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②國玄東華大學

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 | | 113/2 | |
|------------------------------------|-----------------|-------------------------------|--|---------------------------------------|--------|-------|--|
| 課程名稱(英文) Course Name in English | Electronics(II) | | | | | | |
| 科目代碼 Course Code | OE10190 | 系級 Department 學二 & Year | | 開課單位 Course-Offering Department | 光電工程學系 | | |
| 修別 Type | 學程 Program | 學分數/時 Credit(s)/Hou | | 3.0/3.0 | | | |
| 授課教師 Instructor | /林楚軒 | | | | | | |
| 先修課程 Prerequisite | | | | | | | |

課程描述 Course Description

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 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。

課程目標 Course Objectives

- (1) 認識放大器電路之特性
- (2) 具有分析電子電路之能力。

| | 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 | • |
| В | 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 | • |
| С | 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 | 0 |
| D | 使用儀器進行物件的分析及測試。Analysis and test of devices by instruments | 0 |
| Е | 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 | Physics of MOS Transistors | |

| 3 | Physics of MOS Transistors | | | | | |
|---|------------------------------------|------------|--|--|--|--|
| 4 | Physics of MOS Transistors | | | | | |
| 5 | CMOS Amplifiers | | | | | |
| 6 | CMOS Amplifiers | 期中考 | | | | |
| 7 | 國定假日 | | | | | |
| 8 | Op Amp | | | | | |
| 9 | Op Amp | | | | | |
| 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 | Field Trip | | | | |
| 其他Mis | 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 | | | | | | |
| ————————————————————————————————————— | | | | | | |
| ■ 在地實踐Community Practice ■ 産學合作 Industy-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 | 配分比例 Percentage | 多元評量方式 Assessments | | | | | | | |
| Items | | 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(含出缺席) General Performance (Attendance Record) | 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%(有到就有一半分),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)