

COURSE DETAIL

PHYSICS OF SEMICONDUCTORS & DEVICES

Country

Singapore

Host Institution

Nanyang Technological University

Program(s)

Nanyang Technological University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Physics

UCEAP Course Number

150

UCEAP Course Suffix**UCEAP Official Title**

PHYSICS OF SEMICONDUCTORS & DEVICES

UCEAP Transcript Title

SEMICONDUCTORS/DVCS

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

This course provides a comprehensive introduction to the physics of semiconductors and devices. It covers essential topics including principles and design and the foundational knowledge of the functionality and applications of the devices. Students design experiments that use these devices, and link theory and practice so that concepts learned in the course can be implemented. Topics include widely used semiconductor devices, such as diode and transistor, or memory, such as, SRAM, DRAM, and NAND Flash. This course familiarizes students with the common semiconductor devices in the advanced manufacturing industry to gain the relevant background in the semiconductor industry. The course requires students to take prerequisites.

Language(s) of Instruction

English

Host Institution Course Number

PH4601

Host Institution Course Title

PHYSICS OF SEMICONDUCTORS & DEVICES

Host Institution Course Details

https://wis.ntu.edu.sg/webexe/owa/aus_subj_cont.main

Host Institution Campus

Host Institution Faculty

School of Physical and Mathematical Sciences

Host Institution Degree

Host Institution Department

Physics

Course Last Reviewed

2025-2026

[Print](#)