

106 學年度專業必修/必選修課程綱要表

課程名稱：（中文）奈微米元件量測實驗		開課系所	奈米工程與微系統 研究所	
（英文）Measurements of Nano and Micro Devices		課程代碼	NEMS5110	
授課教師：羅丞曜、傅建中、王玉麟、陳致真、葉哲良				
學分數	3	必/選修	必修(碩士)	開課年級
研究所				
先修科目或先備能力： Students are expected to have a bachelor's degree in science- or engineering-related fields.				
<b>課程概述與目標：</b> This lecture aims on providing operation skill of fundamental facilities for students in order to help students to be ready for their researchers.				
教科書 <sup>1</sup>	Notes from individual lecturers.			
課程綱要		對應之學生核心能力	備註	
單元主題	內容綱要			
Optical Thin Film	1. Multilayer Optics 2. Simulation 3. Practice	1. 具備紮實的工程基礎知識及技術。 2. 具備能夠獨立思考、研發設計與實務執行之能力。	羅丞曜、葉哲良	
Microstructure Geometry	1. Electron Microscope 2. Confocal Microscope	1. 具備紮實的工程基礎知識及技術。 2. 具備能夠獨立思考、研發設計與實務執行之能力。	傅建中	
Transistors on Semiconductor	1. Introduction 2. Practice	1. 具備紮實的工程基礎知識及技術。 2. 具備能夠獨立思考、研發設計與實務執行之能力。	王玉麟	
DNA Detection	1. Microfluidics 2. Electrophoresis	1. 具備紮實的工程基礎知識及技術。 2. 具備能夠獨立思考、研發設計與實務執行之能力。	陳致真	
<b>教學要點概述<sup>2</sup>：</b> 教材編選： The lecture materials are prepared by the lecturers.				

**教學方法：**

Each lecture handles few weeks during the semester. In those few weeks, oral lectures will be performed by the corresponding lecturer, and practices will be arranged and operated by the students. Corresponding teaching assistants will help the students for the practices.

After the corresponding project, students have to hand in personal reports (homeworks) for evaluation. Before the end of the semester, a final examination will be held.

**評量方法：**

Project (homework, participation): 70%

Final Exam: 30%

**教學資源：**

Individual lecturers separately design experiments and arrange proper facilities for practices.

**教學相關配合事項：**

Students are grouped into four teams and each team has specific time slots to conduct experiments. Lecture notes are provided either online or offline (print-outs), depending on individual lecturer.

註：1. 教科書請註明書名、作者、出版社、出版年等資訊。

2. 教學要點概述請填寫教材編選、教學方法、評量方法、教學資源、教學相關配合事項等。

3. 學程所有開設之課程皆須填寫此表格或提供原有格式之課程綱要表，並呈現於實地訪評現場。