Ming Chuan University

Bachelor's Degree Program in Semiconductor Applications (International Student Class)

	Required and Elective				第一				第二					學年			第四	學年		
						Year		Se	econ			7	Third			F		h Ye		
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				Fir	st	Sec	Second		rst	Sec	ond	Fi	rst	Sec	ond	Fi	rst	Sec	ond	Remarks
				Seme	ster	Sem	ester	Sem	ester	Sem	ester									
		學	時		實		實		實		實		實		實		實		實	
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	科 目	分	數		導		輔導		輔導		輔導									
	Subject	Cre	Hou		Pra cti	授	Pra	授	Pra	授	Pra									
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					nc e		ce		ce		ce		nce		ce		nce		ce	
	基礎華語(一)(英)	3	3	3																僑、外籍生
																				適用 僑、外籍生
	基礎華語(二)(英)	3	3			3														適用
	人工智慧概論(英) Introduction to	3	4	3	1															電腦課程 Computer
	Artificial Intelligence	3	7	<i></i>	1															Courses
	大一英文(一) Freshman English(I)	2	2	2																
	大一英文(二)	2	2			2														備註1
	Freshman English (II) 大二英文(一)		2																	爾註 1 Remarks1
	Sophomore English(I)	2	2					2												110111011151
	大二英文(二) Sophomore English (II)	2	2							2										
	通識教育(英)	12	12																	備註2
	General Education 體育(壹-肆)(英)																			Remarks2
	Physical Education (I~IV)	0	8	2		2		2		2										
	小計	29	38	10	1	7		4		4										
專	計算機概論(英) Concept of Computer	3	3	3																電腦課程 Computer
業	Science																			Courses
必	程式設計(一)(英) Programming	3	5	3	2															電腦課程 Computer
修	Design(I)	3	5	3	۷															Courses
Re	微積分(一)(英) Calculus (I)	3	3	3																
qu	` '	2	2	2																
ire	Physics (I)	3	3	3																
d	微積分(二) (英) Calculus (II)	3	3			3														
Pr	物理學(二)(英)	3	3			3														
	Physics (II)	,	,			,														

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	Required and Elective			` 11	第一				第二					學年			第四	學年		
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		學	時		實		實		實		實		實		實		實		實	
	41 -				習輔		習		習		習		習		習		習		習い	
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	Subject	Cre	Hou		Pra		Pra	150	Pra	150	Pra	150	Pra	150	Pra	150	Pra	150	Pra	
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					nc e		ce		ce		ce		nce		ce		nce		ce	
of	電路學(一)(英)	3	3			3														
es	Electronic Circuits (I)	3	3			3														ela si sea a-
١.	物理學實驗(英)	1	3			1	2													實作課程 Practical
S1	Physics Lab (I)	1	3			1	_													Courses
on	数位巡行成引(六)	3	3			3														
al	Digital Logic Design 電路學(二)(英)					_														
C	電路字(一)(共) Electronic Circuits (II)	3	3					3												
ou		3	3					3												
rs	Electronics (I) 電磁學(一)(英)																			
es	电磁字(一)(央) Electromagnetics (I)	3	3					3												
	工程數學(一)(英)																			
	Engineering Mathematics (I)	3	3					3												
	電子電路實驗(一)																			نست قد وطب
	(英)	1	3					1	2											實作課程 Practical
	Electronic Circuits Lab	1	3					1												Courses
	(I) 電子學(二)(英)	_	_																	
	Electronics (II)	3	3							3										
	電子電路實驗(二)																			實作課程
	(英) Electronic Circuits Lab	1	3							1	2									Practical
	(II)																			Courses
	半導體元件導論(英)																			課群核心
	Introduction to Semiconductor Devices	3	3							3										Core Course
	專題研究(一) (英)	_																		Group
	Research Project (I)	3	3											3						
	專題研究(二)(英)	3	3													3				
	Research Project (II)			12	_	12		1.0	_	7	2			2		•				
	小計	51	59	12	2	13	2	16	2	7	2			3		3				

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	Required and Elective	Court	C List	(r ippii	cuon	7 10 5	tuacii	15 / 14	minte	a III ti	110 20	25 110	caaci	110 1	our j			
	普通化學(英)	3	2	2														新加選修課
	General Chemistry	3	3	3														New added
	程式設計(二)(英)																	
	Programming	3	5			3	2											
	Design(II)						_											
	半導體產業概論(英)																	
		3	3			3												新加選修課
	Introduction to the	3	3			3												New added
	Semiconductor Industry																	
	數位系統設計與實習																	
	(英)	3	3					3										
	Digital System Design	3	3					3										
	and Lab																	
	線性代數(英)	_	2					_										
	Linear Algebra	3	3					3										
	機率與統計(英)																	
	Probability and	3	3					3										
	Statistics		3					5										
	材料科學導論(英)																	
		3	3					3										新加選修課
	Introduction to Materials Science	3	3					3										New added
+																		
專	半導體物理(英)	3	3					3										
業	Semiconductor Physics		_															
選	環境綠色化學(英)																	新加選修課
修	Environmental and	3	3							3								New added
	Green Chemistry																	riew added
ec	微處理機原理與實習																	
tiv	(英)																	
e	Microprocessor	3	4							3	1							
Pr	Principles and																	
of	Laboratory																	
es	熱力學與統計物理																	
si	(英)		_							2								新加選修課
on	Thermodynamics &	3	3							3								New added
al	Statistical Physics																	
C	電路模擬設計實習																	
	(spice) (英)																	電腦課程
rs	(spice) (央) Circuit Simulation and	3	3							3								Computer
es		_	3							3								Computer
	Design Practice (SPICE)																	Courses
	近代物理(英)	3	3							3								
	Modern Physics																	
	電磁學(二)(英)	3	3							3								
	Electromagnetics (II)									,								
	工程數學(二)(英)																	ĺ
	Engineering	3	3							3								ĺ
	Mathematics (II)																	
	電子電路實驗(三)																	安小细和
	(英)		2									1	_					實作課程
	Electronic Circuits Lab	1	3									1	2					Practical
	(III)																	Courses
	超大型積體電路導論																	
	(英)																	課群核心
	Introduction to VLSI	3	3									3						Core Course
	Design to VLSI																	Group
	Tesign 電磁波(英)			 				 				 						
		3	3									3						
	Electromagnetic Waves															-		
	光電元件(英)	3	3									3						ĺ
	Optoelectronic Devices																	<u> </u>

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[변] Professional Professional (表) Semiconductor (表) Semiconductor Flaving (表) Semiconductor Flaving (表) Semiconductor for integrated Circuit Testing. ***** *****************************	Required and Elective	Cours	C LIST	(Appn	Caulc	10 5	tuucn	is Au	mitte	a III ti	10 20	23 A	aucii	iic i c	ai j			
Semiconductor Electronic Packaging Technology 情態電影響 就漢字論 (英) Introduction to Integrated Circuit Teating																		
Electronic Packaging																		
Technology			3									3						
精理であり、対象を (美) Introduction to to to Integrated Circuit Testing																		
(美)	Technology																	
Introduction	積體電路測試導論																	
Integrated Circuit Testing	(英)																	
Testing			3									3						
大三曜育権																		
株式 株式 株式 株式 株式 株式 株式 株式	Testing																	
撥育(三上)(英)																		
體育(三上)(美)																		
Physical Education California Califor																		
(III-1)																		
the third year are recognized. Solid-State Physics 3 3 3 3 3 3 3 3 3		2	2									2						
Solid-State Physics 3 3 3 3 3 3 5 5 5 5	(III-1)																	
B B B B B B B B B B																		
図窓物理(美)																		
Solid-State Physics 3 3 3 3 3 3 3 3 3																		
Solid-State Physics		3	3									3						
Computer Architecture ESD Frozent Fro			,															New added
Computer Architecture ESD		3	3									3						
(英) Introduction to ESD Protection Design 電子電路設計(美) Electronic Circuit Design 積整電路布局設計 (英) Integrated Circuit Layout Design 半導體製程概論(英) Introduction to Semiconductor 公 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3			,									ر						
Introduction to ESD Protection Design 電子電路設計(英) Electronic Circuit Design 積體 電	ESD 防護設計導論																	
Introduction to ESD Protection Design 電子電路設計(英) Electronic Circuit Design 精體電路布局設計 (英) Integrated Circuit Layout Design 中華體製程概論(英) Introduction to Semiconductor 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	(英)	2	2											2				
電子電路設計(英) Electronic Circuit 3 3 3 3 3 3 3 3 3	Introduction to ESD	3	3											3				
Electronic Circuit Design 積體電路布局設計 (英)	Protection Design																	
Design 積體電路布局設計 (英)	電子電路設計(英)																	
精體電路布局設計 (英) Integrated Circuit Layout Design 半導體製程概論(英) Introduction to Semiconductor Manufacturing Technology 電子材料概論(英) Introduction to Electronic Materials 半導體量测(英) Semiconductor 3 3 3 Measurements 精體電路測試程式實務(英) Practical Applications of Integrated Circuit Test Programming 高科技產業製程與安全技術評估(英) High-Tech Industry Processes and Safety Technology Evaluation 人工智慧(英) 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Electronic Circuit	3	3											3				
(英) Integrated Circuit Layout Design 上字體製 程概論(英) Introduction to Semiconductor 3 3 3 3 3 3 3 3 3	Design																	
(共)	積體電路布局設計																	声叫细和
Integrated Circuit Layout Design 中導體製程概論(英) Introduction Semiconductor 3 3 3 Manufacturing Technology 電子材料概論(英) Introduction to 3 3 3 Electronic Materials 中導體量測(英) Semiconductor 3 3 3 Measurements 機體電路測試程式實務(英) Practical Applications of Integrated Circuit Test Programming 高科技產業製程與安全技術評估(英) High-Tech Industry 3 3 3 Processes and Safety Technology Evaluation 人工智慧(英) 2 3 3	(英)	2	2											2				
Layout Design		3	3											3				
半導體製程概論(英) Introduction to Semiconductor 3 3 Manufacturing Technology 電子材料概論(英) Introduction to Electronic Materials 3 半導體量測(英) Semiconductor 3 3 Semiconductor 3 3 Measurements 積體電路測試程式實務(英) 3 Practical Applications of Integrated Circuit Test Programming 3 3 高科技產業製程與安全支援術評估(英) 4 3 全技術評估(英) High-Tech Industry Processes and Safety Technology Evaluation 3 3 人工智慧(英) 3 3																		Courses
Introduction to Semiconductor Manufacturing Technology 電子材料概論(英) Introduction to Electronic Materials 平導體量測(英) Semiconductor 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	半導體製程概論(英)																	
Manufacturing Technology 電子材料概論(英) Introduction to 3 3 Electronic Materials 半導體量測(英) Semiconductor 3 3 Measurements 積體電路測試程式實務(英) Practical Applications of Integrated Circuit Test Programming 高科技產業製程與安全技術評估(英) High-Tech Industry Processes and Safety Technology Evaluation 人工智慧(英) 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																		
Technology 電子材料概論(英) Introduction to Electronic Materials 半導體量測(英) Semiconductor 3 3 3 Measurements 積體電路測試程式實務(英) Practical Applications of Integrated Circuit Test Programming 高科技產業製程與安全技術評估(英) High-Tech Industry 7 Processes and Safety Technology Evaluation 人工智慧(英) 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Semiconductor	3	3											3				課群核心
電子材料概論(英) Introduction to Electronic Materials 平導體量測(英) Semiconductor 3 3 3 Measurements 積體電路測試程式實務(英) Practical Applications of Integrated Circuit Test Programming 高科技產業製程與安全技術評估(英) High-Tech Industry Processes and Safety Technology Evaluation 人工智慧(英) 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Manufacturing																	
Introduction to Electronic Materials 中導體量測(英) Semiconductor 3 3 Measurements 積體電路測試程式實務(英) Practical Applications of Integrated Circuit Test Programming 高科技產業製程與安全技術評估(英) High-Tech Industry Processes and Safety Technology Evaluation 人工智慧(英) 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																		
Electronic Materials 丰導體量測(英) Semiconductor Measurements 積體電路測試程式實務(英) Practical Applications of Integrated Circuit Test Programming 高科技產業製程與安全技術評估(英) High-Tech Industry Processes and Safety Technology Evaluation 人工智慧(英) 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	` '																	
半導體量測(英) 3 3 Semiconductor Measurements 3 3 積體電路測試程式實務(英) 3 3 Practical Applications of Integrated Circuit Test Programming 3 3 高科技產業製程與安全技術評估(英) High-Tech Industry Processes and Safety Technology Evaluation 3 3 人工智慧(英) 3 3		3	3											3				
Semiconductor Measurements 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																		
Measurements 積體電路測試程式實務(英) Practical Applications of Integrated Circuit Test Programming 高科技產業製程與安全技術評估(英) High-Tech Industry 7 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																		
積體電路測試程式實務(英) Practical Applications of Integrated Circuit Test Programming 高科技產業製程與安全技術評估(英) High-Tech Industry 7 3 3 3 3 3 3 9 7 Processes and Safety Technology Evaluation 人工智慧(英) 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3		3	3											3				
英) Practical Applications of Integrated Circuit Test Programming 3 高科技產業製程與安全技術評估(英) 4 High-Tech Industry Processes and Safety Technology Evaluation 3 人工智慧(英) 3 3 3 3 3 3 3 3 3 3 3 3 3 3																		
Practical Applications of Integrated Circuit Test Programming 高科技產業製程與安全技術評估(英) High-Tech Industry 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																		
of Integrated Circuit Test Programming 高科技產業製程與安 全技術評估(英) High-Tech Industry 3 3 Processes and Safety Technology Evaluation 人工智慧(英) 3																		
of Integrated Circuit Test Programming 高科技產業製程與安全技術評估(英) High-Tech Industry 3 3 Processes and Safety Technology Evaluation 人工智慧(英) 3			3											3				
高科技產業製程與安全技術評估(英) High-Tech Industry 3 3 3 Processes and Safety Technology Evaluation 人工智慧(英) 3 3																		
全技術評估(英) High-Tech Industry 3 3 3 Processes and Safety Technology Evaluation 人工智慧(英) 3 3																		
High-Tech Industry 3 3 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	高科技產業製程與安																	
Processes and Safety Technology Evaluation 人工智慧(英) 3 3	全技術評估(英)																	
Technology Evaluation 人工智慧(英) 3 3			3											3				
人工智慧(英) 2 2 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2																		
Artificial Intelligence 3 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		2	2											2				
	Artificial Intelligence	<i>3</i>	3											3				

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Required and Elective	Cours	e List	(Appii	icable	10 5	tuaen	is Au	mme	umı	ne 20	23 A	aden	IIC IE	ar)			
深度學習概論(英)																	
Introduction to Deep	3	3											3				
Learning																	
職場英文(英)																	
	3	3											3				
Workplace English																	
光電感測元件應用電																	
路實習(英)																	
Laboratory on	3	3											3				
Optoelectronic Sensor																	
Circuit Applications																	
																	大三體育僅
																	承認2學分
																	Only 2
體育(三下)(英)																	credits of
Physical Education	2	2											2				Physical
(III-2)	_																Education in
(111-2)																	the third
1 1																	
1 1																	year are
																	recognized.
製程潔淨與化學品危																	
害預防(英)																	
Cleanroom Processes	3	3													3		
and Chemical Hazards															3		
Prevention																	
半導體設備概論(英)																	
Introduction to	3	3													3		新加選修課
Semiconductor	3	3													3		New added
Equipments																	
製程安全管理與應用																	
實務案例(英)	2	_													_		
Process Safety		3													3		
Management and																	
Practical Case Studies																	
企業實習(英)		_															
Corporate Internship	3	3													3		
職場實務(英)															_		
Workplace Practical	3	3													3		
Training																	
Verilog 程式設計(英)																	
Verilog Programming	3	3													3		
Design																	
FPGA/CPLD 設計(英)	1		1														
	3	3													3		
FPGA/CPLD Design	-		-	<u> </u>													
數位積體電路設計																	
(英)	2	3													3		
Digital Integrated	3)													3		
Circuit Design																	
平面顯示器概論(英)				<u> </u>													
	2	2													2		
Introduction to Flat	3	3													3		
Panel Displays																	
半導體量測實驗(英)																	
Semiconductor	2	2													2		
Measurement	3	3													3		
Experiments																	
	1		1														
半導體可靠度工程導論(1																
英)																	
Introduction to	3	3													3		
Semiconductor																	
Reliability Engineering																	
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奈米電子元件(英) Nanoelectronic	3	3							3		
Devices 功率元件(英)	2	2									
Power Devices	3	3							3		1 1214
體育(四上)(英) Physical Education (IV- 1)	2	2							2		大四體育值 承認 2 學分 Only 2 credits of Physical Education i the fourth year are recognized
統計製程管制導論 (英) Introduction to Statistical Process Control	3	3								3	新加選修設 New added
記憶體元件導論(英) Special Topics in Semiconductor Memory Devices	3	3								3	
類比積體電路設計 (英) Analog Integrated Circuit Design	3	3								3	
高頻電路設計(英) High-Frequency Circuit Design	3	3								3	
功率積體電路設計 (英) Power Integrated Circuit Design	3	3								3	
矽光子元件設計(英) Silicon Photonics Device Design	3	3								3	
半導體電腦輔助設計 (英) Semiconductor Computer-Aided Design	3	3								3	
企業進階實習(英) Advanced Corporate Internship	3	3								3	
職場實務專題(英) Workplace Practical Projects	3	3								3	
體育(四下)(英) Physical Education (IV- 2)	2	2								2	大四體育作 承認 2 學 Only 2 credits of Physical Education the fourth year are recognized

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必修科目學分數合計 Required Course Credits Total	80
至少應選修學分數 Minimum Elective Credits Required	48
本系專業選修學分數 Departmental Elective Credits	28
得承認外系選修學分數 Recognized Elective Credits from Other Departments	20
合計 Total	128

修業規定(Academic Regulations):

- 1. 依本校學則規定,大學部學生需通過「英語能力」、「資訊能力」、「中文能力」、「運動能力」及「專業基本能力」檢定,始得畢業。
 - In accordance with the university's academic regulations, undergraduate students must pass assessments in "English Proficiency," "Information Literacy," "Chinese Proficiency," "Physical Fitness," and "Fundamental Professional Competencies" in order to qualify for graduation.
- 2. 通識教育課程在畢業前至少必須修完12學分,課程分「人文」、「社會」、「自然」三個領域,每個領域再分「核心」、「延伸」二類,每個學生在每一領域的每一類至少必須修畢2學分方得畢業。各領域學生募課及學生自主學習課程得認列為該領域延伸課程;若已修畢該領域延伸課程,則得認列為各系外系選修學分;可追溯至113學年度以前入學學生適用。
 - Students must complete at least 12 credits in General Education before graduation. The General Education courses are divided into three fields: "Humanities," "Social Sciences," and "Natural Sciences," each further subdivided into "Core" and "Extension" categories. Students must complete at least 2 credits from both categories in each field to meet graduation requirements. Courses offered by different departments and independent study courses may be recognized as extension courses within their respective fields. If a student has already completed the required extension courses in a field, the additional credits *may* be counted as elective credits outside their major. This regulation applies retroactively to students admitted before the 2024 academic year.
- 3. 學生修習外系課程本系最多列計 20 學分於畢業學分內。學生選修資訊學院各系專業課程或與資訊學院合作開設之學分學程內的課程可視為外系選修學分;若選修非資訊學院之專業課程或教育學程之學分,須於選課期間內經系主任同意後,方可列為外系選修學分。 A maximum of 20 credits from courses in other departments may be counted toward graduation requirements. Professional courses offered by departments within the College of Informatics, as well as courses from credit programs jointly established with the College of Informatics, may be considered interdepartmental elective credits. If students choose to take professional courses from departments outside the College of Informatics or courses from education programs, they

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must obtain approval from the department chair during the course selection period for the credits to be counted as interdepartmental electives.

4. 需重補修本系專業必修課程者,僅限大四學生得於選課期間內經主任同意後,以其他學系相同科目名稱或授課內容相同之課程對抵,並可列入畢業學分。

Fourth-year students who need to retake required professional courses from the department may, with the department chair's approval during the course selection period, substitute equivalent courses with the same course title or similar content offered by other departments. These substituted courses may be counted toward graduation credits.

5. 學生選修課群核心之課程至少需 4 選 3。

Students must select at least three courses from the four core courses in the designated elective course group.

- 6. 學生選修本系碩士班課程,可視為本系專業選修,其學分數得列計於畢業學分內。
 Graduate-level courses offered by the department may be counted as professional elective credits and included in the total graduation credits.
- 7. 未列於畢業架構的跨領域學分學程之學分,可認列為外系學分。
 Credits from interdisciplinary credit programs not included in the official graduation structure may be recognized as interdepartmental elective credits.