

115 學年度先進科技全英語外國學生專班四年制專業必修科目課程規劃表

List of 4-Year Bachelor's Degree Compulsory Courses, Department of IATP, Academic Year 115

中英文科目名稱 Course Title	學分 數 Credits	第一學年 1 st Year		第二學年 2 nd Year		第三學年 3 rd Year		第四學年 4 th Year		備註 Notes (選課須知等 注意事項)
		上 1st semester	下 2 nd semester	上 1st semester	下 2 nd semester	上 1st semester	下 2 nd semester	上 1st semester	下 2 nd semester	
微積分(上) Calculus (I)	4	4								
微積分(下) Calculus (II)	4		4							
物理(上) Physics (I)	3	3								
物理(下) Physics (II)	3		3							
化學(上) Chemistry (I)	3	3								
化學(下) Chemistry (II)	3		3							
物理實習(上) Physics Lab. (I)	1	1								
物理實習(下) Physics Lab. (II)	1		1							
化學實習(上) Chemistry Lab. (I)	1	1								
化學實習(下) Chemistry Lab. (II)	1		1							
工程概論及倫理 Introduction to Engineering and Engineering Ethics	2	2								
初階數學(一) Basics of Mathematics (I)	0	0								Students who do not pass Entry-level Math Test need to take this course.
材料科學(一) Materials Science (I)	3	3								Only chemical and materials major students need to take it.

材料科學(二) Materials Science (II)	3		3						Only chemical and materials major students need to take it.
圖學 Graphics	2		2						Only mechanical major students need to take it.
靜力學 Statics or 工程靜力學 Engineering Statics	3		3						Only mechanical and civil major students need to take it.
工程數學(一) Engineering Mathematics (I)	3			3					
工程數學(二) Engineering Mathematics (II)	3				3				
程式語言 Programming Language	3			3					
材料力學 Mechanics of Materials	3			3					Only mechanical, civil, and materials major students need to take it.
工程動力學 Engineering Dynamics or 動力學 Dynamics	3			3					Only mechanical and civil major students need to take it.
工程材料 Engineering Materials or 工程材料（一） Engineering Materials (1)	3			3					Only mechanical and civil major students need to take it.
熱力學 Thermodynamics	3			3					Only mechanical major students need to take it.
機械實習(一)-材料與製造領域 Mechanical Lab (I)-Materials and Manufacturing	1			1					Only mechanical major students need to take it.
機動學 Mechanisms and Dynamics of Machinery	3				3				Only mechanical major students need to take it.
應用電子學 Applied Electronics	3				3				Only mechanical major students

										need to take it.
結構學 Structural Analysis	3				3					Only civil major students need to take it.
土壤力學 Soil Mechanics	3				3					Only civil major students need to take it.
混凝土品質控制 Quality Control of Concrete	3				3					Only civil major students need to take it.
物理化學 (上) Physical Chemistry I	3			3						Only chemical major students need to take it.
物理化學 (下) Physical Chemistry II	3				3					Only chemical major students need to take it.
有機化學 (上) Organic Chemistry I	3			3						Only chemical and materials major students need to take it.
有機化學 (下) Organic Chemistry II	3				3					Only chemical and materials major students need to take it.
質能均衡 Material and Energy Balances	3				3					Only chemical major students need to take it.
單元操作與輸送現象(一) Unit Operation and Transport Phenomena (I)	3				3					Only chemical major students need to take it.
材料熱力學 Thermodynamics of Materials	3			3						Only materials major students need to take it.
材料實驗(一) Materials Science and Engineering Laboratory (I)	1			1						Only materials major students need to take it.
高分子導論 Introduction to Polymer Systems	3				3					Only materials major students need to take it.
材料動力學與相變化 Kinetics and Phase Transformation of Materials	3				3					Only materials major students need to take it.

【附件一】

流體力學 Fluid Mechanics	3					3				Only mechanical major students need to take it.
自動控制(一) Automation Control (I)	3					3				Only mechanical major students need to take it.
機械設計 Mechanical Design	3					3				Only mechanical major students need to take it.
製造學 Manufacturing Processes	3					3				Only mechanical major students need to take it.
機械實習(二)-電子與自控領域 Mechanical Lab (II): Electronics and Automatic Control Fields	1					1				Only mechanical major students need to take it.
熱傳學 Heat Transfer	3						3			Only mechanical major students need to take it.
機械實習(三)-熱流領域 Mechanical Lab (III) - Thermal and Fluid Science	1						1			Only mechanical major students need to take it.
鋼筋混凝土設計 Reinforced Concrete Design	3					3				Only civil major students need to take it.
鋼結構設計 Structural Steel Design	3					3				Only civil major students need to take it.
工程管理 Project Management	3					3				Only civil major students need to take it.
基礎工程 Foundation Engineering	3					3				Only civil major students need to take it.
工程規劃與控制 Project Planning & Control	3						3			Only civil major students need to take it.
土壤力學試驗 Soil Mechanics Test	1						1			Only civil major students need to take it.
材料與結構試驗 Material and Structural Test	1						1			Only civil major students need to take it.

儀器分析 Instrumental Analysis	3					3				Only chemical major students need to take it.
化工熱力學 Chemical Engineering Thermodynamics	3					3				Only chemical major students need to take it.
單元操作與輸送現象(二) Unit Operation and Transport Phenomena (II)	3					3				Only chemical major students need to take it.
化學技術實習(一) Chemical Technology Lab. I	1					1				Only chemical major students need to take it.
化學技術實習(二) Chemical Technology Lab. II	1						1			Only chemical major students need to take it.
反應工程 Chemical Reaction Engineering	3						3			Only chemical major students need to take it.
單元操作與輸送現象(三) Unit Operation and Transport Phenomena (III)	3						3			Only chemical major students need to take it.
程序控制 Process Control	3						3			Only chemical major students need to take it.
材料物理性質 Physical Properties of Materials	3					3				Only materials major students need to take it.
結晶與繞射導論 Introduction to X-ray Crystallography and Diffraction	3					3				Only materials major students need to take it.
半導體材料物理 Physics of Semiconductor Materials	3					3				Only materials major students need to take it.
材料實驗(二) Materials Science and Engineering Laboratory	1					1				Only materials major students need to take it.
材料實驗(三) Materials Science and Engineering Laboratory (III)	1						1			Only materials major students need to take it.
材料分析 Characterization of Materials	3						3			Only materials major students need to take it.

化學工程實習(一) Chemical Engineering Lab (I)	1							1		
化學工程實習(二) Chemical Engineering Lab (II)	1								1	
程序設計 Process Design	3								3	
實務專題(一) Special Topic (I)	2							2		1. Students are required to take at least 4 credits of either special topic or internship. 2. Students take summer internship during summer vacation of sophomore year or junior year.
實務專題(二) Special Topic (II)	2								2	
先進科技全英專班校外實習(一) Internship in International Advanced Technology Program (I)	4							4		
先進科技全英專班暑期校外實習(一) Summer Internship in International Advanced Technology Program (I)	2									

備註：實際開課學期依當學年度課程公告為準。The actual semester of course offerings is determined by the curriculum announcement of the respective academic year.