

108-2 Full Curriculum of Da-Yeh University

Information			
Title	Introduction to Electronic Materials	Serial No./ID	2142 /EEI2022
Required/Credit	Optinal /3	Time/Place	(Mon)234 / H339
Language	Chinese	Grade Type	Number
Lecturer /Full- or Part-time	Jung-Jie Huang /Full-time	Graduate Class	Non-graduating Class
School System /Dept /Class, Grade	Bachelor /Department of Electrical Engineering /Class 1, Grade 2		
Office Hour / Place	(Thu) 08:10~09:00, (Thu) 09:10~10:00, (Thu) 10:10~11:00, (Thu) 11:10~12:00 / A212		
Lecturer	n.a.		

Introduction
TBA

Outline
TBA

Prerequisite
None

The Relationship Between Courses and Departmental Core Competencies and Basic Skills

Being able to collect and analyze data, to perform simulation, to design experiments and to solve problems.



Being able to exchange electrical engineering information in English.



To have the ability to yield insight into the development trend of engineering related industries in Taiwan and around the world.

To have professional ethics and to pay attention to the impact of engineering technology on the social environment and to fulfill engineers' social responsibility.

To know basic electrical engineering English.



With electrical engineering expertise and application capability.



Owning ability of understanding basic knowledge and application of mathematics and physics.



Understand the fundamentals of information technology and know how to apply it.

Teaching Plan						
Core Capability	Weight(%) 【A】	Ability index(Performance Indicators)	Teaching Methods	Assessment and Weight	Core Competency Learning Outcomes 【B】	Final Exam Grades 【C=B*A】
Owning ability of understanding basic knowledge and application of mathematics and physics.	20	Handing in homeworks on time. Passing the necessary tests Active learning and questioning.	Lecturing	Final Exam: 20% Midterm Exam: 20% Homework Assignment: 20% Course Participation: 20% Experiment Operation: 20%	Total: 100	20
Understand the fundamentals of information technology and know how to apply it.	20	Handing in programming homeworks on time. Passing the necessary tests. Active learning and questioning.	Lecturing	Midterm Exam: 20% Final Exam: 20% Homework Assignment: 20% Course Participation: 20% Experiment Operation: 20%	Total: 100	20
With electrical engineering expertise and application capability.	30	Handing in homeworks on time. Active learning and questioning. Passing the necessary tests.	Lecturing	Final Exam: 20% Midterm Exam: 20% Homework Assignment: 20% Experiment Operation: 20% Course Participation: 20%	Total: 100	30
Being able to exchange electrical engineering information in English.	20	Being willing to discuss with others. Being familiar with using of software, apparatus, and machines, etc. Being able to resolve professional issues.	Lecturing Practical Operation (Experiment, Machine Operation	Midterm Exam: 20% Final Exam: 20% Homework Assignment: 20% Course Participation: 20% Experiment Operation: 20%	Total: 100	20

To have the ability to yield insight into the development trend of engineering related industries in Taiwan and around the world.	10	Being able to present the newest development of technology of electrical engineering and trends. Being able to write a report on related industry developments or patents.	Lecturing	Midterm Exam: 20% Final Exam: 20% Course Participation: 20% Homework Assignment: 20% Experiment Operation: 20%	Total: 100	10
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Grade Auditing

Homework Assignment: 20%
Midterm Exam: 20%
Course Participation: 20%
Experiment Operation: 20%
Final Exam: 20%

Book Type (Respect intellectual property rights. Please use official textbooks and do not illegally photocopy others' works.)

Book Type	Book name	Author
Textbook	電子材料工程	魏炯權

Lesson Plan

Weeks	Content	Teaching Methods
1	Introduction to Electronic Materials & Intellectual Property Protection (use legitimate textbooks only) & Traffic safety Propaganda	Lecturing
2	Physical Properties of Solid I	Lecturing
3	Physical Properties of Solid II	Lecturing
4	Dielectric Material	Lecturing
5	Ferro-electric Material	Lecturing
6	Piezoelectric Material	Lecturing
7	Vacuum Evaporation	Lecturing、 Practical Operation (Experiment, Machine Operation
8	Sputtering	Lecturing、 Practical Operation (Experiment, Machine Operation

9	Mid-term Exam	Exam
10	Thin Film Characteristics I	Lecturing
11	Thin Film Characteristics II	Lecturing
12	IC Process- Oxidation, Diffusion and Ion Implantation	Lecturing
13	IC Process- Photolithography	Lecturing、 Practical Operation (Experiment, Machine Operation
14	IC Process- Etching	Lecturing、 Practical Operation (Experiment, Machine Operation
15	Structure and Characteristic of MOS Transistor	Lecturing
16	Photoelectric Material	Lecturing
17	Nanomaterial	Lecturing
18	Final Exam	Exam