

博士班資格考科目及範圍暨修課抵免對應課程科目一覽表

Doctoral Qualifying Examination Subjects and Scope, as well as a List of Corresponding Course Exemptions

112.09.28 112學年度第3次組務會議修訂通過

組別 Field category	選考科目 Select subjects	參考書目 Bibliography	參考範圍 Reference range	修課抵免對應課程科目 Course subjects corresponding to course credits
電子組 Electronic Engineering	VLSI 信號處理 VLSI Signal Processing	K. K. Parhi, VLSI Digital Signal Processing Systems, John Wiley & Sons, 1999.	<ul style="list-style-type: none"> Ch 1~Ch 6 ● Introduction to Signal Processing Systems. ● Iteration Bound ● Pipelining and Parallel Processing ● Retiming ● Unfolding ● Folding 	修習本校研究所課名相同或課綱相似之課程，可申請抵免，並由該授課老師確認是否可以抵免。(課程學分數皆要與選考科目相同，研究生修課需先經指導教授同意) Students can apply for course credit transfer for courses with the same course title or similar syllabus offered by our institution. The eligibility for course credit transfer will be confirmed by the respective course instructor. (The course credit value must be the same as that of the qualifying exam subjects, and graduate students must obtain approval from their advising professors before enrolling in the courses.)
	超大型積體電路系統設計 Very Large Scale Integrated Circuit System Design	Neil Weste, David Harris, "CMOS VLSI Design: A Circuits and Systems Perspective ", Addison Wesley Pub., 2010-03-10 4th Edition. (ISBN:0321547748)	<ul style="list-style-type: none"> Ch1~Ch8, Ch15 ● Devices ● Speed ● Power ● Wires ● Scaling, Reliability and Variability ● SPICE ● Gates ● Fabrication 	
	數位 IC 設計 Digital IC Design	Neil Weste, David Harris, "CMOS VLSI Design: A Circuits and Systems Perspective ", Addison Wesley Pub., 2010-03-10 4th Edition. (ISBN:0321547748)	<ul style="list-style-type: none"> Ch9~Ch14 ● Sequencing ● Datapath ● Memories ● Packaging, Power, Clock, I/O ● Methodology ● Test 	
	類比積體電路設計 Analog Integrated Circuit Design	Behzad Razavi, "Design of Analog CMOS Integrated Circuits," McGraw-Hill, 2016-1-20, 2nd Edition. (ISBN: 0072524936)	All	
數位科技組 Digital Technology	計算機結構 Computer Architecture	John P. Hayes, "Computer Architecture and Organization ", McGraw-Hill, 1988	All	
	影像處理 Image Processing	Rafael C. Gonzalez and Richard E. Woods, Digital Image Processing, (4 th Edition) Prentice Hall, 2018	All	
	電腦網路 Computer Network	"Data & Computer Communications" 6th. ed., Willian Stallings and Prentice Hall	Data Communication Local Area Networks Wireless Networks Communications Architecture and Protocols	
	樣形識別 Pattern Recognition	Pattern classification, Duda 2000	All	

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	深度學系 Deep Learning	Deep Learning Ian Goodfellow, Yoshua Bengio, Aaron Courville, 2016, MIT Press	All	
控制組 Control Engineering	線性系統理論 Linear System Theory	Frank M. Callier, Charles A. Desoer, "Linear System Theory", Springer 1991	All	
	可變結構控制 Variable Structure Control	Sliding modes in control and optimization, Vadim I. Utkin, Springer-Verlag	All	
	非線性控制 Nonlinear Control	"Applied Nonlinear Control "prentice-Hall ,1991, J.J.E. Slotine and W. Li	All	
	強健控制 Robust Control	"Robust Process Control "prentice-Hall ,1989 M. Morari and E. Zafrit	All	
	模糊控制 Fuzzy Control	(2 "Neural Fuzzy Systems : Part I : Fuzzy Systems " prentice-Hall ,1996, C.T. Lin and C.S. G.Lee	Ch1~7	
	類神經網路 Neural Network	"Neural Fuzzy Systems : Part II : Neural Network" prentice-Hall ,1996, C.T. Lin and C.S. G.Lee	Ch8~	
	隨機過程 Stochastic Processes	Athanasios Papoulis , Probability , Random Variables, and Stochastic Processes , McGraw-Hill , New York, 1991	All	
	進階電力系統 Advanced Power Systems	"Power System Analysis", 3 rd Edition, 2010, McGraw Hill, Hadi Saadat.	All	