

111學年度系所課程地圖

Department Curriculum Map for the 111 Academic Year

系所概要 Department	
系所名稱	微生物基因體學博士學位學程 Doctoral Program in Microbial Genomics
班別	

教育目標 Education Goals	
編號 Number	項目內容 Content
1	培育微生物遺傳基礎研究之專業人才 Cultivating professionals in fundamental research on microbial genetics
2	培植應用微生物於農業生技研究及產業開發之專業人才 Training professionals for the application of microorganisms in agricultural biotechnology research and industry development
3	培養應用微生物於生物醫學研究及產業開發之專業人才 Developing professionals for the application of microorganisms in biomedical research and industry development
4	培訓應用微生物於自然資源研究及產業開發之專業人才 Educating professionals for the application of microorganisms in natural resource research and industry development

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	微生物學相關知識 Knowledge of microbiology	1, 2, 3, 4
B	微生物遺傳學相關知識與研究能力 Knowledge and research skills in microbial genetics	1, 2, 3, 4
C	微生物基因體學相關知識與分析技術 Knowledge and analytical techniques in microbial genomics	1, 2, 3, 4
D	微生物多樣性與自然資源之相關知識與分析技術 Knowledge and analytical techniques in microbial diversity and natural resources	1, 2, 4
E	微生物致病機制與代謝工程相關知識與研究能力 Knowledge and research skills in microbial pathogenesis and metabolic engineering	1, 2, 3

F	生物資訊軟體之研發與應用能力 Development and application skills in bioinformatics software	1, 2, 3, 4
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※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.

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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: 110 年11月02日 Date:2021/11/02

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 Correspon ding Education Goal Number	建議 修課 年級 Reco mmen ded Cours e	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									
微生物遺傳學	Microbial Genetics	M	A	S	3	ABC	1~2	生命科學系 Department of Life Sciences	
生物資訊學導論	Introductory to Bioinformatics	M	A	S	3	DEF	1~2	生物科技學 研究所 Graduate Institute of Biotechnolog y	
生物計算學 I	Biological Computing (I)	D	A	S	3	DEF	1~2	生技博/國際 研究生學程 MBAS	
博士論文	Dissertation	D	C	Y	12	ABCDEF	3~5	微生物基因 體學博士學 位學程 Doctoral Program in Microbial Genomics	(中央研究 院) Academia Sinica

微生物基因體學特論(一)	Special Topics in Microbial Genomics (I)	D	A	S	1	ABCDEF	1	微生物基因體學博士學位學程 Doctoral Program in Microbial Genomics	1102新增 Added in Semester 1102
微生物基因體學特論(二)	Special Topics in Microbial Genomics (II)	D	A	S	1	ABCDEF	1	微生物基因體學博士學位學程 Doctoral Program in Microbial Genomics	1102新增 Added in Semester 1102
微生物基因體學特論(三)	Special Topics in Microbial Genomics (III)	D	A	S	1	ABCDEF	2	微生物基因體學博士學位學程 Doctoral Program in Microbial Genomics	1102新增 Added in Semester 1102
微生物基因體學特論(四)	Special Topics in Microbial Genomics (IV)	D	A	S	1	ABCDEF	2	微生物基因體學博士學位學程 Doctoral Program in Microbial Genomics	1102新增 Added in Semester 1102

※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:

110年 11月 2日 Date: 2021/11/02

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				
選修課程 Elective Courses									
專題討論與學術研討會	Seminars and Symposia	D	C	Y	2	ABCDEF	1~5	生技博/國際研究生學程 MBAS	(中央研究院) Academia Sinica
分子與細胞學之研究系統與方法	Experimental Approaches in Molecular and Cell Biology	M	A	Y	4	ABC	1~3	生技博/國際研究生學程 MBAS	(中央研究院) Academia Sinica
分子與細胞生物學	Molecular and Cell Biology	M	A	S	3	ABC	1~3	生技博/國際研究生學程 MBAS	(中央研究院) Academia Sinica
農業微生物學	Agricultural Microbiology	M	A	S	3	ABC	1~3	生技博/國際研究生學程 MBAS	(中央研究院) Academia Sinica
生物計算學 II	Biological Computing (II)	M	A	S	2	DEF	1~3	生技博/國際研究生學程 MBAS	(中央研究院) Academia Sinica
病毒與細胞交互作用	Virus and Cell Interaction	M	A	S	2	ABC	1~3	微生物基因體學博士學位學程 Doctoral Program in Microbial Genomics	(中央研究院) Academia Sinica

基因體學和系統生物學	Genomics & Systems Biology	M	A	S	3	CDEF	1~3	微生物基因體學博士學位學程 Doctoral Program in Microbial Genomics	(中央研究院) Academia Sinica
計算生物學之進階演算法	Advanced Algorithm	M	A	S	3	DF	1~3	微生物基因體學博士學位學程 Doctoral Program in Microbial Genomics	(中央研究院) Academia Sinica
進階統計方法	Advanced Statistics	M	A	S	3	DF	1~4	微生物基因體學博士學位學程 Doctoral Program in Microbial Genomics	(中央研究院) Academia Sinica
微生物遺傳學特論	Advanced Microbial Genetics	M	A	S	3	ABC	1~3	植物病理學系 Department of Plant Pathology	
植物病原致病機制導論	Introduction to Molecular for Infection Activity of Plant Pathogens	M	A	S	3	ABCE	1~3	植物病理學系 Department of Plant Pathology	
真菌分子遺傳學特論	Advanced Molecular Fungal Genetics	M	A	S	3	ABC	1~3	植物病理學系 Department of Plant Pathology	

植物基因轉殖技術	Transgenic Plant Technology	M	AB	S	3	ABC	1~3	植物病理學系 Department of Plant Pathology	
微生物訊息傳遞機制與生理機能調控	Microbial Communication – Mechanisms and Regulation of Physiological Functions	M	A	S	3	ABCDE	1~3	植物病理學系 Department of Plant Pathology	
分子病毒學	Molecular Virology	M	A	S	3	ABCE	1~3	生物科技學研究所 Graduate Institute of Biotechnology	
核酸結構與功能	RNA Structure and Function	M	A	S	3	ABCF	1~3	生物科技學研究所 Graduate Institute of Biotechnology	
分子生物學原理與技術	Principle & Techniques in Molecular Biology	M	A	S	4	ABC	1~3	生物科技學研究所 Graduate Institute of Biotechnology	
植物基因體學技術	Experimental Techniques in Plant Genomics : with Practice	M	AB	S	2	DEF	1~3	生物科技學研究所 Graduate Institute of Biotechnology	
生物化學特論	Special Topics in Biochemistry	M	A	S	3	ABCDEF	1~3	生物科技學研究所 Graduate Institute of Biotechnology	
基因體學	Genomics	M	A	S	3	ABCF	1~3	農藝學系 Department of Agronomy	

統計理論	Statistical Theory	M	A	S	3	DF	1~4	農藝學系 Department of Agronomy	
應用分子遺傳學	Applied Molecular Genetics	M	A	S	3	ABCDEF	1~3	動物科學系 Department of Animal Science	
細胞訊息傳遞導論	Introduction to Cell Signaling	M	AB	S	3	ABCDE	1~3	動物科學系 Department of Animal Science	
環境微生物學特論	Special Topics in Environmental Microbiology	M	A	S	3	ABCDE	1~3	土壤環境科學系 Department of Soil and Environmental Sciences	
植物代謝體學	Plant Metabonomics	M	A	S	2	DEF	1~3	森林學系 Department of Forestry	
植物代謝體學分析技術	Methods in Plant Metabonomics	M	A	S	2	DEF	1~3	森林學系 Department of Forestry	
微生物生理學	Microbial Physiology	M	A	S	3	AC	1~3	生命科學系 Department of Life Sciences	
太古生物的生態、代謝與分子生物	Archaea : Ecology、Metabolism and Molecular Biology	M	A	S	2	ABC	1~3	生命科學系 Department of Life Sciences	

原核生物新知探討	Frontiers in Prokaryote Biology	M	A	S	3	ABC	1~4	分子生物學研究所 Graduate Institute of Molecular Biology	
細胞核	The Nucleus	M	A	S	3	ABCD	1~3	分子生物學研究所 Graduate Institute of Molecular Biology	
細菌遺傳學	Bacterial Genetics	M	A	S	3	ABC	1~3	生物化學研究所 Graduate Institute of Biochemistry	
酵母菌模式之生物醫學應用	Biomedical Research in Yeast Model System	M	A	S	2	ABCE	1~3	生物醫學研究所 Graduate Institute of Biomedical Sciences	
DNA定序與序列資料分析	Introduction to DNA Sequencing and Sequence Data Analysis	D	A	S	2	ABCDEF	1~3	微生物基因體學博士學位學程 Doctoral Program in Microbial Genomics	

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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: 110 年 11 月 2 日 Date: 2021/11/02									