## Ming Chuan University Department of Biotechnology Course Outline for all students entering in 2015

			Credits	Hours	1 <sup>st</sup> year			2 <sup>nd</sup> year					
					Fall		Spring		Fall		Spring		Note
					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	rofessional Required Seminar 1		1	1	1								
To the state of th	Seminar 2		1	1			1						
	Seminar 3		1	1					1				
	Seminar 4		1	1							1		
	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.
	Subtotal		13										
Professional Elective Courses	Molecular Biotechnology Program	Structure biology	2		2								1. Professional
		Plant biochemistry	2		2								Electives can
		Special Issues for Virology	2		2								be selected
		Special topics in genomics	2				2						from two programs of
		Cancer biology	2				2						study.
		Special topics in microbe-cell interactions	2				2						
		Enzyme and protein engineering	2				2						2. Students must first complete
		Aging Physiology	2						2				one of these

## Ming Chuan University Department of Biotechnology Course Outline for all students entering in 2015

	Applied Biotechnology Program  Other Elective	Manipulation and Management of Laboratory Animals Protein Modification and Gene Regulation	2				2			programs of study, each consisting of at least 3 courses.
		Special Topics in Molecular Medicine	2					2		
		Special Topics in Free Radicals and Antioxidative activity	2	2						
		Special Topics in Health Foods	2		2	2				
		Special Topics in Fermentation	2	2						
		Applied Genomics	2		2	2				
		Special Topics of Applied Microbiology	2				2			
		Special issues in tea	2				2			
		Methods in Industrial Biotechnology	2				2			
		Marine biotechnology	2					2		
		Research Training (I)	1		1	-				
		Research Training (II)	1				1			
Cour	Course	Research Training (III)	1					1		
		Subtotal	37							
Total Required Course	Required Cours	es	17							
Credits	The Minimum C Elective Profess	Credits required for sional Courses	15							
	Total		32							

## Ming Chuan University Department of Biotechnology Course Outline for all students entering in 2015

	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.							
	2. Our masters' students are required to earn at least 32 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							
NT 4	graduate.							
Notes	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.							
	4. The newly added elective courses in this academic year can be applied retroactively to students who entered the university prior to the 2015							
	academic year.							
	5. Professional electives can be selected from two study programs. Students must complete one of the study programs, consisting of at least 3							
	courses. These courses can be applied retroactively to students who entered the university prior to the 2015 academic year.							