資訊學院國際資訊碩士班

114學年度(114.11.12修訂)

修業年限	一至四年。
應修學分數	共 36 學分，含必修12學分(個別研究8學分、產業技術研究4學分)、選修24學分(15學分專業課程、9學分產業技術實習或自由選修外系課程)。
應修（應選）課程及符合畢業資格之修課相關規定	一、 必修：個別研究(共8學分，四個學期每學期修2學分)、產業技術研究(共4學分，四個學期每學期修1學分)。 二、 選修專業科目(24學分)包括下列課程及其最少學分數： **(一) 第一類：選修以下專業課程至少15學分。** **1. 人工智慧與數據科學專業課程：** 智慧感知與機器學習、深度學習、人工智慧、自然語言處理、強化學習原理、機器學習、巨量資料分析技術與應用 **2. 資訊安全專業課程：** 密碼理論、程式安全、行動網路安全、網路程式設計、賽局理論及應用、數值軟體開發、網路安全 **3. 網路工程專業課程：** 雲端系統與雲服務架構、行動車聯網、物聯網核心技術、計算機網路、軟體定義網路及網路功能虛擬化、無線多媒體網路、物聯網軟體基地台設計與實作 **4. 多媒體工程專業課程：** 進階三維電腦視覺、智慧系統之感知與決策、自然語言處理、基於深度學習之視覺辨識、資料探勘、圖形理論、機器學習之訊號處理應用、多媒體通訊、計算機圖學、視訊壓縮、電腦視覺、電腦動畫與特效、資訊理論與壓縮編碼的應用、影像處理、圖形識別 **5. 系統軟體專業課程：** 新創雲服務與開發工具、雲原生軟體開發與最佳實踐、平行程式設計、作業系統、軟體測試 **6. 計算理論專業課程：** 最佳化演算法、近似演算法、演化計算、正規語言與計算理論、平行程式設計、排隊理論 **7. 軟硬體整合專業課程：** 機器學習晶片架構設計、記憶體與儲存系統、計算機架構、嵌入式系統設計 **註：如選修上述以外資訊學院所開授課程，應填具「專業課程認定申請表」，並由指導教授簽名及班主任核定，始得承認並列入畢業學分。** **(二) 第二類：選修實習課程「產業技術實習」，限本班二年級生修讀，每學期至多9學分，每學分等於80學時。修讀此課程之學生依實習計畫內容至媒**

	合廠商進行見實習。 **(三)** **第三類：自由選修課程至多9學分。自由選修課程包含各院系所開授之其他專業課程。如擬選修外校或外院所開的課程，應填具「修習非本院專業課程申請書」，並由指導教授簽名及班主任核定，始得承認並列入畢業學分。所填具申請表應於當學期開學加退選截止日期前向本班提出申請。** **(四)** 請表應於當學期開學加退選截止日期前向本班提出申請。碩士生須於入學第三學期開始前，須通過華語文能力測驗(TOCFL)基礎級聽、讀2項皆須達 A2 級(含)以上，未達標準者將無法領取獎學金(產學獎助金、生活津貼)。 三、 碩士生須於入學第二學期結束前至「臺灣學術倫理教育資源中心平台」修習「學術研究倫理教育課程」；因故未能完成者，須於舉行學位考試前完成本課程，未完成本課程者不得舉行學位考試。 四、 碩士生入學後，第一學期須至本校網路教學平台修習「性別平等教育線上訓練課程」；因故未能完成者，須於畢業前補修完成，始得畢業。 五、 完成論文學位考試。
備註	其他未盡事宜請依資訊學院國際資訊碩士班修業規章辦理。

Master's Degree of the International Graduate Program of College of Computer Science

Academic Year 2025-2026

Period of Study	1-4 years
Graduation Credits	A total of 36 credits, including 12 required credits (8 credits for Independent Study, 4 credits for Industrial Technology Research), and 24 elective credits.
Curriculum and Regulations	1. Required Courses: ‘ Independent Study’ (8 credits in total) for 4 semesters, along with ‘Industrial Technology Research’ for a total of 4 credits (4 semesters) 2. Elective Courses (24 credits) include the following courses and their minimum credit requirements: **A. Category One:** Completed a minimum of 15 credits for the below courses. **(1) Artificial Intelligence and Data Science Courses:** Intelligent Sensing and Machine Learning, Deep Learning, Artificial Intelligence, Natural Language Processing, Machine Learning, Big Data Analytics Techniques and Applications. **(2) Cybersecurity Courses:** Theory of cryptology, Secure Programming, Mobile Network Security, Network Programming, Game Theory and Its Applications, Numerical Software Development, Network Security. **(3) Network Engineering Courses:** Cloud Computing & Service Architecture, Mobile Communication and Networks, Core Technologies of the Internet of Things, Computer Networks, Software Defined Networks and Network Function Virtualization, Wireless Multimedia Networks, Design and Implementation of Soft-Defined PHY for LTE eNB and IoT Applications. **(4) Multimedia Engineering Courses:** Advances in 3D Vision, Perception and Decision Making in Intelligent Systems, Natural Language Processing, Deep Learning for Visual Recognition, Data Mining, Graph Theory, Machine Learning for Signal Processing, Multimedia Communications, Computer Graphics, Video Compression, Computer Vision, Computer Animation and Special Effects, Information Theory and Data Compression Practices, Image Processing, Pattern Recognition. **(5) System Software Courses:** Innovative Cloud Services and Development Tools, Cloud Native Development: Towards Best Practice, Parallel Programming, Operating System, Software Testing. **(6) Theory of Computation Courses:** Optimization Algorithms, Introduction to Approximation Algorithms,

Evolutionary Computation, Formal Languages and Theory of Computation, Parallel Programming, Queuing Theory.

(7) Software/Hardware Integration Courses:
Accelerator Architectures for Machine Learning, Memory and Storage Systems, Computer Architecture, Embedded System Design.

Attention: Please note that if students choose to enroll in courses outside those offered by the College of Computer Science as mentioned above, they must complete the "Recognition Application Form of Professional Courses." This form must be signed by the advisor and approved by the program director to ensure recognition and inclusion of credits toward graduation.

B. **Category Two:** Elective Internship Course **"Industry Internships"** (maximum 9 credits): The free elective internship course "Industry Internships" is restricted to second-year students of this program. Students may take a maximum of 9 credits per semester, with each credit equivalent to 80 hours. Students enrolled in this course will complete their internship at the partner company according to the contents of the internship plan.

C. Category Three: Students can choose elective courses freely up to a maximum limit of 9 credits.
The elective courses include a variety of professional courses from different departments. If students are considering enrolling in courses from institutions outside the College of Computer Science at NYCU, they must fill out the "Accreditation of Courses Taken outside of CS College." This form requires the advisor's signature and must be approved by the program director before these courses can be recognized and counted towards your graduation credits. Make sure to submit the completed application to the office before the add/drop deadline for the current semester.

3. Master's students must attain at least a Level A2 in the listening and reading sections of the Test of Chinese as a Foreign Language (TOCFL) before the start of their third semester. Failing to meet this requirement will disqualify students from receiving scholarships, which encompasses both industry-academic scholarships and living stipends.
4. Master's students must complete the 'Academic Research Ethics Education Course' available through the Taiwan Academic Ethics Education Resource Center platform by the end of their first year. If circumstances prevent completion within this timeframe, students must finish the course before their degree examination. The inability to complete this course will disqualify students from sitting for their degree examination.
5. Upon enrollment, all master's students are obligated to take part in the 'Gender Equity Education Online Training Course' available through the university's online learning platform within their first semester. Students who are unable to complete the course due to exceptional circumstances must ensure they fulfill

	this requirement before graduation to be eligible for their degree. 6. Complete thesis defense for degree examination.
Remark	Please address any remaining matters following the Master's Degree Regulations for the International Graduate Program of College of Computer Science