Tamkang University Academic Year 112, 2nd Semester Course Syllabus

Course Title	ELECTRONICS	Instructor	MA, SU-SHENG
Course Class	TENXB2B DEPARTMENT OF AEROSPACE ENGINEERING, 2B	Details	◆ General Course ◆ Required ◆ One Semester
Relevance to SDGs	SDG7 Affordable and clean energy SDG9 Industry, Innovation, and Infrastructure		

Departmental Aim of Education

Ⅰ. Apply scientific knowledge and engineering techniques to analyze and solve fundamental aerospace engineering problem.

Ⅱ. Through fundamental theory to design and implement experiments, and be able to analyze experimental data.

Ⅲ. Maintain the spirit of independent thinking, self-elevate, and continuous learning.

Ⅳ. Uphold the responsible attitude of work ethics and team work.

Ⅴ. Will have access to information, using basic knowledge, diversification, and better ability to adapt to circumstances.

Subject Departmental core competences

A. With basic aerospace engineering expertise.(ratio:20.00)

B. Able to solve basic engineering problems via fundamental theory.(ratio:30.00)

C. Capable of lifelong learning and research capacity for further studies.(ratio:20.00)

D. To work with a sense of mission and responsibility.(ratio:10.00)

E. Have team spirit and the ability to communicate with each other.(ratio:10.00)

F. With an international perspective, have the ability to connect with the world.(ratio:5.00)

G. Taking full advantage of information and utilization of computer-assisted problem solving skills.(ratio:5.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:15.00)

2. Information literacy. (ratio:15.00)

3. A vision for the future. (ratio:20.00)

4. Moral integrity. (ratio:5.00)

5. Independent thinking. (ratio:30.00)

6. A cheerful attitude and healthy lifestyle. (ratio:5.00)

7. A spirit of teamwork and dedication. (ratio:5.00)

8. A sense of aesthetic appreciation. (ratio:5.00)

Course Introduction	Electronics is a science that studies electronic components and circuits, which involves concepts such as voltage, current, resistance, capacitance, inductance, diodes, transistors, operational amplifiers, etc. Electronics can help students understand how electronic devices work, and design various practical electronic systems.

The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.

Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.

I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.

II.Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.

III.Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.

No.	Teaching Objectives	objective methods
1	Individual thinking and team work	Cognitive

The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCDEFG	12345678	Lecture	Discussion(including classroom and online), Activity Participation

Course Schedule

Week	Date	Course Contents	Note
1	113/02/19 ~ 113/02/25	Introduction to Electronic Theory and Applications	
2	113/02/26 ~ 113/03/03	Basic Circuit Analysis 1	

3	113/03/04 ~ 113/03/10	Basic Circuit Analysis 2	
4	113/03/11 ~ 113/03/17	Diodes 1	
5	113/03/18 ~ 113/03/24	Diodes 2	
6	113/03/25 ~ 113/03/31	Semiconductors 1	
7	113/04/01 ~ 113/04/07	Semiconductors 2	
8	113/04/08 ~ 113/04/14	Team work test	
9	113/04/15 ~ 113/04/21	Midterm Exam Week	
10	113/04/22 ~ 113/04/28	The introduction of BJT Components	
11	113/04/29 ~ 113/05/05	BJT components: single-stage and multi-stage amplifiers 1	
12	113/05/06 ~ 113/05/12	BJT components: single-stage and multi-stage amplifiers 2	
13	113/05/13 ~ 113/05/19	The introduction of FET Components	
14	113/05/20 ~ 113/05/26	FET components: single-stage and multi-stage amplifiers 1	
15	113/05/27 ~ 113/06/02	FET components: single-stage and multi-stage amplifiers 2	
16	113/06/03 ~ 113/06/09	Team work test	
17	113/06/10 ~ 113/06/16	Final Exam Week (Date:113/6/11-113/6/17)	
18	113/06/17 ~ 113/06/23	Flex week, learning activities should be arranged.	

Key capabilities	Problem solving
Interdisciplinary	In addition to teaching content of the teacher's professional field, integrate other subjects or invite experts and scholars in other fields to share knowledge or teaching
Distinctive teaching	

Course Content	Logical Thinking
Requirement	
Textbooks and Teaching Materials	Self-made teaching materials:Presentations, Handouts
References	
Grading Policy	◆ Attendance： 20.0 % ◆ Mark of Usual： % ◆ Midterm Exam： 30.0 % ◆ Final Exam： 50.0 % ◆ Other〈 〉： %
Note	This syllabus may be uploaded at the website of Course Syllabus Management System at http://info.ais.tku.edu.tw/csp or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at http://www.acad.tku.edu.tw/CS/main.php . ※ **Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.**