

113學年度課程規劃表

應用材料科技系

日間部四技國際學生產學合作專班

第一學年(113)					第二學年(114)					第三學年(115)									
	科目	上學期		下學期			科目	上學期		下學期			科目	上學期		下學期			
		學分	時數	學分	時數			學分	時數	學分	時數			學分	時數	學分	時數		
校必修	英語輔導	0	5			校必修					校必修	台灣文化			2	2			
	漢語拼音發音練習	1	2									台灣藝術			2	2			
	英語聽力練習	1	2									體育	2	2	2	2			
	英語會話練習	1	2																
	英語閱讀與理解	1	2																
	英語寫作練習	1	2																
	華人文學			3	3														
	華人文化			3	3														
	台灣生活與法律			2	2														
台灣社會			2	2															
	小計	5	15	10	10		小計	0	0	0	0		小計	2	2	6	6		
院必修	科技英文(一)(二)	2	2	2	2	院必修					院必修	科技英文(三)(四)	2	2	2	2			
	化學與化學實驗	2	2						程式設計	2		2							
									人工智慧概論與應用				2	2					
	小計	4	4	2	2		小計	0	0	0	0		小計	4	4	4	4		
專業必修	材料科學概論	3	3			專業必修	產業實務實習(一)(二)	9	32	9	32	專業必修	物理冶金	2	2				
	普通物理			3	3						材料分析		3	3					
	物理化學			3	3						儀器分析		3	3					
	有機化學			3	3						半導體製程技術				3	3			
											材料熱力學				3	3			
											材料工程實驗				3	3			
											工程倫理				2	2			
	小計	3	3	9	9			小計	9	32	9		32		小計	8	8	11	11
專業選修	半導體材料產業概論			2	2	專業選修	材料化學	2	2			專業選修	生物化學	3	3				
	化學安全工程			2	2				有機材料				2	2	電子特用化學品	3	3		
	微處理機應用	3	3						平面顯示器製程技術	3	3				薄膜材料	3	3		
	行動運算實務	3	3						表面技術	3	3				半導體材料機械性質			3	3
									金屬與無機材料	3	3				表面工程與AI輔助			3	3
									高分子材料				3	3	半導體工程應用			3	3
									無機化學				3	3	太陽能電池材料概論	3	3		
									微處理機應用	3	3				陶瓷製程	3	3		
									行動運算實務	3	3				半導體材料機械性質			3	3
									App程式設計	3	3								
									真空技術實務	3	3								
									複合材料與實務	3	3								
									平面顯示器原理與製程實務	3	3								
									工程專業術語實務	3	3								

MUST Curriculum Planning for Undergraduate Students of Academic Year 2024-2027,
Department of Applied Materials Science and Technology

1st year(2024)					2nd year(2025)					3rd year(2026)							
	Course	1st semester		2 nd semester			Course	1st semester		2 nd semester			Course	1st semester		2 nd semester	
		Cr.	hr.	Cr.	hr.			Cr.	hr.	Cr.	hr.			Cr.	hr.	Cr.	hr.
MUST Core Required Courses	Chinese tutor	0	5			MUST Core Required Courses						MUST Core Required Courses	Taiwanese culture			2	2
	Chinese Pinyin & Pronunciation Practice	1	2										Taiwanese art			2	2
	Chinese Listening	1	2										Physical Education	2	2	2	2
	Chinese Daily Speaking	1	2														
	Chinese Reading	1	2														
	Chinese Writing	1	2														
	Chinese Literature			3	3												
	Chinese Culture			3	3												
	Life and Law in Taiwan			2	2												
	Taiwanese Society			2	2												
	Subtotal	5	15	10	10		Subtotal	0	0	0	0		Subtotal	2	2	6	6
School Professional Required Courses	Technical English(I/II)	2	2	2	2	School Professional Required Courses						School Professional Required Courses	Technical English(III/IV)	2	2	2	2
	Chemistry and Laboratory	2	2										Introduction to Programming	2	2		
													Applications of Artificial Intelligence			2	2
	Subtotal	4	4	2	2		Subtotal	0	0	0	0		Subtotal	4	4	4	4
Compulsory Courses	Introduction to Materials Science	3	3			Compulsory Courses	Professional Practice (I)(II)	9	32	9	32	Compulsory Courses	Physical Metallurgy	2	2		
	Physics			3	3								Materials Analysis	3	3		
	Physical Chemistry			3	3								Instrumental Analysis	3	3		
	Organic Chemistry			3	3								Semiconductor Manufacturing			3	3
													Material Thermodynamics			3	3
													Material Engineering Laboratory			3	3
													Ethics for Engineers			2	2
	Subtotal	3	3	9	9		Subtotal	9	32	9	32		Subtotal	8	8	11	11
Elective Courses	Introduction to semiconductor materials industry			2	2	Elective Courses	Materials Chemistry	2	2			Elective Courses	Biochemistry	3	3		
	Chemical Process Safety Design			2	2								Chemical Engineering Practices	3	3		
	Micro-computer Application	3	3										Thin film material	3	3		
	Practical Mobile Computing	3	3										Mechanical Properties of Semiconductor Materials			3	3
													Surface Engineering and AI			3	3
													Semiconductor Engineering Applications			3	3
													Introduction to Solar Cell Materials	3	3		
													Ceramic Processing	3	3		
													Mechanical Properties of Semiconductor Materials			3	3

4th year(2027)					
	Course	1st semester		2 nd semester	
		Cr.	hr.	Cr.	hr.
MUST Core Required Courses					
School	Subtotal	0	0	0	0
Professional Required Courses					
	Subtotal	0	0	0	0
Compulsory Courses					
	Subtotal	0	0	0	0
Elective Courses	Professional Practice (III/IV)	9	32	9	32
	Organic electronics	3	3		
	Factory management	3	3		
	Green Chemistry	3	3		
	Hydrogen energy and fuel cells			3	3
	Interfacial Chemistry			3	3
	Electrochemical Analytical Techniques and Applications			3	3
	Semiconductor Devices	3	3		
	Nanotechnology and Materials	3	3		
	Artificial Intelligence-Deep Learning	3	3		
	Labview Programming Design	3	3		
	Python Program Application	3	3		
	Introduction of Python and Machine Learning	3	3		
	Spectroscopic Analysis and Implementation	3	3		
	Generative AI and Applications	3	3		
	Engineering terminology	3	3		

Cr./hr.=Credit/hour

【Remarks】

1. Minimum graduation credits: 128 credits, including 42 elective credits (at least 30 credits for this major).
2. Elective courses for listed are subject to change if necessary.
3. According to university regulations, students are required to meet the graduation requirement of basic proficiency and professional skills.
4. For off-campus internship courses, please follow the relevant implementation regulations.
5. The off-campus internship courses include: Industry Practice Internship (I), (II), (III), (IV), with a maximum of 80 hours of off-campus internship for one credit.
Industry Practice Internship (I) and (II): The actual internship hours range from 32 to 36 hours per week.
Industry Practice Internship (III) and (IV): The actual internship hours range from 32 to 40 hours per week.

半導體工程與材料系 龍明有 系主任



半導體學院 陳啟文 院長

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