

## 國立台灣科技大學 114學年 第2學期 課程大綱

## Spring 2026 NTUST Course Outline

授課教師：陳筱青

Instructor:Hsiao Chin Chen

課程名稱：互補金氧半導體射  
頻積體電路設計Course Title : CMOS RF Integrated  
Circuit Design

2026/5/6

課程代號： EE5013701 Course Code 學分數： 3 Credits	必選修：選修/半學年 Required/Elective:Elective/Half Yr. 先修課程： Prerequisites
節次教室： R6(IB-601-1) R7(IB-601-1) R8(IB-601-1) Time/Location	
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Students will learn about the design and applications of RFICs. By Course lecturing, project assigning, and introducing some IEEE technical Objectives papers, the instructor will help students to build up professional skills in the field of CMOS RFICs.	
課程大綱： 1. Introduction Outline of 2. Migrating analog/mixed-signal designs to FinFET Lectures 3. RFICs for Wireless Communications 4. Cryo-CMOS circuits and systems for quantum computing 5. Cryo-CMOS LNA Design and Inductor Modeling 6. Mixer 7. Oscillator 8. Frequency Synthesizer 9. Divider	
授課方式： 講授 Lecture：70% Method of 分組討論 Group discussion：10% Instruction 案例研討 Case study：10% 操做練習 Practical exercises：10% 講授 Lecture：%	
教科書： RF Microelectronics, Behzad Razavi, Prentice Hall,1998 Textbooks	
參考書目： “The Design of CMOS Radio-Frequency Integrated Circuits ”, Thomas References Lee, Cambridge.	
修課須知： TA: 王啟超 (EE-506-2) Notice 輔助教材: Moodle	
評量方式： Midterm 30% Grading Project 40% (1st:10%, 2nd:10%, final:20%) Final Exam 30%	
備註說明： Students should be familiar with microelectronics and electromagnetism. Notes	