

**National Tsing Hua University**  
**Department of Power Mechanical Engineering**

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**PME 3202      電子學 二 (Electronics II)      Fall 2022**

**Instructor:** 李昇憲 教授 (Professor: Sheng-Shian Li)

**Tel:** 62401      **Office:** 工一 616 室

**Email:** ssli@mx.nthu.edu.tw

**Credit:** 3 學分      **上課教室:** 工一 431 室

**上課時間:** Monday 10:00 - 12:00,      Wednesday 9:00 - 10:00.

**Office Hours of Instructor (教師諮詢時間):** TBD

**先修科目:** 電子學 一 (Electronics I)

**助教:** 林仲偉(o3o.way@gmail.com)、羅邦喆(ggyy115478@gmail.com)、王上瑋  
(shangweiwang0324@gmail.com)、陳弘侑(neilswords@gmail.com)、謝博丞  
(xiebocheng@gapp.nthu.edu.tw)、周俊宇(jimmy545860@gmail.com) ;  
台達館 325 室 ; 分機 80629

**授課大綱:**

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|---|---------------------------|
| 1. Introductions, reviews of electrical circuits and FETs | Lecture Notes & Chapter 5 |
| 2. Bipolar Junction Transistors (BJTs)                    | Chapter 4&6               |
| 3. Building Blocks of Integrated-Circuit Amplifiers       | Chapter 7                 |
| 4. Differential and Multistage Amplifiers                 | Chapter 8                 |

**Midterm Examination (11 月 21 日, 星期一 6:00 – 9:00 pm, Tentative)**

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| 5. Frequency Responses of Amplifiers                  | Sec. 1.6, Chapter 9 |
| 6. *Operational-Amplifier and Data-Converter Circuits | Chapter 12          |

**Final Examination (1 月 9 日, 星期一 6:00 – 9:00 pm, Tentative)**

\*若時間不夠，部份內容不教。

**Reading**

**Textbook:**

A. S. Sedra and K. C. Smith, *Microelectronic Circuits*, Oxford University Press, International 8th edition, 2020. ISBN 978-0-19-085350-1

**References:**

1. Neamen, D. A., *Microelectronics Circuit Analysis and Design*, McGraw Hill, 4<sup>th</sup> edition, 2010.
2. Razavi, B., *Fundamentals of Microelectronics*, Wiley, 2007.

**Evaluations:**

1. Quizzes: 15%
2. Term Project and Computer Homework: 25%
3. Midterm Exam: 25%
4. Experiment: 5%
5. Final Exam: 30%

**Extra Point:** 0-10% (Attendance, extra computer homework, experiment, etc.)