



課 綱 Course Outline
資訊工程學系國際組

中文課程名稱 Course Name in Chinese	電子電路學				
英文課程名稱 Course Name in English	Electric and Electronic Circuits				
科目代碼 Course Code	CSIEB0090	班 別 Degree	學士班 Bachelor' s		
修別 Type	學程 Program	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					
課程目標 Course Objectives					
1. Familiar with the characteristics of the electronic components. 2. Practice the methods for circuit analysis.. 3. Lay the foundation for a circuit designer					
系教育目標 Dept.' s Education Objectives					
1	具備學科知識，養成專業技能 Acquire academic knowledge, develop professional skills				
2	學習創新思考，分析解決問題 Inspire innovative thinking, increase analytical problem solving ability				
3	培養團隊精神，學習溝通合作 Promote teamwork spirit, encourage coordination and cooperatio				
4	提昇專業倫理，承擔社會責任 Sublimate professional ethics, engage social responsibility				
5	涵育人文素養，開拓國際視野 Cultivate humanities, broaden global perspectives				
系專業能力 Basic Learning Outcomes				課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.' s Education Objectives	
A	資訊專業終身學習能力 Profound professional knowledge and skills			●	
B	實驗驗證資訊科學能力 Sound and free spirit; simple and generous quality			○	
C	資訊工具整合運用能力 Ability to appreciate beauty and think creatively			○	

D	資訊系統應用設計開發能力 Sense of democracy, the rule of law, and civil responsibility	
E	團隊合作溝通協調能力 Ability of communication, teamwork, and social practice	●
F	資通訊科技問題解決能力 Possess both domestic and global perspectives	
G	瞭解資訊科技多元影響能力 Knowledgeable and possess the quality of humanism	
H	肩負資訊人社會責任能力 Ability of verbal expression and information organization and application	

圖示說明 Illustration : ● 高度相關 Highly correlated ○ 中度相關 Moderately correlated

課程大綱
Course Outline

1. Fundamentals
 - RLC circuit, Fourier analysis, Laplace transform technique
2. Theory Analysis
 - Thevenin' s & Norton' s theorem, Forced response, Phasor concept
3. Components Analysis
 - Semiconductor, diodes, transistors, MOSFETs, CMOS
4. Logic Circuit Analysis
 - CMOS inverters, Combinatorial digital circuit
5. Introduction to VLSI system

資源需求評估 (師資專長之聘任、儀器設備的配合 . . . 等)

Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

1. Computers
2. PSPICE simulation software

課程要求和教學方式之建議
Course Requirements and Suggested Teaching Methods

1. Course requirements:
Midterm/final examinations, quizzes, and homework
2. Teaching methods:
Oral teaching and hand-on practice

其他
Miscellaneous