

國立高雄應用科技大學 電子工程系~博士班資格考~

Qualifying Examination of KUAS

電子組博士班資格考參考書籍與範圍 版本 103.07.31.

Reference Books and Scope for Electronics Group

科目名稱 Subject	書籍名稱 Reference Books	範圍 Scope	備註 Remarks
電子元件物理 Physics of Electornics Devices	Physics of Semiconductor Devices 作者：Simon M. Sze, and Kwok, K. Ng	Ch.1~Ch.7	
光電子學 Optical Electronics	Optical Properties of Solids 作者：Mark Fox	Ch.1~10	
固態電子學 (註:同電子電路學) Solid State Electronics	Microelectronics, Circuit Analysis and Design 作者：Donald A. Neamen	Ch.1~Ch.7	
	Microelectronic Circuits 作者：Adel S. Sedra, Kenneth C. Smith	Ch.1~Ch.13	
	Fundamentals of Microelectronics 作者：Behzad Razavi	Ch.1~Ch.14	
工程數學 Engineering Mathematics	Advanced Engineering Mathematics 作者：Erwin Kreyszig	Order Differential Equations, Laplace Transform, Fourier Analysis,	
	Advanced Engineering Mathematics 作者：P. V. O'Neil	Partial Differential Equations, Linear algebra, Vector Calculus Probability	
類比積體電路設計 Analog Integrated Circuits Design	CMOS Analog Circuit Design, 2002 作者(I)：PE Allen and DR Holberg	Ch.1~Ch.10	
	Design of Analog CMOS Integrated Circuits, 2001 作者(II)：Razavi	Ch.1~Ch.13	
VLSI 電路設計 VLSI Circuits Design	CMOS VLSI Design: A Circuits and Systems Perspective, 3rd Edition 作者：Neil H.E. Weste and David Harris	Ch.1~Ch.7	

電信與系統組博士班資格考參考書籍與範圍 版本 103.07.31.

Reference Books and Scope for Communication and System Group

科目名稱 Subject	書籍名稱 Reference Books	範圍 Scope	備註 Remarks
工程數學 Engineering Mathematics	Advanced Engineering Mathematics, 8th Ed. 作者：Erwin Kreyszig 出版商：John Wiley & Sons	Order Differential Equations Laplace Transform. Fourier Analysis Partial Differential Equations Linear algebra Vector Calculus Probability	
數位訊號處理 Digital Signal Processing	Signals and Systems, 2nd Ed. 作者：Alan V. Oppenheim, Alan S. Willsky, with S. Hamid Nawab ISBN 0-13-814757-4	全書內容	
通訊原理 Principle of Communication	Communication systems, 4th Ed. 作者：Simon Haykin, and Barry Van Veen 出版商：John Wiley & Sons	Transforms theorem, Amplitude modulation, Linear modulation schemes, Frequency translation, Frequency-division multiplexing, Angle modulation, Random and stationary processes, Transmission of a random process through a LTI filter, Noise.	
電磁理論 Electromagnetics Theory	Field and Wave Electromagnetics, 2nd Ed. 作者：David K. Cheng 出版商：Addison Wesley	1. Static Electric Fields 2. Static Magnetic Fields 3. Time Varying Fields, and Maxwell's Equations 4. Plane Electromagnetic Waves 5. Electromagnetic Waves along Transmission Lines and Waveguides 6. Circuit Theory for Transmission Lines	

<p>應用物理 Applied Physics</p>	<p>1.Applied Physics (10th Edition) Dale Ewen, Neill Schurter and Erik Gundersen 2.The Physics of Radiation Therapy Faiz M. Khan</p>	<p>Whole chapters</p>	
<p>電腦通信網路 Computer Networks</p>	<p>Computer Networks 5th Ed Andrew S. Tanenbaum, David J. Wetherall</p>	<p>Chap1 ~ Chap 4</p>	
<p>模糊理論應用 Applications of The FuzzyTheory</p>	<p>Fuzzy Logic with Engineering Applications Timoth J. Ross</p>	<p>Chap1 ~ Chap 6</p>	
<p>電子學應用及生醫概論 Electronics Application and Introduction of Biomedical Engineering</p>	<p>1.Medical Instrumentation Application and Design, Fourth Edition 作者: John G. Webster, Editor, 出版商: Wiley 2.Introduction to Biomedical Engineering, 3nd Ed. 作者: Enderle and Bronzino 出版商:Elsevier</p>	<p>Whole chapters</p>	

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Reference Books and Scope for Information Group

科目名稱 Subject	書籍名稱 Reference Books	範圍 Scope	備註 Remarks
資料結構 Data Structures	"Fundamentals of Data Structures in C", 2nd Edition, Ellis Horowitz, Sartaj Sahni, and Susan Anderson-Freed	Chap. 1: Basic Concepts Chap. 2: Arrays and Structures Chap. 3: Stacks and Queues Chap. 4: Linked Lists Chap. 5: Trees Chap. 6: Graphs Chap. 7: Sorting Chap. 8: Hashing Chap. 9: Priority Queues Chap. 10: Efficient Binary Search Trees Chap. 11: Multiway Search Trees Chap. 12: Digital Search Structures	
計算機結構 Computer Structures	Computer Organization and Design - The Hardware/Software Interface 4/e , 2008 David A. Patterson, John L. Hennessy	Computer Abstractions and Technology; Instructions: Language of the Computer; Arithmetic for Computers; Assessing and Understanding Performance; The Processor; Enhancing Performance with Pipelining; Large and Fast Exploiting Memory Hierarchy; Storage, Networks and Other Peripherals; Multiprocessors and Clusters; Mapping Control to Hardware; A Survey of RISC ARchitectures for Desktop, SErver, and Embedded Computers.	
VLSI 設計	CMOS VLSI Design: A Circuits and Systems Perspective, 3rd Edition 作者：Neil H.E. Weste and David Harris	Ch.1~Ch.7	

<p>演算法 Algorithms</p>	<p>Introduction to Algorithms (2nd ed). 作者：Thomas H. Cormen Charles E. Leiserson Ronald L. Rivest Clifford Stein</p>	<p>Chap. 1 ~ Chap. 35</p>	
<p>影像視訊處理 Image and Video Processing</p>	<p>1. Digital Image Processing, 3 ED, by Rafael C. Gonzalez and Richard E. Wood, Prentice Hall Inc. 2009. 2. Digital Video Processing, by A. Murat Tekalp, Prentice Hall PTR. 1996.</p>	<p>Basic Concepts of Digital Image Processing, Image Enhancement, Image Segmentation, Image Transform, Color Image Processing, Basics of Video, Video Standard, Block Motion, Motion Vector, Motion Estimation, Motion Compensation, Optical-Flow, Basic Video Object Segmentation, Frame Difference, Background Subtraction.</p>	