Course List for Doctor of Philosophy (Ph.D.) Degree Program
in Department of Computer Science and Information Engineering
Chang Gung University (for 2024 Calendar Year Admission), Apr. 8th, 2024

長庚大學資訊工程學系博士班 必選修科目表(113學年度入學學生適用) 113年4月8日系課委會修正通過

Area	Obligatory	Course Title	Total Credits	Year	1st Semester	2nd Semester
Common	✓	*Seminar（Ⅰ）學報討論(1)	2	1	2	
	✓	*Seminar（Ⅱ）學報討論(2)	2	1		2
	✓	*Seminar（Ⅲ）學報討論(3)	2	2	2	
	✓	*Seminar（Ⅳ）學報討論(4)	2	2		2
College Common	✓	*English Technical Writing（Ⅰ）科技英文寫作(1)	1	1	1	
	✓	*English Technical Writing（Ⅱ）科技英文寫作(2)	1	1		1
	✓	*Scientific Writing 論文撰寫	0			
Professional		*Data Engineering 資料工程	3	1	3	
		*Service-Oriented Architecture (SOA) 服務導向應用系統設計	3	1	3	
		*Personal Communications 個人通訊	3	1	3	
		*High-Speed Networks and Applications 高速網路專論	3	1	3	
		*Selected Topics on Network System 網路系統專論	3	1	3	
		*Embedded Operating System 嵌入式作業系統	3	1	3	
		*System Performance Analysis 系統效能分析	3	1	3	
		*Advanced Computer Architecture 高等計算機架構	3	1		3
		*Digital Signal Processing 數位訊號處理	3	1	3	
		*Wireless Network 無線網路	3	1		3
		Objected-Oriented Software Engineering 物件導向軟體工程	3	1		3
		*Speech and Image Processing 語音暨影像處理	3	1		3
		Parallel and Distributed Systems 平行與分散式系統	3	1		3
		*Cyber-Physical Systems 網宇實體系統	3	1		3
		*Selected Topics on Mobile Communications 行動通訊專論	3	1		3
		Multimedia Security 多媒體安全	3	1	3	

Remarks

1. Graduation credits: 34
   畢業學分：34學分。

   (1) Compulsory credits: 10 (including the 8 credits of Seminar and the 2 credits of English Technical Writing).
   必修10學分 (含學報討論8學分，科技英文寫作2學分)。

   (2) Elective credits: at least 18 credits from the above listed professional courses. Students are allowed to take up to 1 professional course (3 elective credits) from the doctoral courses given in the college of engineering. Other doctoral courses offered by non-college of engineering, students have to get the approval from the chairman of our department.
   選修18學分。若須選修其他系所博士班課程者，以工學院所開設一門課程為限 (3學分)。非工學院所開設博士班課程，須經系主任同意後，始得選修。

   (3) All students have to take the course Scientific Writing in every semester after the first year.
   The 6 credits of Dissertation will be awarded upon the completion of oral defense exam.
   論文6學分(通過學位考試並繳交通過審核論文後給予)。

2. Graduation requires meeting the English proficiency threshold: The standards for passing the English proficiency test are implemented according to the "English Proficiency Requirements for Graduate Students of the College of Engineering, Chang Gung University".
   須達英文畢業門檻方可畢業：英文能力檢定通過標準依據「長庚大學工學院研究生英文能力檢測實施方案」實施。

3. Seminar provides 2 credits for each semester in the first 4 semesters, and it is compulsory for all students who have not graduated in the first 4 semesters.
   學報討論一、二年級為必修，合計8學分。畢業前至少需修習四個學期並通過。

4. The courses are porvided for Ph.D. and Master students.
   博士班課程與碩士班課程共同開設。

5. Courses with asterisk (*) are conducted in English. Other courses are lectured primarily in Chinese language.
   星號(*)標示之課程為全英文授課，其他課程以中文授課為主。

6. Both "English Technical Writing (I)" and "English Technical Writing (II)" are required courses for Ph.D. students. One must complete "English Technical Writing (I)" first with a score no less than 70, before being allowed to take "English Technical Writing (II)".
   博士班必修擋修規定：需先修畢(70分)「科技英文寫作」(1)，才可修習「科技英文寫作」(2)。