

義守大學材料科學與工程學系研究所碩士班

113 學年度入學新生課程計畫表

I-SHOU UNIVERSITY

Department of Materials Science and Engineering

Curriculum for Master's Students Admitted in Academic Year 2024

Made in 2024/05/01

* 本所碩士班總畢業學分數為 38 學分，分下列三項：

* Credits required for graduation from the Program: 38 including:

(一) 專業必修 14 學分 Required professional courses: 14 credits

(二) 專業選修 24 學分，經學系同意後，可承認外系 6 學分（論文指導選修課程一律不計入畢業選修學分數）

Elective professional courses: 24 credits (Elective courses “Independent Study” will not be included.

Recognizing 6 credits earned from other departments.)

(三) 碩士論文必修 0 學分(總結課程)

Thesis: required courses without credits (capstone courses)

First Year (2024)

類別 Category	課程代碼 Code	課程名稱 Subject	上學期 Fall	下學期 Spring	必/選 修 (R/E)	備註 Remark
專業必修 Required Professional Courses	M07044	專題討論(一)Seminar(I)	2		必/R	
	M07045	專題討論(二)Seminar(II)		2	必/R	
	M07M01	學術研究倫理 Research Ethics		0	必/R	
專業選修 Elective Professional Courses	M07377	電子陶瓷 Electronic Ceramics	3		選/E	
	M07775	奈米材料與技術 Nano Materials and Technologies	3		選/E	
	M07048	材料缺陷化學 Defect Chemistry of Materials	3		選/E	
	M07913	高分子材料 Advanced Polymer Materials	3		選/E	
	M07476	磁性材料Magnetic Materials	3		選/E	
	M07751	高等物理冶金Advanced Physical Metallurgy	3		選/E	
	M07752	高等熱力學 Advanced Metallurgical Thermodynamics	3		選/E	
	M07753	銲接冶金 Welding Metallurgy	3		選/E	
	M07754	電子顯微分析法Electron Microscopic Analysis	3		選/E	
	M07759	材料磨耗與潤滑 Wear and Lubrication of Materials	3		選/E	
	M07761	非晶質金屬 Amorphous Materials	3		選/E	
	M07765	高等陶瓷材料Advanced Ceramic Materials	3		選/E	
	M07767	結晶構造分析Structure Analysis of Materials	3		選/E	
	M07771	電子材料Electronic Materials	3		選/E	
	M07374	複合材料Composite materials	3		選/E	
	M07769	電漿技術與應用 Plasma Processing and Application	3		選/E	
	M07612	粉粒體製備Synthesis of Particles	3		選/E	
	M07235	顯示器技術與材料 Display Technology and Materials	3		選/E	
	M07474	薄膜技術 Thin Film Technology	3		選/E	
	M07384	太陽能電池原理及應用 Principle of Solar Cell and Application	3		選/E	
	M07383	高等無機材料製 Production of Inorganic Materials	3		選/E	
	M07234	薄膜分析技術Thin Films Analysis	3		選/E	
	M07816	材料分析方法 Materials Characterization and Analysis	3		選/E	
	M07341	半導體封裝製程與材料 IC Package Processing and Materials	3		選/E	
	M07342	半導體積體電路製程技術 The Technologies of Manufacturing Processes for the Semi-conductor Igrat	3		選/E	
	M07471	生醫材料Biomaterials	3		選/E	
	M07756	材料缺陷理論Materials Defects	3		選/E	
	M07766	機械性質分析 Mechanical Property Analysis of Materials	3		選/E	
	M07781	奈米材料製備與檢測 Nano-Materials Preparation and Characterization	3		選/E	
	M07817	高等材料機械性質 Advanced Mechanical Properties of Materials	3		選/E	
	M07810	合金強化理論 Alloy Strengthening Theories	3		選/E	
	M07085	陶瓷微粉製備與應用 Micro-Ceramic Powder Fabrication and Application	3		選/E	

	M07806	光電材料及工程 Optoelectronic Materials and Engineering	3	選/E	
專業選修 Elective Professional Courses	M07805	X光結晶構X-ray Crystallography	3	選/E	
	M07346	高溫材料High temperature materials	3	選/E	
	M07616	奈米生醫工程 Nanotechnology on Biomedical Engineering	3	選/E	
	M07380	先進接合技術Advanced Welding Processes	3	選/E	
	M07499	功能陶瓷材料Functional Ceramic Materials	33	選/E	
	M07455	軟性電子材料技術 Technology of Flexible Electronic Materials	3	選/E	
	M07815	材料缺陷分析 Defect Analysis in Materials science	3	選/E	
	M 07450	腐蝕與防蝕Corrosion and Corrosion Prevention	3	選/E	
	M07092	智慧科技於材料科學與工程應用 Application of Artificial Intelligence on Materials Science and Engining	3	選/E	
	M07783	半導體製程技術 Fabrication Process of Semiconductor Devices	3	選/E	
本學年度必修學分數 Total Required credits for this year			4		

Second Year (2025)

類別 Category	課程代碼 Code	課程名稱 Subject	上學期 Fall	下學期 Spring	必/選 修 (R/E)	備註 Remark
專業必修 Required Professional Courses	M07916	論文指導 (一) Dissertation/Thesis Guide(I)	3		必/R	
	M07917	論文指導 (二) Dissertation/Thesis Guide(II)		3	必/R	
	M07M00	碩士論文 Master Thesis		0	必/R	
	M07046	專題討論 (三) Seminar(III)	2		必/R	
	M07047	專題討論 (四) Seminar(IV)		2	必/R	
專業選修 Elective Professional Courses	M07853	材料腐蝕原理 Principle of Materials Corrosion	3		選/E	
	M07854	表面技術與分析 Surface Treatments and Analysis	3		選/E	
	M07859	粉末冶金 Powder Metallurgy	3		選/E	
	M07901	高等固態物理 Advanced Solid State Physics	3		選/E	
	M07628	量子化學 Quantum Chemistry	3		選/E	
	M07780	穿透式電子顯微鏡 Transmission Electron Microscopy	3		選/E	
	M07820	高溫塑性變形 High Temperature Plastic Deformation	3		選/E	
	M07039	粉粒體特論 Introduction to Powder Characteristics	3		選/E	
	M07812	高等相變態 Advanced Phase Transformation	3		選/E	
	M07813	擴散理論 Diffusion Theory	3		選/E	
	M07086	高等量子物理 Advanced Quantum Physics	3		選/E	
	M07139	穿透式電子顯微鏡應用 Applications of Transmission Electron Microscopy	3		選/E	
	M07906	應力量測與分析 Stress Analysis and Measurements	3		選/E	
本學年度必修學分數 Total Required credits for this year			10			

Third Year (2026)

類別 Category	課程代碼 Code	課程名稱 Subject	上學期 Fall	下學期 Spring	必/選 修 (R/E)	備註 Remark
專業選修 Elective Professional Courses	M07918	論文指導 (三) Independent Study (III)	1		選/E	
	M07919	論文指導 (四) Independent Study(IV)		1	選/E	
本學年度必修學分數 Total Required credits for this year			0			

Fourth Year(2027)

類別 Category	課程代碼 Code	課程名稱 Subject	上學期 Fall	下學期 Spring	必/選 修 (R/E)	備註 Remark
專業選修 Elective Professional Courses	M07920	論文指導 (五) Independent Study (V)	1		選/E	
	M07921	論文指導 (六) Independent Study(VI)		1	選/E	
本學年度必修學分數 Total Required credits for this year			0			