

Tamkang University Academic Year 112, 1st Semester Course Syllabus

Course Title	SEMINAR (III)	Instructor	WU, CHYAN-CHYI
Course Class	TEBXD2A DOCTORAL PROGRAM, DEPARTMENT OF MECHANICAL AND ELECTRO-MECHANICAL ENGINEERING, 2A	Details	<ul style="list-style-type: none"> ◆ General Course ◆ Required ◆ One Semester
Relevance to SDGs	SDG4 Quality education SDG9 Industry, Innovation, and Infrastructure SDG10 Reducing inequalities		
Departmental Aim of Education			
I. To prepare students who have a comprehensive understanding of the principles of applied sciences and engineering to be innovators in the field of mechanical and electromechanical engineering. II. To train emerging professionals who possess a high level of expertise and ethical standards who will become independent research and development leaders in the industry. III. To motivate students who will pursue continuing education as a means to stay on the cutting edge of global competitiveness and meet changes in their careers and the workplace with confidence and ease.			
Subject Departmental core competences			
A. Head: Knowledge of mechanical and electromechanical engineering.(ratio:50.00) B. Hand: Hands-on skills and practical realization.(ratio:10.00) C. Heart: Love of learning and innovation.(ratio:20.00) D. Eye: Vision of progress and improvements.(ratio:20.00)			
Subject Schoolwide essential virtues			
1. A global perspective. (ratio:15.00) 2. Information literacy. (ratio:30.00) 3. A vision for the future. (ratio:5.00) 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	<p>This course aims to help students learn how to think up an idea for research, collect/organize the related information, decide on a research method, execute the problem solving process, analyze data and write up/publish results by studying, analyzing and discussing the related research papers, books and patents.</p>
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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	To prepare students who have a comprehensive understanding of the principles of applied sciences and engineering to be innovators in the field of mechanical and electromechanical engineering.	Cognitive
2	To train emerging professionals who possess a high level of expertise and ethical standards who will become independent research and development leaders in the industry.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCD	123458	Lecture, Discussion, Practicum	Discussion(including classroom and online), Report(including oral and written)
2	ACD	12345678	Lecture, Discussion	Discussion(including classroom and online), Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note

1	112/09/11 ~ 112/09/17	Introduction	
2	112/09/18 ~ 112/09/24	Papers reading, analyzing and discussion	
3	112/09/25 ~ 112/10/01	Papers reading, analyzing and discussion	
4	112/10/02 ~ 112/10/08	Papers reading, analyzing and discussion	
5	112/10/09 ~ 112/10/15	Papers reading, analyzing and discussion	
6	112/10/16 ~ 112/10/22	Papers reading, analyzing and discussion	
7	112/10/23 ~ 112/10/29	Papers reading, analyzing and discussion	
8	112/10/30 ~ 112/11/05	Papers reading, analyzing and discussion	
9	112/11/06 ~ 112/11/12	Midterm report	
10	112/11/13 ~ 112/11/19	Papers reading, analyzing and discussion	
11	112/11/20 ~ 112/11/26	Papers reading, analyzing and discussion	
12	112/11/27 ~ 112/12/03	Papers reading, analyzing and discussion	
13	112/12/04 ~ 112/12/10	Papers reading, analyzing and discussion	
14	112/12/11 ~ 112/12/17	Papers reading, analyzing and discussion	
15	112/12/18 ~ 112/12/24	Final Report/Presentation/Group Discussion	
16	112/12/25 ~ 112/12/31	Final Report/Presentation/Group Discussion	
17	113/01/01 ~ 113/01/07	Final Report/Presentation/Group Discussion	
18	113/01/08 ~ 113/01/14	Final Report/Presentation/Group Discussion	
Key capabilities	self-directed learning International mobility Information Technology Problem solving Interdisciplinary		
Interdisciplinary	STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integration of Art and Humanist)		
Distinctive teaching	Special/Problem-Based(PBL) Courses		

Course Content	Intellectual Property (learning intellectual property) Logical Thinking
Requirement	
Textbooks and Teaching Materials	Self-made teaching materials:Handouts Name of teaching materials: Class note
References	
Grading Policy	◆ Attendance : 20.0 % ◆ Mark of Usual : % ◆ Midterm Exam : % ◆ Final Exam : % ◆ Other 〈Presentation〉 : 80.0 %
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.