

Course Content

Course Title (English)	Error Correcting Codes
Course Title (Chinese)	錯誤更正碼
Credit	3
Instructor	Prof. Mao-Chao Lin 林茂昭 教授
Outline	<ol style="list-style-type: none">1. FUNDAMENTALS2. INTRODUCTION TO ALGEBRA3. LINEAR BLOCK CODES4. IMPORTANT LINEAR BLOCK CODES5. CYCLIC CODES6. BCH CODES AND REED-SOLOMON CODES7. MAJORITY-LOGIC DECODABLE AND FINITE GEOMETRY CODES8. BURST ERROR-CORRECTING CODES9. CONVOLUTIONAL CODES10. CODED MODULATION11. TURBO CODES12. EXIT CHART ANALYSIS FOR ITERATIVE DETECTION13. LOW DENSITY PARITY-CHECK CODES14. SOFT DECODING OF LINEAR BLOCK CODES15. SPACE-TIME CODING
Goal	ERROR-CORRECTION CODING IS NOW AN ESSENTIAL PART OF ADVANCED COMMUNICATION SYSTEMS. ERROR-CORRECTION CODING CAN BE INTEGRATED INTO THE FUNCTIONS OF MODULATION, EQUALIZATION, SYNCHRONIZATION, ETC. TO

	<p>ENHANCE THE SYSTEM PERFORMANCE. THIS ONE-SEMESTER COURSE WILL PROVIDE THE BEGINNER WITH THE KNOWLEDGE OF BASIC ALGEBRA, LINEAR BLOCK CODES, CONVOLUTIONAL CODES AND THE ADVANCED RANDOM-LIKE CODES SUCH AS TURBO CODES AND LOW-DENSITY PARITY CHECK CODES.</p>
English Teaching	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Teaching Material	<input checked="" type="checkbox"/> English <input type="checkbox"/> Chinese