Course Information	
Course title	Digital Communication Integrated Circuits Design
Semester	108-2
Designated for	COLLEGE OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE GRADUATE INSTITUTE OF BIOMEDICAL ELECTRONICS AND BIOINFORNATICS
Instructor	CHIA-HSIANG YANG
Curriculum Number	EE5092
Curriculum Identity Number	921 U5010
Credits	3.0
Course Syllabus	
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Course Description	1. Introduction 2. Digital Modulation 3. Advanced Wireless Technology 4. Signal Propagation and Channel Model 5. Synchronization 6. Channel Estimation and Equalization 7. MIMO Detection 8. Circuit Techniques 9. IC Design Examples
Course Objective	MIMO OFDM 已為當前各種無線通訊標準所採用，其重要性不言可喻。本課程將講解 OFDM 基頻訊號處理所遭遇之各項問題與其解決方案，內容包括基本通訊理論、訊號處理、電路設計，並包含相關的系統實作範例。修習本課程之學生需於期末時進行專題研究並口頭報告其成果。
Course Requirement	評分方式: 作業、期末專題 預修科目: 通訊原理、數位電路設計 (熟悉 Matlab, Verilog)

Progress		
Week	Date	Topic
第 1 週	3/04	Introduction

第 2 週	3/11	Digital Modulation
第 3 週	3/18	Advanced Wireless Technology
第 4 週	3/25	Signal Propagation and Channel Model
第 5 週	4/01	Synchronization
第 6 週	4/08	Channel Estimation and Equalization
第 7 週	4/15	MIMO Detection I
第 8 週	4/22	Error Correcting Codes
第 9 週	4/29	MIMO Detection II
第 10 週	5/06	Circuit Techniques I
第 11 週	5/13	Circuit Techniques II
第 12 週	5/20	DSP Arch. Transformation
第 13 週	5/27	Power-Area minimization
第 14 週	6/03	MIMO IC Design Examples
第 15 週	6/10	Comm. IC Design Examples
第 16 週	6/17	Final Exam Week (no class)
第 17 週	6/24	Final project presentation