長庚大學　機械工程研究所碩士班　必選修科目表　(110 學年度入學學生適用)

Course List for Master Degree Program in Department of Mechanical Engineering, Chang Gung University
(for 2020 Calendar Year Admission)

領域 Area	必選修 Compulsory or Elective	科目名稱 Course Title	學分 Credits	開課年級 Year	上學期 1st semester	下學期 2nd semester
共同 common	必 C	學報討論(1) # (2) Seminar(1)(2)	2	1st	1	1
	必 C	學報討論(3) # (4) Seminar(3)(4)	2	2nd	1	1
	選 E	英語口說與報告(1) # (2) English Speaking and Presentation (1)(2)	4	1st	2	2
	選 E	工程英文文獻導讀# Guided Reading on English Technical Reports	3	1st	3	
固力與控制 Solid Mechanics and Control	選 E	彈性力學# Theory of Elasticity	3	1st	3	
	選 E	振動學# Vibration Analysis	3	1st	3	
	選 E	電子光電構裝特論# Special Topics in Electronic/Optoelectronic Packaging	3	1st	3	
	選 E	固體力學特論# Introduction to Solid Mechanics	3	1st		3
	選 E	複合材料力學 Mechanics of Composite Material	3	1st		3
	選 E	有限元素法 Finite Element Method	3	1st		3
	選 E	電動力學 Electrodynamics	3	1st		3
	選 E	模態分析與應用 Theory and Practice of Modal Analysis	3	1st		3
	選 E	數值分析# Numerical Analysis	3	1st	3	
	選 E	智慧型控制系統# Intelligent Control Systems	3	1st	3	
	選 E	神經網路與深度學習# Neural Networks and Deep Learning	3	1st	3	
熱流與能源 Thermodynamics, Fluid Mechanics and Energy	選 E	冷凍空調原理# Refrigeration & Air-conditioning	3	1st	3	
	選 E	燃燒學# Combustion	3	1st	3	
	選 E	中等流力學# Intermediate Fluid Mechanics	3	1st	3	
	選 E	潤滑理論與應用 Lubrication Theory and Its Applications	3	1st		3
	選 E	計算流體力學 Computational Fluid Dynamics	3	1st		3
	選 E	中等熱傳學*# Intermediate Heat Transfer	3	1st		3
	選 E	流體機械# Fluid Machinery	3	1st		3
	選 E	高分子流變學 Polymer Rheology	3	1st		3
設計與製造 Design and Manufacture	選 E	電腦輔助工程設計 Computer Aided Engineering Design	3	1st		3
	選 E	最佳化設計與原理 Optimum Design and Principle	3	1st		3
	選 E	機構設計實務*# Mechanism Design and Applications	3	1st		3
	選 E	機械材料(2) Mechanical Materials (Ⅱ)	3	1st		3
	選 E	機械冶金* Mechanical Metallurgy	3	1st	3	
	選 E	塑膠模具工程# Plastic Processing Mold Engineering	3	1st	3	
	選 E	腐蝕工程# Corrosion Engineering	3	1st	3	
	選 E	銲接冶金*# Welding Metallurgy	3	1st	3	
	選 E	電腦輔助製造# Computer Aided Manufacturing	3	1st	3	

	選 E	太陽能電池材料與製造 Materials and Manufactures of Solar Cells	3	1st	3	
	選 E	電極加工特論 Special Issue of Electrode Machining	3	1st	3	
	選 E	材料破壞分析與預防*# Analysis and Prevention of Materials Failures	3	1st	3	
	選 E	銲接製程與系統設計* Welding Process and System Design	4	1st		4
	選 E	電子顯微鏡分析* Electron Microscopy Analysis	3	1st		3
	選 E	熱處理 Heat Treatment	3	1st		3
	選 E	非破壞檢測原理與實務 Principals and Practices of Nondestructive Testing	3	1st		3
醫學工程 Medical Engineering	選 E	生物感測器技術 Biosensor Technology	3	1st	3	
	選 E	表面分析技術 Surface Analysis Technology	3	1st	3	
	選 E	醫療微機電 Medical MEMS	3	1st	3	
	選 E	醫學影像處理 Medical Imaging Processing	3	1st	3	
	選 E	骨科實驗力學 Experimental Mechanics for Orthopaedics	3	1st	3	
	選 E	生物力學 Biomechanics	3	1st		3
	選 E	醫療機械設計 Design of Medical Device	3	1st		3
	選 E	生醫材料工程 Biomaterials Engineering	3	1st		3
	選 E	生醫訊號分析 Biomedical Signal Analysis	3	1st	3	

備註 Remarks	1.畢業學分：34 學分 (1)必修 4 學分 (2)選修 24 學分。其中 18 學分必須於本所開設之選修課程（共有四個專業領域）中選修。其餘 6 學分可在本所或本校其他所選課。 (3)論文 6 學分(學位考試通過後給予)。 2.須達英文畢業門檻方可畢業：依「長庚大學工學院碩士班研究生英能力檢測實施方案」規定。 3.經由外籍生管道入學之碩博士外籍生，修習院內外系所英語授課專業領域課程承認為畢業學分數，以畢業學分(不含【論文】及【學報討論】)之 50%為上限，所修習之課程需經指導教授同意並經學術委員會審查通過方得承認為畢業學分。 4.其他：A.「＊」表示隔年開授。 B.「＃」表示英語授課。 5.修業滿一年，通過碩士學位考試並滿足畢業學分，經系上審核通過後可申請提早畢業並得免修之後之『學報討論』課程。 1. Graduation credits: 34 2. Compulsory credits: 4 (Four Seminar courses for the first and the second year.) 3. Elective courses from ME (18 credits) 4. Elective courses from ME or other departments (6 credits) 5. Graduation thesis (6 credits) 6. Others: A. “＊”: offed bi-annually. B. “＃” : taught in English C. English requirement: English Proficiency Assessment for Foreign Students. 7. After one-year study in the master’s program, students who pass the dissertation defense, complete the required credits and obtain the approval from the department, may graduate earlier than regular two years and waive the following seminar courses. Remarks: For international students, English taught courses (excl. Seminar and graduation thesis) in the University can be accepted with conditions of a limitation of 12 credits and approval from advisor.