

大葉大學 112學年度大學日間部新生入學四年學程
112 Academic Year Bachelor's Degree Program, Da-Yeh University

院別：護理暨健康學院 系列：醫學工程學系 畢業總學分：128學分 製表日期：114.1.9
Department of Biomedical Engineering, College of Nursing and Health Sciences Total Credits: 128 Publish Date: January 9, 2025

類別	Category	必選別	Required/ Elective	科目名稱	Course Title	修課年級、學期別	Academic Year/Semester	學分數 Credits	每週上課時數 Class Hours		備註	Remarks		
									講授 Lecture	實習(驗) Lab.				
校訂必修28學分	University-Required Courses: 28 Credits	必	Required	國文能力	Chinese Language Proficiency	一	1/1、1/2	2	2	0				
		必	Required	運算思維	Computational Thinking	一	1/1、1/2	2	2	0				
		必	Required	英語聽力與口語(一)	English Listening and Speaking (1)	一上	1/1	2	2	0	此四科「英文能力」類課程採： 一. 全英語教學 二. 能力分班 三. 同科目但不同能力班級，課程名稱不同。 例：初級英語聽力與口語(一)、中級英語聽力與口語(一)、中高級英語聽力與口語(一)、高級英語聽力與口語(一)。	The four courses in the "Fundamental English" category have the following features: a.) English-taught instruction b.) Student attending placement tests prior formal classes c.) Students are divided into classes of different levels according to the results of the English proficiency placement test, including Elementary English Listening and Speaking (1) Intermediate English Listening and Speaking(1) Upper-Intermediate English Listening and Speaking(1) Advanced English Listening and Speaking (1)		
		必	Required	英文閱讀與寫作(一)	English Reading and Writing (1)	一上	1/1	2	2	0				
		必	Required	英語聽力與口語(二)	English Listening and Speaking (2)	一下	1/2	2	2	0				
		必	Required	英文閱讀與寫作(二)	English Reading and Writing (2)	一下	1/2	2	2	0				
		必	Required	通識	General Education			16	16	0			哲學與歷史、文學與藝術、民主與法治、社會與心理、科學與技術共五大領域，每領域均須選修核心課程一科，共五科10學分，再於五大領域中選修核心課程或延伸課程6學分，合計16學分。	Students must take one course from each of the following five categories: Philosophy & History, Literature & Art, Democracy & Law, Social Science & Psychology and Science & Technology. Besides the above five courses, 10 credits. The students have to finish 16 credits in General Education. Ten credits (5 courses) have to be taken from five major categories; one course from each category. The rest 6 credits can be selected among the optional core or extended courses of General Education.
		必	Required	英語文能力檢定	Qualification Test of English Proficiency			0	0	0			學生於大一下學期結束前均須參加英文檢定校園考或校外英文檢定測驗，成績須達多益400分以上(或CSEPT第一級170分，或全民英檢中級初試通過，或托福、雅思等其他同等級之測驗分數)。英語學系及文創產業國際人才學士學位學程之通過標準另依其規定。 依大葉大學學生英文能力檢定實施辦法辦理。	Students are required to sit in for campus/off-campus English proficiency tests before the end of freshman year. The passing requirement for each proficiency test is described below: TOEIC 400/ 1st-level CSEPT 170/ Intermediate GEPT/TOEFL or IELTS scores at equivalent levels.
		必	Required	資訊基本能力檢定	Qualification Test of Computer Skills			0	0	0	依大葉大學學生資訊基本能力檢定實施辦法辦理。	One of the following Microsoft Office certifications is required for graduation. 1. Microsoft Office Specialist(MOS) in Word 2. Microsoft Office Specialist(MOS) in Powerpoint 3. Microsoft Office Specialist(MOS) in Excel 4. Techiciency Quotient Certification in Word 5. Techiciency Quotient Certification in Powerpoint 6. Techiciency Quotient Certification in Excel 7. Other Microsoft Office certifications authenticated by Computer Center.		
		必	Required	職場實習暨體驗	Internship			0	0	0	學生應於在學期間完成職場實習暨體驗認證時數達100小時以上，始得畢業。 依大葉大學職場實習暨體驗實施辦法辦理。	Students should complete an internship during the study period, the hours of authentication for more than 100 hours before graduation. Conduct according to Internship regulation of Da-Yeh University.		
必	Required	中文能力檢定	Chinese Language Proficiency Test			0	0	0	依大葉大學學生中文能力檢定辦法辦理。	Conduct according to Chinese Language Proficiency Test regulation of Da-Yeh University.				
必	Required	體育		Physical Education	一上	1/1	1	2	0	體育必修不列入畢業學分，大一學生每學期均須修習，每學期1學分。	Required for freshman; 1 credit for each semester. Physical Education Required is not included in the graduation credit.			
					一下	1/2	1	2	0					
院訂必修2學分	College-Designated Required Courses: 2 Credits	必	Required	緊急醫療救護概論	Introduction to Emergencies Care	一下	1/2	2	2	0				
必	Required	普通生物	General Biology	一上	1/1	3	3	0						
		普通化學	General Chemistry	一上	1/1	3	3	0						
		普通化學實驗	General Chemistry Laboratory	一上	1/1	1	1	2						
		微積分	Calculus	一上	1/1	3	3	0						
		醫用生理學	Medical Physiology	一上	1/1	3	3	0						
		醫學工程概論	Introduction to Medical Engineering	一下	1/2	3	3	0						
		普通物理	General Physics	一下	1/2	3	3	0						
		普通物理實驗	General Physical Laboratory	一下	1/2	1	1	2						
		計算機概論	Introduction to Computer	一下	1/2	3	3	0						
必	Required	解剖學	Anatomy	一下	1/2	3	3	0						

系訂必修53學分	Departmental Required Courses: 53 Credits	必	Required	工程力學	Engineering Mechanics	二上	2/1	3	3	0		
		必	Required	醫學工程數學	Medical Engineering Mathematics	二上	2/1	3	3	0		
		必	Required	程式語言	Programing in Python	二上	2/1	3	3	0		
		必	Required	醫學工程實驗(一)	Biomedical Engineering Laboratory (1)	二上	2/1	1	1	2		
		必	Required	醫用材料工程導論(一)	Introduction to Medical Material Engineering (1)	二上	2/1	3	3	0		
		必	Required	生物醫學材料	Biomedical Materials	二下	2/2	3	3	0		
		必	Required	醫學工程實驗(二)	Biomedical Engineering Laboratory (2)	二下	2/2	1	1	2		
		必	Required	醫療器材設計導論	Introduction to Design of Medical Device	三上	3/1	3	3	0		
		必	Required	英文科技論文導讀	English Scientific and Technical Readings	三上	3/1	2	2	0		
		必	Required	專題研究(一)	Special Topic I	三上	3/1	1	1	0		
		必	Required	醫學訊號與系統(含電路學)	Signals and System(Electronic Circuits)	三下	3/2	3	3	0		
		必	Required	專題研究(二)	Special Topic II	三下	3/2	1	1	0		
系訂選修36學分	Departmental Elective Courses: 36 Credits	選	Elective	生物醫學概論	Introduction to Biomedical Engineering	一	1/1、1/2	3	3	0		
		選	Elective	智慧醫療照護概論	Introduction to Smart Healthcare	一	1/1、1/2	3	3	0		
		選	Elective	生物化學	Physics and Chemistry	二	2/1、2/2	3	3	0		
		選	Elective	發明與創意產品設計	Innovative Produce Design	二	2/1、2/2	3	3	0		
		選	Elective	銀髮族創意產品設計	Creative Product Design for the Elderly	二	2/1、2/2	3	3	0		
		選	Elective	機率與統計	Probability and Statistics	二	2/1、2/2	3	3	0		
		選	Elective	工程圖學	Engineering Graphics	二	2/1、2/2	3	3	0		
		選	Elective	感測元件及原理	Components and Theory of Sensors	二	2/1、2/2	3	3	0		
		選	Elective	骨骼肌肉系統	Musculoskeletal System	二	2/1、2/2	3	3	0		
		選	Elective	運動生物力學	Biomechanics of Sport and Exercise	二	2/1、2/2	3	3	0		
		選	Elective	基礎光學	Basic Optics	二	2/1、2/2	3	3	0		
		選	Elective	生物統計學	Biostatistics	二	2/1、2/2	3	3	0		
		選	Elective	電腦輔助設計與分析概論	Introduction to Computer Aided Design and Analysis	二	2/1、2/2	3	3	0		
		選	Elective	醫療器材設計工程	Engineering of Medical Device Design	二	2/1、2/2	3	3	0		
		選	Elective	醫用材料工程導論(二)	Introduction to Material Medical Engineering (2)	二	2/1、2/2	3	3	0		
		選	Elective	輔具與復健工程	Assistive Devices and Rehabilitation Engineering	二	2/1、2/2	3	3	0		
		選	Elective	材料分析檢測技術	Material Analysis Technology	三	3/1、3/2	3	3	0		
		選	Elective	醫用高分子	Medical Polymer	三	3/1、3/2	3	3	0		
		選	Elective	細胞生物學	Cell Biology	三	3/1、3/2	3	3	0		
		選	Elective	進階醫學材料工程導論	Introduction to Advanced Material Engineering	三	3/1、3/2	3	3	0		
		選	Elective	薄膜工程(含實驗)	Thin Film Engineering (Including Laboratory)	三	3/1、3/2	3	3	0		
		選	Elective	基礎生醫影像處理技術	Biomedical Image Processing Technology	三	3/1、3/2	3	3	0		
		選	Elective	醫療器材設計與開發實務	Practices in Medical Device Design Products Development	三	3/1、3/2	3	3	0		
		選	Elective	醫學影像系統	Medical Imaging System	三	3/1、3/2	3	3	0		
		選	Elective	醫學儀表與測量	Biomedical Measuring Instrument	三	3/1、3/2	3	3	0		
		選	Elective	生醫材料	Biomaterials	三	3/1、3/2	3	3	0		
		選	Elective	熱處理	Heat Treatment	三	3/1、3/2	3	3	0		
		選	Elective	焊接工程	Welding Engineering	三	3/1、3/2	3	3	0		
		選	Elective	輕量化醫療器材設計開發	Design and Development on Lightweight Materials of Medical Device	三	3/1、3/2	3	3	0		
		選	Elective	臨床醫療概論	Introduction of Clinical Medicine	三	3/1、3/2	3	3	0		
		選	Elective	生醫光電檢測(含實驗)	Biomedical Optoelectronic Testing(Including Laboratory)	三	3/1、3/2	3	3	0		
		選	Elective	醫學工程實驗(三)	Biomedical Engineering Laboratory (3)	三	3/1、3/2	1	1	2		
		選	Elective	醫學工程實驗(四)	Biomedical Engineering Laboratory (4)	三	3/1、3/2	1	1	2		
選	Elective	生醫光電系統(含實驗)	Biomedical Optoelectronic Systems(Including Laboratory)	四	4/1、4/2	3	3	0				
選	Elective	穿戴式物聯網應用	Implementations on Internet of Wearable Devices	四	4/1、4/2	3	3	0				
選	Elective	醫療器材法規與認證	Regulations and Certification of Medical Devices	四	4/1、4/2	3	3	0				
選	Elective	醫藥生技與產業概論	Introduction to the Pharmaceutical and Biotechnology Industry	四	4/1、4/2	3	3	0				
選	Elective	智慧輔具設計與開發	Design and Application of Intelligent Assistive Devices	四	4/1、4/2	3	3	0				
選	Elective	醫用電子系統設計	Design of Medical Electronic System	四	4/1、4/2	3	3	0				
選	Elective	細胞培養及應用	Cell Culture and Application	四	4/1、4/2	3	3	0				
選	Elective	生醫奈米科技與材料	Biomedical Nanotechnology and Materials	四	4/1、4/2	3	3	0				
選	Elective	再生醫學與組織工程	Regenerative Medicine and Tissue Engineering	四	4/1、4/2	3	3	0				
選	Elective	臨床工程問題導向學習	Problem-Based Learning of Clinical Engineering	四	4/1、4/2	3	3	0				
選	Elective	逆向工程與3D列印	Reverse Engineering and 3D Printing	四	4/1、4/2	3	3	0				
選	Elective	醫工全職實習	Co-operative Program	四	4/1、4/2	9	0	0				
選	Elective	視覺照護概論	Introduction of Visual Care	二	2/1、2/2	3	3	0				
選	Elective	眼球解剖與組織學	Ocular Anatomy and Histology	二	2/1、2/2	3	2	2				
選	Elective	視覺檢測技術	Visual Detection Technology	三	3/1、3/2	3	2	2				
選	Elective	視覺輔具製作	Manufacture of Visual Assistive Device	三	3/1、3/2	3	2	2				
自由選修9學分	Free Elective Courses: 9 Credits	學生可修習跨院系領域課程做為自由學分，以增加跨界學習能力。(僅認列外系必修或選修課程，通識中心所開課之通識課或語文類不可採計) To increase students' inter-disciplinary learning ability, the school encourages students to take courses offered in different departments or colleges, which can be recognized as Free Elective credits.(Only required or elective courses from other departments will be recognized; general education courses or language courses offered by the General Education Center are excluded from credit recognition.)										

◎醫學工程學系 畢業應修足學分數共 128學分，其中包含：

- A.校訂必修 28學分
- B.院訂必修 2學分
- C.系訂必修 53學分
- D.系訂選修 36學分
- E.自由選修 9學分

Students in the Department of Biomedical Engineering must complete a total of 128 credits to graduate, including:

- A. University-Required Courses – 28 Credits
- B. College-Designated Required Courses – 2 Credits
- C. Department-Designated Required Courses – 53 Credits
- D. Department-Designated Elective Courses – 36 Credits
- E. Free Elective Courses – 9 Credits

※112年5月17日醫學工程學系第15次(112.05.17)課程委員會議通過

※112年6月19日護理暨健康學院111學年度第3次院課程委員會會議通過

※112年9月7日第38次(112.09.07)校課程委員會會議通過

※113年3月26日醫學工程學系第19次(113.03.26)課程委員會會議通過

※113年4月11日護理暨健康學院112學年度第3次院課程委員會會議通過

※113年6月27日大葉大學第39次(113.06.27)校課程委員會會議通過

※113年11月20日醫學工程學系第23次(113.11.20)課程委員會會議通過

※113年11月28日護理暨健康學院113學年度第1次院課程委員會會議

※114年1月9日大葉大學第40次(114.01.09)校課程委員會會議通過

Approved at the 15th Department Curriculum Committee Meeting on May 17, 2023

Approved at the 3rd Meeting of the College Curriculum Committee on June 19, 2023

Approved at the 38th Meeting of the University Curriculum Committee, Da-Yeh University, September 7, 2023

Approved at the 19th Department Curriculum Committee Meeting on March 26, 2024

Approved at the 3rd Meeting of the College Curriculum Committee on April 11, 2024

Approved at the 39th Meeting of the University Curriculum Committee, Da-Yeh University, June 27, 2024

Approved at the 23rd Department Curriculum Committee Meeting on November 20, 2024

Approved at the 1st Meeting of the College Curriculum Committee on November 28, 2024

Approved at the 40th Meeting of the University Curriculum Committee, Da-Yeh University, January 9, 2025