



## 教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese	電子學(二)		學年/學期 Academic Year/Semester	112/2
課程名稱(英文) Course Name in English	Electronics(II)			
科目代碼 Course Code	OE_10190	系級 Department & Year	學二	開課單位 Course-Offering Department
修別 Type	學程 Program	學分數/時間 Credit(s)/Hour(s)	3.0/3.0	
授課教師 Instructor	/林楚軒			
先修課程 Prerequisite				
課程描述 Course Description				
<p>電子學是電子相關產業必備的基礎知識，本課程會接續電子學一的內容，重點為：                      1. Bipolar Amplifiers 2. Physics of MOS transistors 3. CMOS Amplifiers 4. Cascode Stages and Current Mirrors 5. Differential Amplifiers 6. Frequency Response</p> <p>課程目標是                      (1) 認識放大器電路之特性                      (2) 具有分析電子電路之能力。</p>				
課程目標 Course Objectives				
<p>(1) 認識放大器電路之特性                      (2) 具有分析電子電路之能力。</p>				
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	具有光電相關的物理、化學、材料及數學的知識。Physics, chemistry, material, and math knowledge related to opto-electronic engineering			●
B	具有光電工程的專業知識及應用能力。Professional knowledge and application ability of opto-electronic engineering			●
C	具有設計與執行實驗、報告撰寫與數據解釋之能力。Abilities to design and execute experiment, write reports, and explain data			○
D	使用儀器進行物件的分析及測試。Analysis and test of devices by instruments			○
E	具備適當的英文能力，應用於學習與交流。English language ability to study and interact			●
F	具有良好的溝通與團隊合作的能力。Ability to communicate and teamwork			○
G	具有創新思維及終身學習的能力。Creative thinking and life-long learning ability			●
圖示說明 Illustration : ● 高度相關 Highly correlated ○ 中度相關 Moderately correlated				
授課進度表 Teaching Schedule & Content				
週次 Week	內容 Subject/Topics			備註 Remarks
1	Bipolar Amplifiers			
2	Bipolar Amplifiers			

3	Bipolar Amplifiers	
4	Physics of MOS Transistors	
5	Physics of MOS Transistors	
6	Physics of MOS Transistors	期中考
7	國定假日	
8	CMOS Amplifiers	
9	CMOS Amplifiers	
10	Cascode Stages and Current Mirrors	
11	Cascode Stages and Current Mirrors	
12	Differential Amp	期中考
13	Differential Amp	
14	Differential Amp	
15	Differential Amp	
16	Frequency Response	
17	期末考/補Frequency Response	
18	彈性線上教學	

### 教學策略 Teaching Strategies

- 課堂講授 Lecture     
 分組討論 Group Discussion     
 參觀實習 Field Trip  
 其他 Miscellaneous:

### 教學創新自評 Teaching Self-Evaluation

#### 創新教學 (Innovative Teaching)

- 問題導向學習 (PBL)     
 團體合作學習 (TBL)     
 解決導向學習 (SBL)  
 翻轉教室 Flipped Classroom     
 磨課師 Moocs

#### 社會責任 (Social Responsibility)

- 在地實踐 Community Practice     
 產學合作 Industry-Academia Cooperation

#### 跨域合作 (Transdisciplinary Projects)

- 跨界教學 Transdisciplinary Teaching     
 跨院系教學 Inter-collegiate Teaching

- 業師合授 Courses Co-taught with Industry Practitioners

其它 other:

---

學期成績計算及多元評量方式 Grading & Assessments

配分項目 Items	配分比例 Percentage	多元評量方式 Assessments							
		測驗 會考	實作 觀察	口頭 發表	專題 研究	創作 展演	卷宗 評量	證照 檢定	其他
平時成績 General Performance	40%			✓					
期中考成績 Midterm Exam	40%	✓							
期末考成績 Final Exam	20%	✓							
作業成績 Homework and/or Assignments									
其他 Miscellaneous (_____)									

評量方式補充說明

Grading & Assessments Supplemental instructions

上課抽問:40%(有到就有一半), 三次考試:60%

教科書與參考書目(書名、作者、書局、代理商、說明)

Textbook & Other References (Title, Author, Publisher, Agents, Remarks, etc.)

Fundamentals of Microelectronics, Razavi

課程教材網址(含線上教學資訊, 教師個人網址請列位於本校內之網址)

Teaching Aids & Teacher's Website(Including online teaching information.

Personal website can be listed here.)

<https://elearn4.ndhu.edu.tw/moodle/>

<https://meet.google.com/dhm-mzrs-mgu>

其他補充說明 (Supplemental instructions)