國立東華大學

課　綱　Course Outline

資訊工程學系國際組

中文課程名稱 Course Name in Chinese	次世代行動網路技術與應用				
英文課程名稱 Course Name in English	Next Generation Mobile Networks: Emerging Technologies and Applications				
科目代碼 Course Code	CSIEM0590	班　別 Degree	碩士班 Master's		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時　數 Hour(s)	3.0
先修課程 Prerequisite					

課程目標
Course Objectives

This course aims to build up the theoretical foundation of next-generation mobile network technology for graduate students who are interested in the development of next-generation mobile network technology and introduce the latest next-generation mobile network related technologies in the literature.

系教育目標
Dept.'s Education Objectives

1	探究學科知識，善用專業技能 Explore academic knowledge, utilize professional skills.
2	訓練評析思考，創新解決問題 Exercise analytical thinking, enhance creative problem solving skills.
3	學習團隊分工，強化溝通表達 Participate in teamwork, strengthen communication skills.

系專業能力 Basic Learning Outcomes		課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.'s Education Objectives
A	統合資工知識技術之能力 Ability to integrate knowledge and technologies of computer science and information engineering.	●
B	設計技術理論驗證實驗之能力 Ability to design and conduct science experiments and to validate hypotheses.	○
C	資訊軟硬體設計開發之能力 Ability to design and develop computer software and hardware.	○

D	團隊專案開發之能力 Ability to design and develop team projects.	○
E	批判性思考與創新研發之能力 Ability of analytical thinking, creative research planning, and innovative development.	●

圖示說明Illustration ：● 高度相關 Highly correlated ○中度相關 Moderately correlated

課程大綱
Course Outline

1. Key Driving Trends Towards Next-Generation Mobile Networks
2. Requirements/Vision of Next-Generation Mobile Networks
3. Enabling Technologies for Next-Generation Mobile Networks
4. Emerging Topics in Next-Generation Communications
5. Decentralized AI for Next-Generation Mobile Networks
6. Data Driven Intelligence for Networks and Systems
7. Edge Learning for Next-Generation Mobile Networks
8. Internet of Mobile Things
9. Standardization Efforts for Next-Generation Mobile Networks
10. Future Research Directions and General Challenges in Next-Generation Mobile Networks

資源需求評估（師資專長之聘任、儀器設備的配合···等）
Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

課程要求和教學方式之建議
Course Requirements and Suggested Teaching Methods

This course is lectured by oral presentations with some online tutorial videos as supplementary teaching materials. The evaluation will be done via the midterm exam and a final project assignment.

其他
Miscellaneous