

研究所必修課程

Postgraduate Program Required Courses

Master Course	PhD Course
Seminar(1) Seminar(2) Master's Thesis	Seminar(1) Seminar(2) PhD's Thesis

Note :

- 1、 From the school year of 105, the master and doctoral students in National Taiwan University of Science and Technology should complete this course 「 Basic Knowledge of Academic Ethics 」 before the end of the first year. Graduate students can apply for the examination of degree only after they pass the course.
- 2、 At least 1/3 (excluding intern credits) of the graduation credits for CSIE graduate students should be provided by college of EECS in National Taiwan University System.

選修課程 (Elective Course)

視訊、聲訊技術與應用領域

Video and Audio Technology and its applications.

基礎與核心課程(大學部)
Core Curriculum(undergraduate)

多媒體網路應用
Networked Multimedia Applications
多媒體資訊系統導論
Introduction to Multimedia Information Systems
多媒體實習
Multimedia Laboratory
基礎電腦圖學
Fundamentals of Computer Graphics
基礎電腦圖學實習
Fundamentals of Computer Graphics Laboratory
電腦圖學導論
Introduction to Computer Graphics
電腦圖學導論實習
Laboratory of Introduction to Computer Graphics
電腦音樂合成
Computer Music Synthesis
手機遊戲設計
Mobile Game Design
遊戲企劃與設計原理
Computer Game Design and Development



進階課程(研究所)
Advanced Curriculum(graduate)

語音信號處理
Speech Signal Processing
數位聲訊與電腦音樂
Digital Audio and Computer Music
高等資料庫
Advanced Database Systems
數位視訊系統
Digital Video Systems
計算攝影學
Computational Photography
3D電腦遊戲(一)
3D Computer Game (I)
3D電腦遊戲(二)
3D Computer Game(II)
影像處理
Image Processing
資料壓縮與應用
Data Compression with Applications
影像與視訊處理
Image and Video Processing
數位網格處理
Digital Mesh Processing
電腦與機器人視覺
Computer and Robot Vision
Android手機程式實務
Special Topics on Android Projects
Android端系統匯流應用設計
Android Application Development
程序化內容生成計算
Procedural Content Generation Computing

選修課程 (Elective Course)

智慧型系統與機器學習領域
Intelligent System and Machine Learning

基礎與核心課程(大學部)
Core Curriculum(undergraduate)

模糊系統導論
Introduction to Fuzzy Systems
人工智慧導論
Introduction to Artificial Intelligence
科學計算程式設計
Scientific Computation Programming
智慧型機器人系統應用專題
Special Projects on Intelligent Robot Systems
人工智慧與機器學習
AI and Machine Learning
智慧電子應用設計概論
Introduction to the Design and Application of Intelligent Electronic Systems
賽局理論
Game Theory



進階課程(研究所)
Advanced Curriculum(graduate)

機器學習
Machine Learning
類神經網路
Neural Networks
知識系統
Knowledge-Based Systems
高等演算法
Advanced Algorithms
機器人運動規劃
Robot Motion Planning
編碼與資訊理論
Coding and Information Theory
智慧型機器人應用概論
Introduction to Intelligent Robot Applications
高等機器學習理論
Advanced Machine Learning
資料探勘
Data Mining
人工智慧
Artificial Intelligence
巨量資料分析
Big Data Analytics
社群媒體資料分析實務
Practice of Social Media Analytics
高等演算法
Advanced Algorithms
智慧型設備通訊
Intelligent Device Communications
電腦與機器人視覺
Computer and Robot Vision
電子商務
Electronic Commerce

選修課程 (Elective Course)

網路通訊技術領域

Network Communication Technology

基礎與核心課程(大學部)
Core Curriculum(undergraduate)

網路程式設計
Internet Programming
無線與行動網路概論
Introduction to Wireless and Mobile Networks
網路生活與應用程式
Networked Life and APPs
穿戴式電子應用設計
Design of Wearable Electronics Applications
行動裝置程式設計
Mobile Device Programming



進階課程(研究所)
Advanced Curriculum(graduate)

計算機網路
Computer Networks
數位無線通訊與網路
Digital Wireless Communications and Networks
計算機模擬
Computer Simulation
行動計算
Mobile Computing
行動通訊網路模型與分析
Modeling and Analysis for Mobile Communication Networks
次世代無線網路
Next-Generation Wireless Networks
智慧型設備通訊
Intelligent Device Communications
無線通訊與網路安全
Wireless Communications and Network Security

選修課程 (Elective Course)

資訊安全及雲端運算領域
Information Security and Cloud Computing

基礎與核心課程(大學部)
Core Curriculum(undergraduate)

雲端運算
Cloud Computing
資訊安全導論
Introduction to Information Security
入侵偵測與防禦
Intrusion Detection and Prevention
網路安全
Network Security
密碼學導論
Introduction to Cryptography



進階課程(研究所)
Advanced Curriculum(graduate)

雲端運算與服務
Cloud Computing and Services
網路安全實務
Practices of Network Security Technology
無線通訊與網路安全
Wireless Communications and Network Security
雲端運算資訊安全
Cloud Computing Information Security
巨量資料分析
Big Data Analytics
社群媒體資料分析實務
Practice of Social Media Analytics
資安檢測實務
Information Security Practice
資訊安全
Information Security
資訊安全實務
Practices of Information Security
高等演算法
Advanced Algorithms

選修課程 (Elective Course)

平行及嵌入式系統領域

Parallel Computing and Embedded System

基礎與核心課程(大學部)
Core Curriculum(undergraduate)

嵌入式系統
Embedded Systems
即時作業系統概論
Introduction to Real-Time Operating Systems
嵌入式微處理器作業系統
Operating System for Embedded Microprocessor
高等資料結構
Advanced Data Structures
即時系統概論
Introduction to Real-Time Systems
嵌入式系統程式設計
Embedded System Programming
iOS程式設計
iOS Programming
行動裝置程式設計
Mobile Device Programming
手機遊戲設計
Mobile Game Design
智慧電子應用設計概論
Introduction to the Design and Application of Intelligent Electronic Systems
穿戴式電子應用設計
Design of Wearable Electronics Applications
雲端運算
Cloud Computing



進階課程(研究所)
Advanced Curriculum(graduate)

FPGA系統設計實務
FPGA Design Laboratory
高等編譯器設計
Advanced Compiler Design
高等計算機結構
Advanced Computer Architecture
即時排程理論
Real-Time Scheduling Theory
高效能儲存系統
High Performance Storage Systems
高等演算法
Advanced Algorithms
雲端運算與服務
Cloud Computing and Services
雲端運算資訊安全
Cloud Computing Information Security
巨量資料分析
Big Data Analytics