Tamkang University Academic Year 113, 2nd Semester Course Syllabus

Course Title DYNAMICS OF MACHINES		Instructor	JUANG, CHIA-WEI			
Course Class	TEBXM1A MASTER'S PROGRAM, DEPARTMENT OF MECHANICAL AND ELECTRO-MECHANICAL ENGINEERING, 1A	Details	 General Course Selective One Semester 3 Credits 			
Relevance to SDGs	SDG4 Quality education e SDGs					
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. II. To motivate students who will pursue continuing education as a means to stay on the cutting edge of global competiveness and meet changes in their careers and the workplace with confidence and ease. 						
Subject Departmental core competences						
A. Head: Kr	nowledge of mechanical and electromechanical engineering.(rat	tio:40.00)				
B. Hand: Ha	ands-on skills and practical realization.(ratio:40.00)					
C. Heart: Lo	ove of learning and innovation.(ratio:10.00)					
D. Eye: Vision of progress and improvements.(ratio:10.00)						
Subject Schoolwide essential virtues						
1. A global perspective. (ratio:10.00)						
2. Information literacy. (ratio:20.00)						
3. A vision for the future. (ratio:10.00)						
4. Moral integrity. (ratio:5.00)						
5. Indeper	5. Independent thinking. (ratio:30.00)					
6. A cheer	6. A cheerful attitude and healthy lifestyle. (ratio:5.00)					
7. A spirit	7. A spirit of teamwork and dedication. (ratio:15.00)					
8. A sense	8. A sense of aesthetic appreciation. (ratio:5.00)					

In	CourseThis course introduces the dynamic theories related to mechanisms and machines, along with analytical and design methods for engineering applications. It aims to provide an understanding of the dynamic behavior of mechanisms and machines while exploring design improvements to enhance dynamic performance and functionality. Additionally, the course teaches students to use MATLAB programming to analyze machine dynamics problems.						
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 method			objective methods			
1	The course ir	introduces the dynamic theories related to machines. Cognitive					
2	The course te analyze mach	course teaches students to use MATLAB programming to Psychomotor yze machine dynamics problems.					
	The	correspond	lences of teaching objectives	: core competences, essential virtues, teaching me	thods, and assessment		
No.	Core Compet	tences	Essential Virtues	Teaching Methods	Assessment		
1	ABCD		12345678	Lecture	Testing		
2	ABCD		12345678	Lecture, Practicum	Practicum, Report(including oral and written)		
				Course Schedule			
Wee	Date		Cour	rse Contents	Note		
1	114/02/17 ~ 114/02/23	Course Introduction					
2	114/02/24 ~ 114/03/02	Kinematics review					
3	114/03/03~ 114/03/09	^{13~} Kinematics review					

4	114/03/10~ 114/03/16	MATLAB introduction	
5	114/03/17 ~ 114/03/23	Static balancing	
6	114/03/24~ 114/03/30	Static balancing	
7	114/03/31~ 114/04/06	Holiday	
8	114/04/07~ 114/04/13	Static balancing	
9	114/04/14~ 114/04/20	Midterm exam	
10	114/04/21~ 114/04/27	Force analysis	
11	114/04/28 ~ 114/05/04	Force analysis	
12	114/05/05 ~ 114/05/11	j~ Dynamic balancing	
13	114/05/12 ~ 114/05/18	Dynamic balancing	
14	114/05/19~ 114/05/25	Introduction of MATLAB Simulink	
15	114/05/26~ 114/06/01	Introduction of MATLAB Simulink	
16	114/06/02~ 114/06/08	Project Report	
17	114/06/09~ 114/06/15	Project Report	
18	114/06/16~ 114/06/22	Project Report	
Key capabilities			
Interdisciplinary			
Distinctive teaching			
Course Content		Computer programming or Computer language (students have hands-on experier	nce in
		related projects) Logical Thinking	

Requirement						
Textbooks and Teaching Materials	Self-made teaching materials:Presentations					
References						
Grading Policy	 ♦ Attendance: 10.0 % ♦ Mark of Usual: % ♦ Midterm Exam: 30.0 % ♦ Other ⟨Project⟩: 40.0 % 					
Note	This syllabus may be uploaded at the website of Course Syllabus Management System at <u>http://info.ais.tku.edu.tw/csp</u> or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at <u>http://www.acad.tku.edu.tw/CS/main.php</u> . * Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.					
TEBXM1E4384 0A	Page:4/4 2025/3/23 23:10:14					