

長庚大學生物科技產業博士學位學程必選修科目表（一〇八學年度入學適用）

Chang Gung University, PhD Program in Biotechnology Industry

Curriculum for MS Program (2019~2020)

必選修 Required/ Elective	科目名稱 Course Title	學分 Credit	開課 年級 year	上學期 Fall	下學期 Spring	備註 Note
必修 Required Courses	書報討論 Seminar	2	1	1	1	必修四學分。 Required courses for a total of 4 Credits.
	書報討論 Seminar	2	2	1	1	
	產業研發實務 Industrial R&D	2	1	1	1	必修四學分，碩博合開。 Required courses for a total of 4 Credits. Offered jointly by PhD and Master program.
	產業研發實務 Industrial R&D	2	2	1	1	
	生技製藥研發 Biopharmaceutical Development	2	1	2		碩博合開 Offered jointly by PhD and Master program.
	博士論文 PhD thesis	6				
生醫領域 選修 Elective courses in Biomedical Field	生技產業新知論壇 BioBusiness Awakening Forum	2	1	1	1	碩博合開 Offered jointly by PhD and Master program.
	藥理學 Pharmacology	4	1	4		
	高等生物化學 Advanced Biochemistry	3	1	3		
	細胞生物學 Cell Biology	3	1	3		
	疫苗研發 Vaccine Development	3	1	3		偶數學年度開課 Offered Bi-annually
	生物資訊分析課程 Bioinformatics	2	1	2		
	高等免疫學 Advanced Immunology	3	1	3		
	高級生物統計學 Advanced Biostatistics	2	1	2		
	生技產業之應用生物統計實務 Applied biostatistics in biotechnology industry	2	1	2		
	生技產業之科技評估實務 Health technology assessment in biotechnology industry	2	1	2		
	生理學 Physiology	4	1		4	
	分子生物學 Molecular Biology	4	1		4	
	製藥生技學特論 Special Topics in Industrial Pharmaceutical Biotechnology	2	1		2	
	臨床試驗之設計與執行 The Study Design and Conduct of Clinical Trials	3	1		3	臨醫所碩士班臨資組合開 Offered jointly by Clinical Information group in Graduate Institute of Clinical Medicine

	健康資料庫實務應用 Practical Methods for Secondary Data Analysis	3	1		3	臨醫所碩士班臨資組合開 Offered jointly by Clinical Information group in Graduate Institute of Clinical Medicine
	臨床資訊實務 Clinical Informatics : A Practical Approach	2	1		2	臨醫所碩士班臨資組合開 Offered jointly by Clinical Information group in Graduate Institute of Clinical Medicine
	醫療科技評估方法學 (1) Methods for Health Technology Assessment (I)	3	1		3	臨醫所碩士班臨資組合開 Offered jointly by Clinical Information group in Graduate Institute of Clinical Medicine
	生技產業之臨床試驗實務 Clinical trials in biotechnology industry	2	1		2	
	生技產業分析與公司評價 Biotechnology Industrial Analysis and Corporate Valuation	2	1		2	
	醫療科技評估方法學 (2) Methods for Health Technology Assessment ( II )	2	2	2		臨醫所碩士班臨資組合開 Offered jointly by Clinical Information group in Graduate Institute of Clinical Medicine
	藥廠與專利申請實務特論 Special Topics in The Pharmaceutical Factory and Patent Application	2	2	2		
	專案計畫與專利撰寫 Project Plan and Patent Writing	2	2	2		
管理領域 選修 Elective Courses in Management Field	企業經營(1) Contemporary Business (I)	3	1	3		英文授課 English as Medium of Instruction
	企業倫理 Business Ethics	3	1	3		英文授課 English as Medium of Instruction
	顧客關係管理與商業智慧 Customer Relationship Management and Business Intelligence	3	1	3		英文授課 English as Medium of Instruction
	管理經濟 Managerial Economics	3	1	3		英文授課 English as Medium of Instruction
	數位行銷 Digital Marketing	3	1	3		英文授課 English as Medium of Instruction
	成本會計 Cost Accounting	3	1	3		英文授課，奇數學年度開課 English as Medium of Instruction. Offered Bi-annually.
	應用統計 Applied Statistics	3	1		3	英文授課 English as Medium of Instruction
	企業經營(2) Contemporary Business( II )	3	1		3	英文授課 English as Medium of Instruction
	策略管理 Strategic Management	3	1		3	英文授課 English as Medium of Instruction
	管理個案研討 Business Case Study	2	1		2	英文授課 English as Medium of Instruction
	科技管理 Technology Management	3	1		3	英文授課 English as Medium of Instruction
	企業分析與公司評價 Business Analysis and Valuation	3	1		3	英文授課 English as Medium of Instruction
	供應鏈管理 Supply Chain Management	3	1		3	英文授課 English as Medium of Instruction

策略性人力資源管理 Strategic Human Resource Management	3	1		3	英文授課 English as Medium of Instruction
數位時代之品牌經營 Branding Management in the Digital Age	3	2	3		英文授課 English as Medium of Instruction
大數據應用與電子商務 Big Data Application and Electronic Commerce	3	2	3		英文授課 English as Medium of Instruction
企業營運分析 Business Operations Analysis	3	2	3		英文授課 English as Medium of Instruction

Note :

1、本博士學程畢業學分數需達 30 學分，含必修 10 學分，選修 14 學分，及博士論文 6 學分。

To graduate from the PhD program, students have to earned 30 credits, including 10 credits of required courses, 14 credits of selected courses, and 6 credits of PhD thesis

2、碩士生逕讀本博士學程時，畢業學分數為 42 學分，含必修 10 學分，選修 26 學分，及博士論文 6 學分。

以碩士獲得之學分抵免博士學程之選修學分，以 16 學分（含）為限且不得抵免書報討論及產業研發實務。

For master students with direct admission to PhD program, students have to earned 42 credits, including 10 credits of required courses, 26 credits of selected courses, and 6 credits of PhD thesis. The credits earned from master degree only can waive a maximum of 16 credits in PhD program; “Seminar” and “Industrial R&D” are rejected to waive.

3. 本學程選修科目可依研究或實務需要，經指導教授同意，選擇本校研究所課程（未列於必選修課目表者）作為本學程選修學分，但以學程要求選修學分之二分之一（含）為限。

With the consent of the advisor, students may also take courses offered by other graduate institutes in CGU to meet the credit requirement for graduation; only the total credits earned from other institutes cannot exceed 50% of the total elective credits for graduation.

4、博士論文 6 學分於學位口試通過後給予。

Thesis credits will be awarded after the thesis defense.

5、學生所選欲修習之科目，需經過指導教授之簽名同意。

Course selection and registration should be approved and signed by the thesis mentor.