

系所課程地圖 Department Curriculum Map

系所概要 Department	
系所名稱 Department Name	生命科學系 Department of Life Sciences
班別 Division	碩士班(丙組) Master's Program (Biomedical Technology program)

教育目標 Education Goals	
編號 Number	項目內容 Content
A	養成尖端生物科技之產業研發人力 Develop industry professionals for cutting-edge biotechnology research and development
B	培養跨領域的思惟模式 Foster interdisciplinary thinking
C	具備專業生物知識與生物技術研發能力 Possess professional biological knowledge and biotechnology research capabilities

學生核心能力 Student Core Competencies		
編號 Number	項目內容 Content	對應教育目標編號 Corresponding Education Goal Number
A	生物技術實驗能力 Training the ability of performing biotechnological experiments	ABC
B	了解生物分子的功能和調節作用 Realizing the functions and regulatory mechanisms of biological	AC
C	追求最新生物學發展的熱誠 The passion for seeking new development of biology	ABC

※附註 Note:
 1.各系所所屬之班別，含學士班、碩士班、博士班等，請分別填寫。1. Complete the map separately for each division, including Bachelor's, Master's, and Doctoral program.
 例如：資管學士班需填寫表二及表三；資管碩士班也須填寫表二及表三。For example, Forms 2 and 3 must be completed for Bachelor's program in Management Information Systems, and also for Master's program in for Bachelor's program in Management Information Systems.
 2.教育目標及核心能力之代號皆以英文字母大寫為主。2. Codes for Education Goals and Core Competencies must be in uppercase English alphabet letters.
 3.可依不同班(組)別填寫教育目標及核心能力。3. Education Goals and Core Competencies can be specific to the division in question.

承辦人簽章 Signature of Processing Clerk: 規劃單位主管簽章 Head of Planning Unit: 年 月 日 Date:

課程規畫表 Curriculum Plan

中文課程名稱 Course Title in Chinese	英文課程名稱 Course Title in English	規劃要點 (附註) Plans (Notes)				對應核心能力編號 Corresponding Education Goal Number	建議修課年級 Recommended Year of Study	開課單位 Course Offering Unit	備註 Remarks
		1	2	3	4				
院核心課程(若無免填，請加註必修、選修) College Core Courses (not required if none, otherwise please indicate Required Courses and Elective Courses)									
必修課程 Required Courses									
專題討論(一) a	Seminar (I) a	M	C	S	1	AC	1	生科系 Dept. of Life Sciences	
專題討論(一)b	Seminar (I) b	M	C	S	1	AC	1	生科系 Dept. of Life Sciences	
專題討論(一)c	Seminar (I) c	M	C	S	1	AC	1	生科系 Dept. of Life Sciences	
專題討論(二)a	Seminar (II) a	M	C	S	1	AC	1	生科系 Dept. of Life Sciences	
專題討論(二)b	Seminar (II) b	M	C	S	1	AC	1	生科系 Dept. of Life Sciences	
專題討論(二)c	Seminar (II) c	M	C	S	1	AC	1	生科系 Dept. of Life Sciences	
畢業論文	Master Thesis	M	C		6	AC	*	生科系 Dept. of Life Sciences	
實驗室安全衛生	Laboratory Safety and Health	M	A	S	1	A	1	生科系 Dept. of Life Sciences	

※附註：規劃要點填表說明：(1 到 4 各欄位請填正確代表字母)

Note: Instructions for completing this form are provided below (please provide the correct English alphabet letters in fields 1 to 4)

1 : U-學士課程、M-碩士課程、D-博士課程。1: U-Bachelor's program, M-Master's program, D-Doctoral program.

2 : A-正課、B-實習課、C-台下指導之科目如學生講述或邀請演講之專題討論、專題研究……等。

2: A-Lecture, B-Internship, C-Subjects with private guidance such as student presentations or invited speeches, topic discussions, topic research, etc.

3 : S-學期課、Y-學年課。3: S-Semester course, Y-Year-long course.

4 : 科目(全期或全年)總學分數(請填阿拉伯數字)。4: Total course (full-semester or full-year) credits (in Arabic numerals).

承辦人簽章 Signature of Processing Clerk:

規劃單位主管簽章 Head of Planning Unit:

年 月 日 Date:

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		1	2	3	4				
選修課程 Elective Courses									
物理化學	Physical Chemistry	M	A	S	4	A		生科系 Dept. of Life Sciences	
科學論文寫作	Writing a Scientific Paper	M	A	S	2	AC		生科系 Dept. of Life Sciences	
古生菌學	Archaea	M	A	S	3	BC		生科系 Dept. of Life Sciences	
植物氮素代謝	Plant Nitrogen Metabolism	M	A	S	3	B		生科系 Dept. of Life Sciences	
微生物遺傳學	Microbial Genetics	M	A	S	3	B		生科系 Dept. of Life Sciences	
分子細胞生物學	Molecular Cell Biology	M	A	S	2	AB		生科系 Dept. of Life Sciences	
生物物理學專題研究 (一)	Independent Study and Research: Biophysics (I)	M	C	S	2	BC		生科系 Dept. of Life Sciences	
生物光譜學	Biological Spectroscopy	M	A	S	3	A		生科系 Dept. of Life Sciences	
分子生理學	Molecular Physiology	M	A	S	2	B		生科系 Dept. of Life Sciences	
肌肉蛋白專題研究 (一)	Independent Study and Research: Muscle Proteins (I)	M	C	S	2	BC		生科系 Dept. of Life Sciences	
腫瘤細胞學專題研究(一)	Independent Study and Research: Cancer Biology (I)	M	C	S	2	BC		生科系 Dept. of Life Sciences	
分子胚胎專題研究(一)	Independent Study and Research: Molecular Embryology (I)	M	C	S	2	BC		生科系 Dept. of Life Sciences	
分子發育生物學特論	Special Topics in Molecular Developmental Biology	M	A	S	3	BC		生科系 Dept. of Life Sciences	
肌肉蛋白專題研究 (二)	Independent Study and Research: Muscle Proteins (II)	M	C	S	2	BC		生科系 Dept. of Life Sciences	
分子胚胎專題研究(二)	Independent Study and Research: Molecular Embryology (II)	M	C	S	2	BC		生科系 Dept. of Life Sciences	
微生物生理學	Microbial Physiology	M	A	S	3	B		生科系 Dept. of Life Sciences	
植物次級代謝物	Plant Secondary Metabolism	M	A	S	3	B		生科系 Dept. of Life Sciences	
生物能量學	Bioenergetics	M	A	S	2	B		生科系 Dept. of Life Sciences	
生物物理學專題研究 (二)	Independent Study and Research: Biophysics (II)	M	C	S	2	BC		生科系 Dept. of Life Sciences	
分子酶學特論	Special Topics in Molecular Enzymology	M	A ⁺ B	S	2	B		生科系 Dept. of Life Sciences	
生物物理學特論	Special Topics in Biophysics	M	A	S	3	B		生科系 Dept. of Life Sciences	
環境生理學專題討論	Special Topics in Environmental Physiology	M	C	S	2	BC		生科系 Dept. of Life Sciences	
成體幹細胞學導論	Introduction to Adult Stem Cells	M	A	S	3	B		生科系 Dept. of Life Sciences	
細胞生物學特論	Special Topics in Cell Biology	M	A	S	2	B		生科系 Dept. of Life Sciences	
免疫學概論	Introduction to Immunology	M	A	S	2	B		生科系 Dept. of Life Sciences	
分子酶學專題研究 (一)	Independent Study and Research: Molecular Enzymology (I)	M	C	S	2	BC		生科系 Dept. of Life Sciences	
藥物與腫瘤特論	Chemicals and Cancers	M	A	S	3	BC		生科系 Dept. of Life Sciences	暑期授課 Summer course 進階課程 Advanced course 英文/EMI
分子酶學專題研究 (二)	Independent Study and Research: Molecular Enzymology (II)	M	C	S	2	BC		生科系 Dept. of Life Sciences	
內分泌及癌症	Endocrinology and Cancer	M	A	S	3	B		生科系 Dept. of Life Sciences	
酵素動力學	Enzyme Kinetics	M	A ⁺ B	S	2	B		生科系 Dept. of Life Sciences	
分子發育生物學特論	Special Topics in Molecular Developmental Biology	M	A	S	2	B		生科系 Dept. of Life Sciences	
生技產業暑期校外實習	Summer Laboratory Practice in Biotech Company	M	B	S	2	AC		生科系 Dept. of Life Sciences	進階課程 Advanced course
農桿菌生物學	Agrobacterium Biology	M	A	S	3	A		生科系 Dept. of Life Sciences	
植物逆境分子生理學	Plant Stress and Molecular Physiology	M	A	S	3	A		生科系 Dept. of Life Sciences	
禽鳥胚胎實驗動物	Avian Embryos as Model Animal	M	A	S	2	A		生科系 Dept. of Life Sciences	
高等植物耐鹽機制	Mechanisms of Salt Tolerance in Higher Plants	M	A	S	2	A		生科系 Dept. of Life Sciences	
滲透壓調控	Osmoregulation	M	A	S	2	A		生科系 Dept. of Life Sciences	
神經幹細胞學	Neural Stem Cells	M	A	S	2	B		生科系 Dept. of Life Sciences	
心血管幹細胞學	Cardiovascular Stem Cells	M	A	S	2	B		生科系 Dept. of Life Sciences	
生殖幹細胞學實驗	Experiment for Germ Cell Biology	M	B	S	1	ABC		生科系 Dept. of Life Sciences	
臨床神經幹細胞學	Clinical Neural Stem Cell Biology	M	A	S	2	ABC		生科系 Dept. of Life Sciences	
臨床神經幹細胞學實驗	Experiment for Clinical Neural Stem Cells	M	B	S	1	ABC		生科系 Dept. of Life Sciences	
生物技術產業見習參訪	Practice on Biotechnology Industry	M	B	S	2	C		生科系 Dept. of Life Sciences	
極端微生物專題研究(一)	Special Topics in Extremophiles(I)	M	C	S	2	ABC		生科系 Dept. of Life Sciences	

極端微生物專題研究(二)	Special Topics in Extremophiles(II)	M	C	S	2	ABC	生科系 Dept. of Life Sciences	
腫瘤幹細胞學	Cancer Stem Cells	M	A	S	1	BC	生科系 Dept. of Life Sciences	
腫瘤幹細胞學實驗	Experiment of Cancer Stem Cells	M	B	S	1	AC	生科系 Dept. of Life Sciences	
從產業學界看臺灣生技產業	Biotechnology Industry in Taiwan	M	A	S	1	BC	生科系 Dept. of Life Sciences	
水產生物安全與健康養殖	Bio-safety of Aquatic Animals and Healthy Aquaculture	M	A	S	1	BC	生科系 Dept. of Life Sciences	
水產生物安全檢驗高階儀器操作	Operation of Instruments for Examination in the Safety of Aquatic	M	B	S	1	AC	生科系 Dept. of Life Sciences	
水產蛋白質體學實驗室課	Aquatic Proteomics Laboratory	M	B	S	1	ABC	生科系 Dept. of Life Sciences	
功能性基因體學實驗室在水產生物之應用	Functional Genomics Laboratory of the Aquatic Organisms	M	B	S	1	ABC	生科系 Dept. of Life Sciences	
組織病理學實驗室在水產生物的應用	Histopathological Techniques Laboratory of the Aquatic Organisms	M	B	S	1	AC	生科系 Dept. of Life Sciences	
蛋白質體學實驗室在水產生物上之應用	Proteomics Laboratory in Aquatic Organisms	M	B	S	1	ABC	生科系 Dept. of Life Sciences	
生殖幹細胞學	Germ Cell Biology	M	A	S	2	ABC	生科系 Dept. of Life Sciences	
動物細胞培養	Culture of Animal Cells	M	A	S	1	A	生科系 Dept. of Life Sciences	進階課程 Advanced course 英文/EMI
分子細胞生物學(一)	Molecular Cell Biology(I)	M	A	S	3	ABC	生科系 Dept. of Life Sciences	
細胞訊息傳導特論(一)	Special topics on cell signalling (I)	M	A	S	2	ABC	生科系 Dept. of Life Sciences	
細胞訊息傳導特論(二)	Special topics on cell signalling (II)	M	A	S	2	ABC	生科系 Dept. of Life Sciences	
活體分子影像技術	Advance Technology for Molecular Living Imagin	M	A	S	1	BC	生科系 Dept. of Life Sciences	
活體分子影像技術實作	Experiments for Molecular Living Imaging	M	B	S	1	BC	生科系 Dept. of Life Sciences	
基因與疾病-神經系統疾病特論	Genes and human diseases – special topics in neurological disorders	M	A	S	3	ABC	生科系 Dept. of Life Sciences	進階課程 Advanced course
產業微生物育種學	Breeding of Industrial Microorganism	M	A	S	2	AC	生科系 Dept. of Life Sciences	先修科目:微生物學、應用微生物學 Prerequisites:Microbiology,Applied Microbiology 進階課程 Advanced course
基礎癌症生物學	Fundamentals of Cancer Biology	M	A	S	2	BC	生醫所 Institute of Biomedical Sciences	進階課程 Advanced course 英文/EMI
精準醫學之分子篩檢·診斷與治療	Molecular Screening, Diagnosis and Treatment in Precision Medicine	M	A	S	1	C	生科系 Dept. of Life Sciences	進階課程 Advanced course 暑期授課 Summer course 計畫課程 Program course
基因體醫學之技術發展與應用	Genomic Medicine-Technical Development and Application	M	A	S	1	C	生科系 Dept. of Life Sciences	進階課程 Advanced course 暑期授課 Summer course 計畫課程 Program course
細胞與基因治療之發展與臨床應用	Development and Clinical Application of Cell and Gene Therapy	M	A	S	1	C	生科系 Dept. of Life Sciences	進階課程 Advanced course 暑期授課 Summer course 計畫課程 Program course
精準醫學與AI智能實作	Practice in Precision Medicine and Artificial Intelligence	M	B	S	2	A	生科系 Dept. of Life Sciences	進階課程 Advanced course 暑期授課 Summer course 計畫課程 Program course
精準醫學產業實習	Internship in Precision Medicine Industry	M	B	S	1	A	生科系 Dept. of Life Sciences	進階課程 Advanced course 暑期授課 Summer course 計畫課程 Program course
精準醫學之創新創業	Innovation and Entrepreneurship in Precision Medicine	M	A	S	1	C	生科系 Dept. of Life Sciences	進階課程 Advanced course 計畫課程 Program course
精準醫學國際行銷·經營策略與法規	Precision Medicine: International Marketing, Business Strategy and Regulations	M	A	S	1	C	生科系 Dept. of Life Sciences	進階課程 Advanced course 暑期授課 Summer course 計畫課程 Program course
癌症轉譯醫學	Translational Medicine in Cancer Rresearch	M	A	S	2	ABC	生科系 Dept. of Life Sciences	
微生物學操作技術	Experiments of Micrbiology	M	A+ B	S	2	A	生科系 Dept. of Life Sciences	進階課程 Advanced course
桿狀病毒基因工程學與實驗	Genetic Engineering and Experiment of Baculovirus	M	A+ B	S	2	A	昆蟲系 Dept. of Entomology	進階課程 Advanced course
組織工程學	Tissue engineering	M	A	S	2	ABC	生科系 Dept. of Life Sciences	進階課程 Advanced course 英文/EMI
健康大數據之智能應用	Intelligent Application of Health Big Data	M	A	S	1	C	生科系 Dept. of Life Sciences	進階課程 Advanced course 暑期授課 Summer course 計畫課程 Program course

精準醫學之高齡科技產業應用	Industrial Application in Gerontechnology	M	A	S	1	C	生科系 Dept. of Life Sciences	進階課程 Advanced course 暑期授課 Summer course 計畫課程 Program course
本地跨國精準醫學產業實習	Local Multinational Internship in Precision Medicine Industry	M	B	S	1	C	生科系 Dept. of Life Sciences	進階課程 Advanced course 暑期授課 Summer course 計畫課程 Program course
國外精準醫學產業實習	Foreign Internship in Precision Medicine Industry	M	B	S	1	C	生科系 Dept. of Life Sciences	進階課程 Advanced course 暑期授課 Summer course 計畫課程 Program course
生物資訊學暨實習	Bioinformatics-Lecture and Experiment	M	A+ B	S	2	A	生科系 Dept. of Life Sciences	進階課程 Advanced course
學術口頭報告之指導與培訓	Supervision and training of professional oral presentation	M	A	S	2	C	生科系 Dept. of Life Sciences	進階課程 Advanced course
生科大師講座(一)	Master Lecture in Life Sciences (I)	M	A	S	2	C	生科系 Dept. of Life Sciences	進階課程 Advanced course
生科大師講座(二)	Master Lecture in Life Sciences (II)	M	A	S	2	C	生科系 Dept. of Life Sciences	進階課程 Advanced course
老化及老化相關疾病特論	Ageing and Ageing-Associated Diseases	M	A	S	2	BC	生科系 Dept. of Life Sciences	進階課程 Advanced course
基因體醫學及分子篩檢	Genomic Medicine and Molecular Screening	M	A	S	2	BC	生科系 Dept. of Life Sciences	進階課程 Advanced course
分子醫學導讀	Introduction to Molecular Medicine	M	A	S	2	ABC	生科系 Dept. of Life Sciences	進階課程 Advanced course
生技創業核心	Foundation of Entrepreneurship Management in Biotech Industry	M	A	S	3	C	生科系 Dept. of Life Sciences	進階課程 Advanced course
生技創業實務	Practice on Entrepreneurship in Biotech Industry	M	A	S	3	C	生科系 Dept. of Life Sciences	進階課程 Advanced course
小分子活化 RNA 特論(一)	Special Topics on Small-activating RNA (I)	M	A	S	2	BC	生科系 Dept. of Life Sciences	
小分子活化 RNA 特論(二)	Special Topics on Small-activating RNA (II)	M	A	S	2	BC	生科系 Dept. of Life Sciences	

※附註：規劃要點填表說明：(1 到 4 各欄位請填正確代表字母)

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承辦人簽章 Signature of Processing Clerk:

規劃單位主管簽章 Head of Planning Unit:

年 月 日 Date: