

Program for Integrated Circuit Design and Automation, Graduate School of Advanced Technology, National Taiwan University Degree Regulations for the Master's Program

- I. Duration of Study: The minimum and maximum duration of study is 1 to 4 years.
- II. Minimum Graduation Credits: A minimum of 21 credits is required for graduation (excluding Seminar, Special Project, Academic Ethics, and Internship courses).
- III. At least 12 credits of professional electives are required from the program (courses subject to advisor approval).
- IV. Online learning of Academic Ethics is a required course and does not count toward graduation credits.
- V. Credits from undergraduate courses do not fulfill the minimum graduation credit requirements.
- VI. Proportion of English-Taught Courses:
 - i. For students admitted in Fall 2022 or Spring 2023, at least 35% of the minimum graduation credits must consist of English-taught courses; at least 7 credits must be completed.
 - ii. For students admitted in Fall 2023, Spring 2024, Fall 2024, or Spring 2025, at least 50% of the minimum graduation credits must consist of English-taught courses; at least 11 credits must be completed.
 - iii. For students admitted in Fall 2025, Spring 2026, Fall 2026, or Spring 2027, at least 55% of the minimum graduation credits must consist of English-taught courses; at least 12 credits must be completed.
- VII. For any matters not covered, please refer to the regulations of Graduate School of Advanced Technology.

Required Curriculum

必修課程 Required Curriculum		
課程名稱 Course Title	學分 Credit(s)	備註 Note
研發實習 Internship	3	必修，一學期 1 semester
專題討論 Seminar	1	必修，在學期間每學期必修，至多修畢(且通過)四學期 Compulsory every semester during the academic period, with a maximum completion (and passing) of four semesters
專題研究 Special Project	1	必修，在學必修 Every semester
碩士論文 Thesis	0	必修，畢業學期當修 Semester of graduation

學術倫理 Academic Ethics	0	必修，不及格者不得申請學位考試 Students who fail the Academic Ethics are Not eligible to apply Defense
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Professional Electives

選修課程 Elective Curriculum		
學位 Degree	課程名稱 Course Title	學分 Credit Points
碩博 Ms. Ph.D.	電腦輔助積體電路系統設計 Computer-aided VLSI System Design	3
	類比積體電路 Analog Integrated Circuit	3
	演算法 Algorithms	3
	數位訊號處理架構設計 Digital Signal Processing in VLSI Design	3
	高等積體電路設計 Advanced Integrated Circuit Design	3
	數位視訊技術 Digital video technology	3
	系統晶片設計實驗 SoC Design Experiment	3
	通信數位積體電路設計 Digital Communication Integrated Circuits Design	3
	人工智慧架構與系統設計 Computing Architecture and System Design for AI Machine Learning	3
	高等類比積體電路 Advanced Analog Integrated Circuits	3
	鎖相迴路原理及應用 Theory and Application of Phase-locked Loop	3
	電力電子學 Power Electronics	3
	混合訊號積體電路設計 Mixed-Signal Integrated Circuit Design	3
	通訊積體電路設計 Design of Communication Integrated Circuits	3
	高等數位系統設計 Advanced Digital System Design	3
	射頻積體電路設計 Rf Integrated Circuit Design	3
	高速介面積體電路設計 High-speed interface bulk circuit design	3

選修課程 Elective Curriculum		
學位 Degree	課程名稱 Course Title	學分 Credit Points
碩博 Ms. Ph.D.	生醫電子電路設計 Bioelectronics Circuit Design	3
	系統晶片驗證 Soc Verification	3
	積體電路測試 VLSI Testing	3
	積體電路實體設計 VLSI Physical Design	3
	積體電路系統測試 VLSI System Testing	3
	邏輯合成與驗證 Logic Synthesis and Verification	3
	晶片系統封裝 Chip System Package	3
	電腦輔助分析與最佳化 Computer Aided Analysis & Optimization of Integrated Circuit	3
	應用數學邏輯特論 Special Treatise on Applied Mathematical Logic	3
	車用電子概論 Introduction to Automotive Electronics	1

* 課程非於每學年開授，請依本校課程資訊與選課系統公告規劃選課。

Please refer to the current course catalog for the actual course offerings each semester.