



## 教學計劃表 Syllabus

課程名稱(中文) Course Name in Chinese		應用電子學AB		學年/學期 Academic Year/Semester		112/1	
課程名稱(英文) Course Name in English		Applied Electronics					
科目代碼 Course Code		PHYS3250AB	系級 Department & Year	學三		開課單位 Course-Offering Department	物理學系
修別 Type		學程 Program	學分數/時間 Credit(s)/Hour(s)		3.0/3.0		
授課教師 Instructor		/彭文平					
先修課程 Prerequisite							
課程描述 Course Description							
Introduction to Microelectronics, Basic Circuit Theory, Basic Physics of Semiconductors, Diode Models and Circuits, Physics of Bipolar Transistors, and Bipolar Amplifiers							
課程目標 Course Objectives							
建立電子學的基礎與觀念							
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	具備物理之基礎背景知識Possessing fundamental knowledge in physical sciences.						○
B	能運用基本物理知識與邏輯推理，分析解決物理問題Being able to analyze and solve physics problems based on basic knowledge in physics as well as logical reasoning.						●
C	對目前測量器材有基礎認識，且具有操作物理實驗儀器的能力Being acquainted with modern equipment and being able to operate them for performing physics experiments.						●
D	能使用基礎電腦程式語言解決物理問題Being able to use basic computer programming for solving physics problems.						
E	善用各種資訊平台進行論文資料蒐集的能力Being able to use various platforms for data collection benefiting a topical research.						
F	具備科技發展的國際視野以及外語溝通的能力Having an international view of the technology developments and being able to use a foreign language for communications						
G	能整合物理與其它領域知識Being able to integrate the knowledge of physics with that of other fields.						○
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		9/11 (Mon.): Introduction to Microelectronics					
2		9/18 (Mon.): Basic Circuit Theory					
3		9/25 (Mon.): Basic Circuit Theory					
4		10/2(Mon.): Basic Circuit Theory					

5	10/9 (Mon.): National Holiday	
6	10/16 (Mon.): Basic Physics of Semiconductors	
7	10/23 (Mon.): Basic Physics of Semiconductors	
8	10/30 (Mon.): Diode Models and Circuits	
9	11/6 (Mon.): Diode Models and Circuits	
10	11/13 (Mon.): MIDTERM EXAM	
11	11/20 (Mon.): Physics of Bipolar Transistors	
12	11/27 (Mon.): Physics of Bipolar Transistors	
13	12/4 (Mon.): Physics of Bipolar Transistors	
14	12/11 (Mon.): Bipolar Amplifiers	
15	12/18 (Mon.): Bipolar Amplifiers	
16	12/25 (Mon.): Bipolar Amplifiers	
17	1/2-5 (Mon.): FINAL EXAM	
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#### 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:

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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									
期中考成績 Midterm Exam	35%								
期末考成績 Final Exam	35%								
作業成績 Homework and/or Assignments	15%								
其他 Miscellaneous (Ask and answer questions)	15%								
評量方式補充說明 Grading & Assessments Supplemental instructions									
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 (Behzad Razavi, 3nd edition) Wiley ISBN: 978-1-119-69514-1 滄海書局 0932-597322									
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.)									
其他補充說明 (Supplemental instructions)									