

**Department of Industrial and Information Management-Graduate Program  
Institute of Information Management**

R780400 Mobile Networking Technologies and Applications (行動網路技術與應用)

Fall 2017 (106 學年度第 1 學期)

1. *This mission of the College is to serve business and society in the global economy through developing professionally qualified and socially responsible business leaders as well as through advancing the frontiers of knowledge in business management.*
2. *The strategic objective of Department of Industrial and Information Management-Graduate Program /Institute of Information Management is to cultivate industrial and information management professionals who possess TIP (Technological knowledge, Innovative foundation, and Perceptive learning).*

**Graduate Program Learning Goals** (goals covered by this course are indicated by checks):

✓	1	Graduate students should be able to appreciate business research and to present research findings/ results effectively in speaking and in writing.
		Graduate students should be to integrate different functional areas in solving business problems.
		Graduate students should be able to analyze business situations and to recommend innovative resolutions
		Graduate students should be able to demonstrate leadership skills of a business manager.
		Graduate students should be able to identify ethical dilemmas and to determine necessary courses of action.
	4	Graduate students should possess a global economic perspective and a vision of the global business environment.
✓	5	Graduate students should be able to coordinate actions and solve problems jointly with other members of a professional team.

**Instructor:**

Name: Ren-Shiou Liu

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Email: [renshiou.liu@gmail.com](mailto:renshiou.liu@gmail.com)

Class Time: Tue.15:10~18:00

Location: 61201

**Prerequisite:**

Students must be familiar with at least C++/Java programming language and fundamental networking concepts before taking this class

**Course Description:**

The goal of this course is to provide an in depth understanding of the fundamental problems in the area of mobile computing and applications. We will study existing and proposed solutions for these problems from both research and development perspective. Several topics including wireless communication, location management, data and resource management issues in mobile systems will be covered in this course. In addition to the textbook, selected papers from top IEEE and ACM proceedings will be used to help students understand the latest development and trend in mobile systems. Course work will involve iOS programming, presentation, and term projects. Fundamental iOS programming concepts will also be covered in this class. However, students must have basic understanding of C++/Java programming language and computer networking before taking this course.

**Course Objectives:**

- Students shall have in-depth understanding of mobile networking and applications and the fundamental problems in the area.
- Students are able to design and develop modern mobile applications on Android/iOS platform.
- Students are able to study papers, clearly present the ideas, think independently about the deficiency and propose a solution.

**Textbook:**

1. Slides and sample code for iOS platforms

**References:**

1. [The Swift Programming Language](#)
2. Selected papers from IEEE and ACM conference proceedings. They can be accessed through the IEEEExplore digital library and the ACM digital portals

**Tentative Class Schedule:**

Date	Topic
Week 1	• Syllabus
Week 2	• Introduction to iOS10, Xcode, and Swift
Week 3	• MVC and Swift Demonstration
Week 4	• More Swift and the Foundation Framework
Week 5	• Views
Week 6	• Gestures and Multiple MVCs
Week 7	• View Controller Lifecycle, and Memory
Week 8	• Error Handling, Extensions, Protocols, and Delegation
Week 9	• Multithreading and Text Field
Week 10	• Table View
Week 11	• Core Data
Week 12	• Core Data Part II
Week 13	• Autolayout
Week 14	• Timer and Animation
Week 15	• Dynamic Animation
Week 16	• More Segues
Week 17	• Alerts and Action Sheets
Week 18	• Term Project Demo

**Grading Policy:**

(\*Including a grading scheme for AACSB Multiple Assessment: )

		Presentation 20%	Homework Assignments 35%	Participation 15%	Project 30%
	<input checked="" type="checkbox"/> Speaking	60%		90%	50%
	<input checked="" type="checkbox"/> Writing	20%	20%		20%
	<input type="checkbox"/> Interdiscip. Competence/ Prob. Solving				

Mobile Networking and Applications

	<input checked="" type="checkbox"/> Critical Thinking/ Innovation	20%	80%	10%	30%
	<input type="checkbox"/> Leadership				
	<input type="checkbox"/> Ethical Reasoning				
<b>GLOB</b>	<input type="checkbox"/> Global Vision				
<b>VSP</b>	<input type="checkbox"/> Teamwork				