

## Ming Chuan University Department of Biotechnology Course Outline for all students entering in 2022

	Course	Credits	Hours	1 <sup>st</sup> year				2 <sup>nd</sup> year				Note
				Fall		Spring		Fall		Spring		
				class	lab	class	lab	class	lab	class	lab	
General Required Courses	Applied English Communication (I)	2	2	2								
	Applied English Communication (II)	2	2			2						
	Subtotal	4										
Professional Required Courses	Seminar 1	1	1	1								
	Seminar 2	1	1			1						
	Subtotal	2										
Professional Elective Courses	Structure biology	2	2	2								
	Plant biochemistry	2	2	2								
	Special Issues for Virology	2	2	2								
	Special Topics of Biotechnology	2	2	2								
	Advanced Biochemistry	3	3	3								
	Research Methodology in Biotechnology1	2	2	2								Core lab.
	Research Methodology in Biotechnology2	2	2			2						Core lab.
	Special topics in genomics	2	2			2						
	Cancer biology	2	2			2						
	Special topics in microbe-cell interactions	2	2			2						
	Enzyme and protein engineering	2	2			2						
	Aging Physiology	2	2					2				
	Manipulation and Management of Laboratory Animals	2	2					2				
	Protein Modification and Gene Regulation	2	2					2				
Seminar 3	1	1					1					
Seminar 4	1	1							1			



Notes	<ol style="list-style-type: none"><li>1. Courses from focused course programs set up by any individual Health Technology department or cooperatively between HT and other Schools can be regarded as the BT professional elective courses under the condition of approval by the department chair. Professional courses selected from other Schools also have to be approved by the chair, otherwise they cannot be counted toward students' final grades.</li><li>2. Our masters' students are required to earn at least 28 credits (from both required and elective courses) before they can graduate. Moreover, according to MCU regulations, our masters' students must pass all degree-related exams and the Basic Professional Capacity Test before they can graduate.</li><li>3. In accordance with the MOE standard, it is required that MCU graduate students reach the CEFR B1 English Proficiency Level before graduation (According to the school's regulations, students who need to achieve more than 550 on their TOEIC test or the one who pass the oral exam on GEPT Intermediate Test, etc.) Any student who does not reach the standard is required to complete two 2-credit Applied English courses.</li><li>4. The newly added elective courses in this academic year can be applied retroactively to students who entered the university prior to the 2022-2023 academic year.</li><li>5. Students should meet the requirements of Ming Chuan University Guidelines for Taking Academic Ethics Education Course prior applying for the Oral Examination for Thesis Plan.</li><li>6. Seminar III and IV are required courses for professional electives. If students cannot graduate in the first grade, they must choose the course according to their grade.</li><li>7. Advanced Biochemistry is a required course for professional electives. However, it will not affect the student's graduation if failed.</li></ol>
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