	BASIC ENGINEERING DRAWING <u>Longmans</u> 2nd edition 1990	Folio AR 68

<u>ENGINEER IN SOCIETY</u> [Prof MJ Gregory] Michaelmas		
Material to be announced in lectures		