國立虎尾科技大學材料科學與工程系材料科學與綠色能源工程碩士班科目表

National Formosa University Department of Materials Science and Engineering

Curriculum for Master’s Degree

(109學年度入學適用)108學年度第2學期第2次課程委員會 修訂 109.05.05

First Academic Year

	First Semester			Second Semester		
	Course	**Credit**	**Hour**	**Course**	**Credit**	**Hour**
必修 **Required Courses**	書報討論(一) Seminar I	0	2	書報討論(二) Seminar II	0	2
核心必修 **Core Courses**	固態熱力學 Thermodynamics of Solids	3	3	結晶繞射學 Crystal Diffraction	3	3
	物理冶金 Physical Metallurgy	3	3	相變態學 Phase Transformation	3	3
選修 **Elective Courses**	擴散學 Theory of Diffusion	3	3	材料表面分析 Surface Analysis of Materials	3	3
	固態物理學 Solid State Physics	3	3	燃料電池 Fuel Cells	3	3
	電化學原理與技術 Theory and Technology of Electrochemistry	3	3	半導體元件物理 Physics of Semiconductor Devices	3	3
	綠色能源工程 Green Energy Engineering	3	3	金屬材料特論 Special Topics in Metallic Materials	3	3
	實驗設計 Experimental Design	3	3	特殊合金與製程 Special alloy and manufacturing	3	3
	光電陶瓷材料 Electro-optics Ceramic materials	3	3	材料破損分析 Fracture Analysis of Materials	3	3
	燒結理論 Sintering Theory	3	3			
	鋰離子電池原理與技術 Principle and Technology of Lithium Ion Battery	3	3			
	電子顯微鏡學 Theory of Electron Microscopy	3	3			
	華語教學 The Teaching of Chinese	0	4			

Second Academic Year

	First Semester			Second Semester		
	Course	**Credit**	**Hour**	**Course**	**Credit**	**Hour**
必修 **Required Courses**	書報討論(三) Seminar III	0	2	書報討論(四) Seminar IV	0	2
	碩士論文(一) Master Thesis I	3	0	碩士論文(二) Master Thesis II	3	0
選修 **Elective Courses**	奈米材料學 Introduction to Nanomaterials and Nanotechnology	3	3	複合材料特論 Special Topics in Composite Materials	3	3
	薄膜製程與應用 Thin Film Processes and Applications	3	3	平面顯示器原理與技術 Theory and Technology of Flat	3	3

				Display Panel		
	光電元件 Physics of Semiconductor Device	3	3	專利分析 Patent Analysis	3	3
	太陽能電池原理與技術 Theory and Technology of Solar Cells	3	3	氫能科技 Hydrogen Energy Technology	3	3
選修 Elective Courses	材料接合 Materials Joining	3	3	電子構裝 Electronic Packaging	3	3
	半導體元件與製程 Semiconductor Devices and Processes	3	3	凝固學 Theory of Solidification	3	3
	生醫工程 Biological Materials Engineering	3	3	產業研發實習（二） Industrial Research and Development Internship II	0	2
	科技論文導讀與寫作 Reading and Writing of Scientific Paper	3	3			
	產業研發實習（一） Industrial Research and Development Internship I	0	2			

附註(Note)：

1.最低畢業學分：30 學分。含必修學分(碩士論文(一)、碩士論文(二))：6 學分;含核心必修學分：6 學分；選修學分：18 學分（選修學分含跨所選修學分）。

【Minimum credits required: 30 credits with 6 required credits, 6 core courses and 18elective credits which may include some pre-approved inter-institution elective credits.】

2.選修華語教學可抵書報討論學分（限外籍生適用）。

The Course “The teaching of Chinese”（0/4） is capable of reaching Seminar 1~4 credit hours（Only for foreign students）.

3.表列選修課程僅供參考用，依實際狀況調整。

【The listed elective courses are for references only and are subjected to change.】

4.經指導教授同意得修習其它系所之開授課程。

【If students had gained the permissions from their advisors, elective courses from other departments are permitted.】

5.修習產業研發實習（一）（二），可以抵免書報討論（三）（四）。

【The Courses “Industrial Research and Development Internship 1 and 2” are capable of reaching Seminar 3 and 4 credit hours.】