亞洲大學 生物資訊與醫學工程學系學士班課程規劃表

（114 學年度入學適用）

Undergraduate Curriculum Plan for Department of Bioinformatics and Medical Engineering,Asia University (Applicable for Fall 2025 Enrollees)

畢業總學分：128 學分　　校課程委員會通過次別：1133

Credits of Graduation：128　　Approved in the ___1133__ University Curriculum Committee meeting

類別 Category		科目名稱 Course Title		英文名稱 English Title	修課年級 Year of the Program	修課學期 Semester	學分數 Credits	每週上課時數 Hours per week			備註 Remarks
								講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
(30) University Required Credit 校定必修 30 學分	(20) Program Required Credits 基礎通識 20 學分	中文領域 Chinese Category (4 學分) (4 Credits)	中文鑑賞與思辨	Chinese Appreciation and Critical Thinking	一 1st	上 1st	2	2	0	0	
			中文表達與應用	Chinese Expression and Application	一 1st	下 2nd	2	2	0	0	
		英文領域 English Category (8 學分) (8 Credits	學術英語文(一)	English for Academic Purposes (1)	一 1st	上 1st	2	2	0	0	
			學術英語文(二)	English for Academic Purposes (2)	一 1st	下 2nd	2	2	0	0	
			專業英語文(一):醫護英文	English for Specific Purposes(1): English for Medical and Nursing Purposes	二 2nd	上 1st	2	2	0	0	醫學暨健康學院 College of Medical and Health Sciences 護理學院 College of Nursing
			專業英語文(二):醫護英文	English for Specific Purposes(2): English for Medical and Nursing Purposes	二 2nd	下 2nd	2	2	0	0	
			專業英語文(一):科技英文	English for Specific Purposes(1): English for Science and Technology	二 2nd	上 1st	2	2	0	0	資訊電機學院 College of Information and Electrical Engineering
			專業英語文(二):科技英文	English for Specific Purposes(2): English for Science and Technology	二 2nd	下 2nd	2	2	0	0	
			專業英語文(一):商管英文	English for Specific Purposes(1): Business English	二 2nd	上 1st	2	2	0	0	管理學院 College of Management
			專業英語文(一):商管英文	English for Specific Purposes(1): Business English	二 2nd	下 2nd	2	2	0	0	
			專業英語文(一):設計英文	English for Specific Purposes(1): English for Creative Design	二 2nd	上 1st	2	2	0	0	創意設計學院 College of Creative Design
			專業英語文(一):設計英文	English for Specific Purposes(2): English for Creative Design	二 2nd	下 2nd	2	2	0	0	
			專業英語文(一):社科簡報英文	English for Specific Purposes(1): English for Presentation for Social Sciences	二 2nd	上 1st	2	2	0	0	人文社會學院 College of Humanities and Social Sciences
			專業英語文(二):社科簡報英文	English for Specific Purposes(2): English for Presentation for Social Sciences	二 2nd	下 2nd	2	2	0	0	
		程式領域 Information Category (2 學分) (2Credits)	資訊與科技	Information and Technology	一 1st	下 2nd	2	2	0	0	
		歷史領域 History Category (2 學分) (2 Credits)	歷史與文化	History and Culture	一 1st	下 2nd	2	2	0	0	
		藝術領域 Esthetics Category (2 學分) (2 Credits)	設計思考與創新	Design Thinking and Innovation	一 1st	上 1st	2	2	0	0	(二選一) Choose 1 out of 2
			美學素養	Esthetics accomplishment							
		永續領域 Sustainable Category (2 學分) (2 Credits)	永續發展與實踐	Sustainable Development and Practice	一 1st	上 1st	1	1	0	0	

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							講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
	博雅通識 8~10 學分 (8~10) Program Elective Credits	博雅課程 (人文類、社會類、自然類、生活類)	General Required (Core) Courses (Categories: Humanities, Society, Nature, Life)	一~四 1st~4th	上、下 1st, 2nd	8~10	8~10	0	0	1. 博雅課程分為四類： (1)人文類-1 (2)社會類-2 (3)自然類-3 (4)生活類-4 General Required (Core) Courses are divided into 4 categories: (1) Humanities, (2) Society, (3) Nature, and (4) Life. 2. 每一類至少須選修 2 學分(共四類 8 學分)，另外 2 學分可採下列方式修習。 (1)選修他系探索課程。 (2)在博雅四類中任選一類修習。 (3)修習通識微學分課程，或通識認可之自主學習課程認抵之。 Students are required to complete a minimum of 2 credits of course from each category (8 credits in total for 4 categories). The other 2 credits can be obtained through the following options: (1) Take exploratory courses of other departments. (2) Take any one of the 4 categories of general required (core) courses. (3) Waiver the credits by taking general microcredit course, or self-learning course approved by Center for General Education
	探索 0~2 學分 (0~2) Exploratory Credits	跨系探索課程	Exploratory Courses of Other Departments	一~四 1st~4th	上、下 1st, 2nd	0~2	0~2	0	0	1. 不修此類課程者，博雅通識課程需修滿 10 學分。 Students who do not take such courses are required to complete 10 credits of general liberal arts courses. 2. 選修此類課程者，至多 2 學分，博雅通識課程需修滿 8 學分。 Students who take such courses are required to complete a maximum of 2 credits of the courses and 8 credits of general liberal arts courses.
	體育 Physical Program	體育(一)~(四)	Physical Education (1)~(4)	一~二 1st~2nd	上、下 1st, 2nd	0	2	0	0	

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							講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
涵養教育 Cultivation Education	通識講座 General Lectures (Required)	通識涵養教育 (健康、關懷、創新、卓越)	General Literacy Series (Domains of Literacy: Healthy, Care, Innovation, Excellence)	一~四 1st~4th	上、下 1st, 2nd	0	0	0	0	1. 在學期間，學生可自由參與校內任何通識認證活動，不限場次。至少參與 8 次。 Students are required to participate in at least 8 campus activities approved by the Center for General Education. 2. 每一素養至少連到 2 次：健康 2 次、關懷 2 次、創新 2 次、卓越 2 次。 Students are required to attend at least 2 lectures from the 4 domains of Literacy: Healthy, Care, Innovation, Excellence. 3. 畢業前須完成上述 2 項。 3. Student must complete the above for graduation.
(9)院核心課程 8 學分 (9)College Core Courses		基礎程式設計	Fundamental Computer Programming	一 1st	上 1st	3	3	0	0	
		人工智慧與雲端應用	Artificial Intelligence and Cloud Applications	三 3rd	上 1st	3	3	0	0	
		*畢業專題（一）	Graduation-Projects (I)	三 3rd	下 2nd	1	1	0	0	同意專案役男於二下修課 AMSS can study in the 2nd semester of the 2nd year
		*畢業專題（二）	Graduation Projects (II)	四 4th	上 1st	1	1	0	0	同意專案役男於三上修課並於發表 AMSS can study in the 1st semester of the 3rd year
(39) 系核心課程 39 學分 (39) Departmental Core Courses		普通化學	General Chemistry	一 1st	上 1st	3	3	0	0	
		生醫資訊與醫工概論	Introduction to Biomedical Informatics and Medical Engineering	一 1st	上 1st	3	3	0	0	
		微積分 (一)	Calculus I	一 1st	上 1st	3	3	0	0	
		程式設計專案	Advanced Computer Programming	一 1st	下 2nd	3	3	0	0	
		普通物理	General Physics	一 1st	下 2nd	3	3	0	0	
		微積分 (二)	Calculus II	一 1st	下 2nd	3	3	0	0	
		生物醫學工程倫理	Biomedical Engineering Ethics	一 1st	下 2nd	2	2	0	0	
		基礎生物化學	Basic Biochemistry	二 2nd	上 1st	2	2	0	0	
		視窗程式設計	Windows Programming	二 2nd	上 1st	3	3	0	0	
		生醫訊號處理	Biomedical Signal Processing	二 2nd	下 2nd	3	3	0	0	
		生物技術導論	Introduction to Biotechnology	二 2nd	下 2nd	3	3	0	0	
		生物統計學	Biostatistics	二 2nd	下 2nd	3	3	0	0	
		解剖學	Anatomy	三 3rd	上 1st	2	2	0	0	
		生理學	Physiology	三 3rd	上 1st	3	3	0	0	

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							講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
系專業選修學程27學分 (27)Department Professional Program	智慧醫材學程 Smart medical devices Program	生物力學	Biomechanics	二 2nd	上 1st	3	3	0	0	實務型 Practical Course
		工程數學	Engineering Mathematics	二 2nd	上 1st	3	3	0	0	實務型 Practical Course
		醫學工程實驗	Medical Engineering Laboratory	二 2nd	上 1st	1	1	2	0	實務型 Practical Course
		材料機械性質	Mechanical Properties of Materials	二 2nd	上 1st	2	2	0	0	實務型 Practical Course
		生醫材料導論	Introduction to Biomedical Materials	二 2nd	下 2nd	3	3	0	0	研究型 Research-based Course
		電路學	Electric Circuits	二 2nd	下 2nd	3	3	0	0	研究型 Research-based Course
		高分子材料科學	Polymer Materials Science	三 3rd	上 1st	2	2	0	0	研究型 Research-based Course
		電子學	Electronics	三 3rd	上 1st	3	2	1	0	研究型 Research-based Course
		組織工程	Tissue Engineering	三 3rd	下 2nd	3	3	0	0	實務型 Practical Course
		醫學測量與儀表	Medical Measurement and Instrumentation	三 3rd	下 2nd	2	2	0	0	實務型 Practical Course
		*生醫創新與商業化	Biomedical Innovations and Commercialization	四 4th	上 1st	2	2	0	0	實務型 Practical Courses 同意專案役男於三上修課 AMSS can study in the 1st semester of the 3rd year
	精準醫療學程 Precision medicine Program	離散數學	Discrete Mathematics	二 2nd	上 1st	3	3	0	0	研究型 Research-based Course
		資料結構與演算法	Data Structures and Algorithms	二 2nd	上 1st	3	3	0	0	研究型 Research-based Course
		網頁系統開發	Web-based System Development	二 2nd	下 2nd	3	3	0	0	實務型 Practical Course
		資料庫應用	Database Application	二 2nd	下 2nd	3	3	0	0	實務型 Practical Course
		基礎分子遺傳學	Basic Molecular Genetics	三 3rd	上 1st	3	3	0	0	研究型 Research-based Course
		生物資訊軟體應用	Application of Bioinformatics Software	三 3rd	上 1st	3	3	0	0	實務型 Practical Course
		生醫資料擷取與探勘	Biomedical Data Acquisition and Mining	三 3rd	下 2nd	3	3	0	0	研究型 Research-based Course
		體學導論(基因體、蛋白質體)	Introduction to Omics	三 3rd	下 2nd	3	3	0	0	研究型 Research-based Course
		系統生物學	Systems Biology	四 4th	上 1st	3	3	0	0	研究型 Research-based Course
系自由選修課程8學分 (8) Department Elective Courses		精準醫療	Precision Medicine	三 3rd	上 1st	2	2	0	0	綜合型 Research-based and Practical Course
		3D 建模	3D Modeling	三 3rd	下 2nd	2	2	0	0	實務型 Practical Course
		醫療器材專利與法規	Medical Device Patents and Regulations	三 3rd	下 2nd	2	2	0	0	實務型 Practical Course
		醫用微電子學	Medical Micro-electronics	三 3rd	下 2nd	2	2	0	0	實務型 Practical Course
生物資訊專長學程15學分 (15) Students who complete 15 credits will be awarded the specialization program.		生醫資訊與醫工概論	Introduction to Biomedical Informatics and Medical Engineering	一 1st	上 1st	3	3	0	0	
		生物技術導論	Introduction to Biotechnology	二 2nd	下 2nd	3	3	0	0	
		網頁系統開發	Web-based System Development	二 2nd	下 2nd	3	3	0	0	
		生醫訊號處理	Biomedical Signal Processing	二 2nd	下 2nd	3	3	0	0	
		人工智慧與雲端應用	Artificial Intelligence and Cloud Applications	三 3rd	上 1st	3	3	0	0	

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						講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
本系辦理實施「7+1」分流實習課程之對應科目名稱一覽表: List of course titles for the department's implementation of the "7+1" internship program:									
分流實習課程 Internship Program	*業界實習(一)(7+1 分流)	Practical Training (I)	四 4th	下 2nd	3	0	0	詳見備註 See remarks for details	1.僅供參加專業課程分流校外實習課程學生選課。 For students participating in off-campus internships as part of their specialized course track only. 2.剔除專案役男此課程規劃 This course plan excludes alternative military service draftees. 3每1實習學分以不低於60小時、不超過80小時為原則。 Each internship credit shall be based on a minimum of 60 hours and a maximum of 80 hours. 4.每學期以不超過9學分「不超過720小時」為限。 The total number of credits per semester shall not exceed 9, with a maximum of 720 hours. 5.實習學分列入畢業學分以不超過18學分「不超過1440小時」為原則。 Internship credits counted toward graduation requirements shall be limited to a maximum of 18 credits, not exceeding 1,440 hours in total
	*業界實習(二)(7+1 分流)	Practical Training (II)	四 4th	下 2nd	3	0	0	詳見備註 See remarks for details	
	*業界實習(三)(7+1 分流)	Practical Training (III)	四 4th	下 2nd	3	0	0	詳見備註 See remarks for details	

備註(Remarks):

(一)學生含通識課程應修畢 128 學分，需修習「校定必修」30 學分，「院核心課程」8 學分，本系「系核心課程」39 學分、本系一個「專業學程」及另一個「跨系專長學程」或「跨領域學程」或取得「次專長」，始能畢業，不足畢業學分數，得自由選修(規定詳見第四點)學分補足之。

Students are required to complete 128 credits, including 30 credits of "University Required Courses,"8credits of "College Core Courses," 39 credits of "Department Core Courses", one "Specialized Program" from the department, and along with either one "Specialized Program" from another department, or an "Interdisciplinary Program," or earning a "Minor" for graduation. Any remaining credits needed to meet graduation requirements may be fulfilled by elective courses (refer to point 4 for details).

(二)本系需於畢業前完成實務實習 80 小時，學生可進行校外實習或於專題指導老師實驗室完成，相關規定依校外實習及專題實習辦法實施。

Students must complete 80 hours of practical training before graduation. This can be achieved through external internships or by completing a research project in a advisor's lab. Regulations follow the implementation guidelines for off-campus internships and project-based internships.

(三)*符號表示：同意學生就學期間申請專案服役者(簡稱專案役男)該課程彈性修讀，修讀方式已加註於備註欄。

The * symbol indicates courses that students who apply for alternative military service (referred to as "alternative military service students" or AMSS) are permitted to flexibly arranged during their studies. The method for course completion is noted in the remark column.

(四) 本系學生修讀自由選修需有 6 學分(含)以上為本系開設之課程。其餘可為 7+1 及 3+1 分流實習課程或除校定必修(含校定必修、體育(五)及體育(六)以外之其他課程，或通過學分抵免認定為自由選修之校外課程。

For elective courses, at least 6 credits must be offered by the department. The remaining credits can be fulfilled by the "7+1" or "3+1" internship programs, or from other courses except for "University Required Courses" (including University Required Courses, Physical Education V, and Physical Education VI), or by external courses recognized

electives through credit transfer.

(五) 本校規範自 106 學年度起大學日間部學生(除部份推動國考學系外)應至少修畢一個本系專業學程及一個跨域學習學程(選項計有「雙主修」、「輔系」、「跨領域學程」、「跨系專長學程」或「次專長」，並達成相關畢業條件後，始符合畢業資格。

According to university regulations starting from the 106th academic year, daytime undergraduate students (excluding certain programs preparing students for national exams) must complete at least one specialized program from their department and one interdisciplinary learning program (options include "Double Major," "Minor," "Interdisciplinary Program," "Specialized Program from another department," or "Minor,". Only after fulfilling these graduation requirements will students be eligible for graduation.

系所主管簽章:

生物資訊與醫學工程學系主任 胡若梅

學院院長簽章:

資訊電機學院 院長 許慶賢

教務處 114. 6. 26 收件