

COURSE DETAIL

OVERVIEW OF SEMICONDUCTOR TECHNOLOGY

Country

Taiwan

Host Institution

National Taiwan University

Program(s)

National Taiwan University

UCEAP Course Level

Lower Division

UCEAP Subject Area(s)

Materials Science Electrical Engineering

UCEAP Course Number

18

UCEAP Course Suffix**UCEAP Official Title**

OVERVIEW OF SEMICONDUCTOR TECHNOLOGY

UCEAP Transcript Title

SEMICONDUCTOR TECH

UCEAP Quarter Units

3.00

UCEAP Semester Units

2.00

Course Description

This introductory semiconductor course is specifically designed for interdisciplinary learners. Leveraging professors from STEM (engineering, science, engineering, electrical engineering, and computer science) backgrounds, the course utilizes unit-based thematic teaching to help students understand semiconductor terminology, principles, and forward-looking applications, while also developing their ability to plan for further learning. The course features a holistic overview and does not emphasize related mathematical theories; therefore, it also serves as a general introductory course in contemporary materials science, suitable for students of all backgrounds and academic levels (including graduate students) interested in semiconductor technology. As an introductory course for interdisciplinary learners, this course first provides an overview of the current semiconductor world and how self-learners can modularly understand semiconductor technology. It then explores forward-looking chip applications and AI development to help students understand the importance of semiconductors for future societal development and even human civilization, and why undergraduate and graduate students should study semiconductor general knowledge. The course then progresses through basic solid-state physics and chemistry, materials and components, process equipment, and smart manufacturing modules, concluding with a comprehensive reflection on chip globalization and AI development. There are no exams for this course. Students integrate the knowledge they have acquired and explore a personalized learning map by submitting handwritten study notes, group discussion assignments, and final forum poster activities.

Language(s) of Instruction

Chinese

Host Institution Course Number

LibEdu1133

Host Institution Course Title

OVERVIEW OF SEMICONDUCTOR TECHNOLOGY

Host Institution Course Details

<https://course.ntu.edu.tw/en/courses/114-2/13910>

Host Institution Campus**Host Institution Faculty****Host Institution Degree****Host Institution Department**

Bioresources & Agriculture

Course Last Reviewed

2025-2026

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