亞洲大學醫學檢驗暨生物學系學士班課程規劃表（113學年度入學適用）

Undergraduate Curriculum Plan for Department of Medical Laboratory Science and Biotechnology, Asia University (Applicable for Fall 2024 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 Credits 校定必修30學分	(22) Program Required Credits 基礎通識 22 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)	共通英語文(一)	English for General Purposes (1)	一 1st	上 1st	3	3	0	0	
			共通英語文(二)	English for General Purposes (2)	一 1st	下 2nd	3	3	0	0	
			共通專業英語文:醫護英文	English for General Specific Purposes: English for Medical and Nursing Purposes	二 2nd	上、下 1st, 2nd	2	2	0	0	醫學暨健康學院 College of Medical and Health Sciences 護理學院 College of Nursing 資訊電機學院 College of Information and Electrical Engineering 管理學院 College of Management 創意設計學院 College of Creative Design 人文社會學院 College of Humanities and Social Sciences
			共通專業英語文:科技英文	English for General Specific Purposes: English for Science and Technology							
			共通專業英語文:商管英文	English for General Specific Purposes: Business English							
			共通專業英語文:設計英文	English for General Specific Purposes: English for Creative Design							
			共通專業英語文:社科簡報英文	English for General Specific Purposes: English for Presentation for Social Sciences							
		程式領域 Information Category (4 學分) (4 Credits)	資訊科技概論	Introduction to Information Technology	一 1st	上 1st	2	2	0	0	1. 資訊科技概論，為資訊學院必修科目。 Introduction to Information Technology is a required course for students in College of Information and Electrical Engineering. 2. 非資訊學院可二選一。 Students not in the College of Information and Electrical Engineering may choose 1 out of 2.
			資訊與科技	Information and Technology							
			程式設計與智慧應用	Computer Programming and Artificial Intelligence Application	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	上 1st	2	2	0	0	
		藝術領域 Esthetics Category (2 學分)	設計思考與創新	Design Thinking and Innovation	一 1st	下 2nd	2	2	0	0	(二選一) Choose 1 out of 2
			美學素養	Esthetics Accomplishment							

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	
	(2 Credits)									
	永續領域 Sustainable Category (2 學分) (2 Credits)	永續發展與實踐 (一)	Sustainable Development and Practice (1)	一 1st	上 1st	1	1	0	0	
		永續發展與實踐 (二)	Sustainable Development and Practice (2)	一 1st	下 2nd	1	1	0	0	
(8) Program Elective Credits / 博雅通識 8 學分	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	8	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 8 學分);亦可以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 take at least 2-credit course from each category (8 credits in total); Students could take General Micro-credit Course or Self-Study Course approved by the Center for General Education for credit waiver/transfer. 3. 須於畢業前修畢 8 學分，每學分皆須上滿 18 週。 Students are required to complete 8 credits of General Required (Core) Courses before graduation.
Physical Program / 體育	體育(一)~(四)		Physical Education (1)~(4)	一~二 1st ~ 2nd	上、下 1st, 2nd	0	2	0	0	

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	
涵養教育 Cultivation Education	General Lectures (Required) 通識講座	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. 每一素養至少達到 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。 Student must complete the above for graduation.
	院核心課程 4 學分 (4) College Core Courses	生物統計學	Biostatistics	一 1st	下 2nd	2	2	0	0	
		生理學	Physiology	三 3rd	上 1st	2	2	0	0	
	系核心課程 76 學分 (76) Departmental Core Courses	實驗室安全	Laboratory Safety	一 1st	上 1st	1	1	0	0	
		普通化學	General Chemistry	一 1st	上 1st	2	2	0	0	
		普通化學實驗	General Chemistry Laboratory	一 1st	上 1st	1	0	3	0	
		普通生物學（一）	General Biology (I)	一 1st	上 1st	2	2	0	0	
		普通生物學實驗	General Biology Laboratory	一 1st	上 1st	1	0	3	0	
		組織學	Histology	一 1st	下 2nd	1	1	0	0	
		組織學實驗	Histology Laboratory	一 1st	下 2nd	1	0	3	0	
		有機化學	Organic Chemistry	一 1st	下 2nd	2	2	0	0	
		有機化學實驗	Organic Chemistry Laboratory	一 1st	下 2nd	1	0	3	0	
		寄生蟲學	Parasitology	一 1st	下 2nd	2	2	0	0	
		寄生蟲學實驗	Parasitology Laboratory	一 1st	下 2nd	1	0	3	0	
		生物技術概論	Introduction of Biotechnology	一 1st	下 2nd	1	1	0	0	
		醫學遺傳學	Medical Genetics	二 2nd	上 1st	2	2	0	0	
		生物化學（一）	Biochemistry (I)	二 2nd	上 1st	2	2	0	0	
		生物化學實驗	Biochemistry Laboratory	二 2nd	上 1st	1	0	3	0	
		微生物學	Microbiology	二 2nd	上 1st	2	2	0	0	
		解剖學	Human Anatomy	二 2nd	上 1st	1	1	0	0	
		解剖學實驗	Human Anatomy Laboratory	二 2nd	上 1st	1	0	3	0	
		分析化學與儀器分析	Analytical Chemistry & Instrumental Analysis	二 2nd	上 1st	2	2	0	0	
		分子生物學	Molecular Biology	二 2nd	上 1st	2	2	0	0	
		分子與細胞生物學實驗	Molecular and Cell Biology Laboratory	二 2nd	上 1st	1	0	3	0	
		細胞生物學	Cell Biology	二 2nd	上 1st	2	2	0	0	

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						講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
	細胞診斷及病理切片技術	Diagnostic Cytology and Pathologic Section Techniques	二 2nd	下 2nd	1	1	0	0	
	細胞診斷及病理切片技術實驗	Diagnostic Cytology and Pathologic Section Techniques Experiment	二 2nd	下 2nd	1	0	3	0	
	免疫學	Immunology	二 2nd	下 2nd	2	2	0	0	
	微生物及免疫學實驗	Microbiology and Immunology Laboratory	二 2nd	下 2nd	1	0	3	0	
	生物化學（二）	Biochemistry (II)	二 2nd	下 2nd	2	2	0	0	
	血液學	Hematology	二 2nd	下 2nd	2	2	0	0	
	血液學實驗	Hematology Laboratory	二 2nd	下 2nd	1	0	3	0	
	血庫學	Blood Banking	二 2nd	下 2nd	2	2	0	0	
	血庫學實驗	Blood Banking Laboratory	二 2nd	下 2nd	1	0	3	0	
	臨床血液學	Clinical Hematology	三 3rd	上 1st	2	2	0	0	
	臨床血液學實驗	Clinical Hematology Laboratory	三 3rd	上 1st	1	0	3	0	
	臨床生化學	Clinical Biochemistry	三 3rd	上 1st	3	3	0	0	
	臨床生化學實驗	Clinical Biochemistry Laboratory	三 3rd	上 1st	1	0	3	0	
	臨床血清免疫學	Clinical Serology and Immunology	三 3rd	上 1st	2	2	0	0	
	臨床血清免疫學實驗	Clinical Serology and Immunology Laboratory	三 3rd	上 1st	1	0	3	0	
	臨床鏡檢學	Clinical Microscopy	三 3rd	上 1st	2	2	0	0	
	臨床鏡檢學實驗	Clinical Microscopy Laboratory	三 3rd	上 1st	1	0	3	0	
	醫技專題討論（一）	Seminar in Laboratory Science-I	三 3rd	上 1st	1	1	0	0	
	病理學	Pathology	三 3rd	下 2nd	3	3	0	0	
	臨床生理學	Clinical Physiology	三 3rd	下 2nd	3	3	0	0	
	臨床微生物學	Clinical Microbiology	三 3rd	下 2nd	3	3	0	0	
	臨床微生物學實驗	Clinical Microbiology Laboratory	三 3rd	下 2nd	1	0	3	0	
	臨床病毒學	Clinical Virology	三 3rd	下 2nd	3	3	0	0	
	臨床生理學實驗	Clinical physiology Laboratory	三 3rd	下 2nd	1	0	3	0	
	醫學分子檢驗學	Molecular Diagnosis in Medicine	三 3rd	下 2nd	2	2	0	0	
	醫技專題討論（二）	Seminar in Laboratory Science-II	三 3rd	下 2nd	1	1	0	0	
系專業選修學程 Department Professional Program	智慧醫檢學程 8 學分 Smart medical examination course (8) 智慧醫檢概論	Introduction of Intelligence Medical Laboratory Science	一 1st	上 1st	2	2	0	0	實務型課程 Practical Courses
	醫學檢驗人工智慧與大數據	Artificial Intelligence and Big Data in Medical Laboratory Science	二 2nd	上 1st	1	1	0	0	實務型課程 Practical Courses
	醫學檢驗法規與品質管理及認證	Medical Laboratory Science Regulation and Quality Management and Certification	二 2nd	下 2nd	2	2	0	0	實務型課程 Practical Courses
	醫學檢驗數據整合判讀	LaboratoryIntegration Data Reading for Medical	三 3rd	上 1st	2	2	0	0	實務型課程 Practical Courses
	長期照護之健檢與諮詢	Medical Technology and Consultation in Long-term Care	三 3rd	下 2nd	1	1	0	0	實務型課程 Practical Courses

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							講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
精準生物醫學學程 8 學分 Precision Biomedicine (8)		精準生物醫學概論	Introduction of Precision Biological Medicine	一 1st	上 1st	2	2	0	0	實務型課程 Practical Courses
		人工生殖技術與再生醫學	Assisted Reproductive Technology and Regenerative Medicine	二 2nd	下 2nd	1	1	0	0	學術型課程 Academic Courses
		生物資訊學	Bioinformatics	二 2nd	下 2nd	2	2	0	0	學術型課程 Academic Courses
		高通量技術與分析	High-throughput Data Analysis	三 3rd	上 1st	1	1	0	0	實務型課程 Practical Courses
		精準醫學	Precision Medicine	三 3rd	下 2nd	1	1	0	0	實務型課程 Practical Courses
		實驗室開發試驗設計	Laboratory Development Test Design	三 3rd	下 2nd	1	1	0	0	實務型課程 Practical Courses
clinical medical examination course(26)	臨床醫檢學程 26 學分	*臨床鏡檢學實習	Clinical Microscopy Practice	四 4th	上、下 1st, 2nd	3	0	0	詳見備註 See remarks for details	實務型課程，需實習 120 小時；根據考選部規範，報考醫事檢驗師者，需完成修讀此課程。欲修讀者，本系另有修讀規範。 This practical course requires 120 hours of internship. According to the Ministry of Examination standards, those who apply for the Medical Technologist examination must complete this course. The department has separate study regulations for those who wish to take the course.
		*臨床生理學實習	Practice in clinical physiology practice	四 4th	上、下 1st, 2nd	2	0	0	詳見備註 See remarks for details	實務型課程，需實習 80 小時；根據考選部規範，報考醫事檢驗師者，需完成修讀此課程。欲修讀者，本系另有修讀規範。 This practical course requires 80 hours of internship. According to the Ministry of Examination standards, those who apply for the Medical Technologist examination must complete this course. The department has separate study regulations for those who wish to take the course.

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							講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
		*臨床生化學實習	Clinical Biochemistry Practice	四 4th	上、下 1st, 2nd	3	0	0	詳見備註 See remarks for details	實務型課程,需實習 120 小時;根據考選部規範,報考醫事檢驗師者,需完成修讀此課程。欲修讀者,本系另有修讀規範。 This practical course requires 120 hours of internship. According to the Ministry of Examination standards, those who apply for the Medical Technologist examination must complete this course. The department has separate study regulations for those who wish to take the course.
		*臨床血液學實習	Clinical Hematology Practice	四 4th	上、下 1st, 2nd	2	0	0	詳見備註 See remarks for details	實務型課程,需實習 80 小時;根據考選部規範,報考醫事檢驗師者,需完成修讀此課程。欲修讀者,本系另有修讀規範。 This practical course requires 80 hours of internship. According to the Ministry of Examination standards, those who apply for the Medical Technologist examination must complete this course. The department has separate study regulations for those who wish to take the course.
		*臨床微生物學實習	Clinical Microbiology Practice	四 4th	上、下 1st, 2nd	4	0	0	詳見備註 See remarks for details	實務型課程,需實習 160 小時;根據考選部規範,報考醫事檢驗師者,需完成修讀此課程。欲修讀者,本系另有修讀規範。 This practical course requires 160 hours of internship. According to the Ministry of Examination standards, those who apply for the Medical Technologist examination must complete this course. The department has separate study regulations for those who wish to take the course.

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						講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
	*臨床血清免疫學實習	Clinical Serology & Immunology Practice	四 4th	上、下 1st, 2nd	2	0	0	詳見備註 See remarks for details	實務型課程，需實習80小時；根據考選部規範，報考醫事檢驗師者，需完成修讀此課程。欲修讀者，本系另有修讀規範。 This practical course requires 80 hours of internship. According to the Ministry of Examination standards, those who apply for the Medical Technologist examination must complete this course. The department has separate study regulations for those who wish to take the course.
	*臨床病毒學實習	Clinical Virology Practice	四 4th	上、下 1st, 2nd	1	0	0	詳見備註 See remarks for details	實務型課程，需實習40小時；根據考選部規範，報考醫事檢驗師者，需完成修讀此課程。欲修讀者，本系另有修讀規範。 This practical course requires 40 hours of internship. According to the Ministry of Examination standards, those who apply for the Medical Technologist examination must complete this course. The department has separate study regulations for those who wish to take the course.
	*醫學分子檢驗實習	Molecular Diagnosis in Medicine andPractice	四 4th	上、下 1st, 2nd	1	0	0	詳見備註 See remarks for details	實務型課程，需實習40小時；根據考選部規範，報考醫事檢驗師者，需完成修讀此課程。欲修讀者，本系另有修讀規範。 This practical course requires 40 hours of internship. According to the Ministry of Examination standards, those who apply for the Medical Technologist examination must complete this course. The department has separate study regulations for those who wish to take the course.

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						講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
	*血庫學實習	Blood Banking Practice	四 4th	上、下 1st, 2nd	1	0	0	詳見備註 See remarks for details	實務型課程，需實習 40 小時；根據考選部規範，報考醫事檢驗師者，需完成修讀此課程。欲修讀者，本系另有修讀規範。 This practical course requires 40 hours of internship. According to the Ministry of Examination standards, those who apply for the Medical Technologist examination must complete this course. The department has separate study regulations for those who wish to take the course.
	*病理學實習（含病理切片與細胞診斷）	Pathology Practice including Histopathologic & Cytology Practice	四 4th	上、下 1st, 2nd	1	0	0	詳見備註 See remarks for details	實務型課程，需實習 40 小時；根據考選部規範，報考醫事檢驗師者，需完成修讀此課程。欲修讀者，本系另有修讀規範。 This practical course requires 40 hours of internship. According to the Ministry of Examination standards, those who apply for the Medical Technologist examination must complete this course. The department has separate study regulations for those who wish to take the course.
	臨床生理學與病理學總論	General Review on Clinical Physiology and Pathology	四 4th	下 2nd	1	1	0	0	實務型課程(選本學程的學生選修) Practical courses (optional for students choosing this course)
	臨床血液學與血庫學總論	General Review on Clinical Hematology and Blood Banking	四 4th	下 2nd	1	1	0	0	實務型課程(選本學程的學生選修) Practical courses (optional for students choosing this course)
	醫學分子檢驗學與臨床鏡檢學總論	General Review on Molecular Diagnosis and Clinical Microscopy Practice	四 4th	下 2nd	1	1	0	0	實務型課程(選本學程的學生選修) Practical courses (optional for students choosing this course)
	臨床微生物學總論	General Review on Clinical Microbiology	四 4th	下 2nd	1	1	0	0	實務型課程(選本學程的學生選修) Practical courses (optional for students choosing this course)

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						講授 Lecture	實作(驗) Practice (laboratory)	實習 Intern	
	臨床生化學總論	General Review on Clinical Biochemistry	四 4th	下 2nd	1	1	0	0	實務型課程(選本學程的學生選修) Practical courses (optional for students choosing this course)
	臨床血清免疫學與臨床病毒學總論	General Review on Clinical Serology & Immunology and Virology	四 4th	下 2nd	1	1	0	0	實務型課程(選本學程的學生選修) Practical courses (optional for students choosing this course)
(19) 系自由選修課程 19 學分 (19) Department Elective Courses	普通生物學（二）	General Biology (II)	一 1st	下 2nd	2	2	0	0	學術型課程 Academic Courses
	奈米技術及生醫材料	Nanotechnology and Biomedical Material	二 2nd	上 1st	2	2	0	0	學術型課程 Academic Courses
	應用微生物學	Applied Microbiology	二 2nd	下 2nd	2	2	0	0	實務型課程 Practical Courses
	生物科技專利搜尋與管理	Biotechnology Patent Search and Management	三 3rd	上 1st	2	2	0	0	實務型課程 Practical Courses
	基因工程	Genetic Engineering	三 3rd	上 1st	2	2	0	0	實務型課程 Practical Courses
	生技產品創新與開發	Innovation and Development of Biotech Products	三 3rd	下 2nd	2	2	0	0	實務型課程 Practical Courses
	臨床病毒學實驗	Clinical Virology Laboratory	三 3rd	下 2nd	1	0	3	0	實務型課程 Practical Courses
	植物病原微生物檢測技術	Cause of Plant Disease Microorganism Examination Technology	四 4th	下 2nd	2	2	0	0	實務型課程 Practical Courses
	校外實習	Off-campus Internship	四 4th	下 2nd	1	1	0	0	學術型課程 Academic Courses
	論文專題研究	Research Project	四 4th	下 2nd	1	1	0	0	學術型課程 Academic Courses
	生物科技研究趨勢分析	Biotechnology Research Trend Analysis	四 4th	下 2nd	2	2	0	0	學術型課程 Academic Courses
(16) 他系應用生技與管理專長學程 16 學分 (16) Department of Applied Biotechnology and Management Specialty Program	分子生物學	Molecular Biology	二 2nd	上 1st	2	2	0	0	
	奈米技術及生醫材料	Nanotechnology and Biomedical Material	二 2nd	上 1st	2	2	0	0	
	微生物學	Microbiology	二 2nd	上 1st	2	2	0	0	
	應用微生物學	Applied Microbiology	二 2nd	下 2nd	2	2	0	0	
	生物科技專利搜尋與管理	Biotechnology Patent Search and Management	三 3rd	上 1st	2	2	0	0	
	基因工程	Genetic Engineering	三 3rd	上 1st	2	2	0	0	
	生技產品創新與開發	Innovation and Development of Biotech Products	三 3rd	下 2nd	2	2	0	0	
	植物病原微生物檢測技術	Cause of Plant Disease Microorganism Examination Technology	四 4th	下 2nd	2	2	0	0	

備註：

一、 學生含通識課程應修畢128學分，需修習校定必修、院核心課程、本系系核心課程及至少選修一個本系「專業學程」始能畢業(不含臨床醫檢學程)，不足畢業學分數，得自由選修除通識課程(含校定必修、體育(五)及體育(六))以外之其他課程、學程學分補足之。

二、 本系學生修課規定，請參閱亞洲大學醫學檢驗暨生物技術學系大學部修業規定。

三、 全校跨領域學程網頁介紹，請參考http://web.asia.edu.tw/files/13-1000-19862.php?Lang=zh-tw。

四、 他系專長規劃詳情請參考 https://mlsb.asia.edu.tw/zh_tw/curriculum/course_plan_6。

Note:

1. Students should complete 128 credits of general courses. They must take the school's compulsory courses, core courses of the college, core courses of the department, and at least one elective "professional course" of the department before they can graduate (excluding clinical medical laboratory science) Course), if the credits are insufficient for graduation, they may freely elect other courses and courses other than General Education (including University Required Credits, Physical Education (5) and Physical Education (6)) to make up for the credits.

2. For the course regulations for students in this department, please refer to the undergraduate course regulations of the Department of Medical Laboratory Science and Biotechnology, Asia University.

3. For an introduction to the Interdisciplinary Course Program webpage, please refer to http://web.asia.edu.tw/files/13-1000-19862.php?Lang=zh-tw.

4. For details on the specialty planning of other departments, please refer to https://mlsb.asia.edu.tw/zh_tw/curriculum/course_plan_6.

系所主管簽章： 醫學檢驗暨生物技術學系系主任 陳世順

學院院長簽章： 醫學暨健康學院 院長 吳俊忠

教務處
114. 6. 19
收件