

COURSE INFORMATION

Course Code	ME 497	Course Name	Senior Design Project I					
Type of Course	Level of Course	Semester	Language	Theory	Application (Practice)	Laboratory	Local Credits	ECTS
Compulsory	Undergrad.	7	English	0	2	0	1	6

Department	Mechanical Engineering
Prerequisites/Requirements for Admission	None
Mode of delivery	Face to face
Course coordinator	
Course lecturer(s)	
Course assistant(s)	
Course description/aim	At the end of this course, the student will be competent in designing a mechanical engineering system in a team environment, know how to manufacture a working model of their design collectively, know how to document and present their work on their design project efficiently, integrate their knowledge and skills that are acquired throughout their ME education, understand the principles of project management and will work in a team environment efficiently.
Course contents	The design process and morphology. Problem solving and decision making. Engineering ethics. Modeling and simulation. Use of computers in engineering design and CAD. Project engineering, planning and management. Design optimization. Economic decision making and cost evaluation. Aspects of quality. Failure analysis and reliability. Human and ecological factors in design. Case studies. A term project is assigned.
Recommended optional program components	None
Compulsory Attendance	Yes

Course Learning Outcomes

Learning outcome	Teaching Methods/Techniques	Assessment method(s)
At the end of this course, students will be able to:		
1. Learn the principles of design project		
2. Prepare an open-ended design project with earlier gains		
3. Make a problem definition from the point of Engineering competence		
4. Manifest ability for research and accessing of resources		
5. Prepare detailed manufacturing documents		
6. Work in a team		
7. Present project		
8. Gain the ability to project execution		

Weekly Detailed Course Content

Week	Content	Recommended Resource(s)	Time (Hours)

COURSE INFORMATION

1	Project Selection	Textbook/Lecture Notes	2
2	Project Selection	Textbook/Lecture Notes	2
3	Literature Review	Textbook/Lecture Notes	2
4	Literature Review	Textbook/Lecture Notes	2
5	Literature Review	Textbook/Lecture Notes	2
6	Requirement Analysis	Textbook/Lecture Notes	2
7	Requirement Analysis	Textbook/Lecture Notes	2
8	Presentation	Textbook/Lecture Notes	2
9	Design	Textbook/Lecture Notes	2
10	Design	Textbook/Lecture Notes	2
11	Design	Textbook/Lecture Notes	2
12	Design	Textbook/Lecture Notes	2
13	Design	Textbook/Lecture Notes	2
14	Design	Textbook/Lecture Notes	2
15	Design	Textbook/Lecture Notes	2
16	Presentation	Textbook/Lecture Notes	1

Sources

Course notes/textbooks	All undergraduate level course books
Readings	Chosen research subject articles
Supplemental readings	Other disciplines course books
References	

Evaluation System

Work Placement	Number	Percentage of Grade
Attendance		
Quizzes		
Homework		
Laboratory/Practice		
Report(s)		
Graduate Thesis/Project		
Seminar		

COURSE INFORMATION

Presentation	1	20
Projects	1	60
Midterm exam(s)		
Others		
Final exam	1	20
	Total	100
	Percentage of semester work	80
	Percentage of final exam	20
	Total	100

Workload Calculation

Activity	Week	Time (hours)	Total work load (hours)
Course hours	0	0	0
Midterm exam(s)	0	0	0
Final exam	0	0	0
Individual study for homework	0	0	0
Individual study for presentation	1	10	10
Individual study for project	15	10	150
Individual study for midterm exams	0	0	0
Individual study for final exam	14	2	28
		Total	188
		ECTS Credit(Total/30)	6

Contribution of Learning Outcomes to Program Outcomes

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
LO1	5	5	5	5	5	5	3	5	5	5	5
LO2	5	5	5	5	5	5	3	5	5	5	5
LO3	5	5	5	5	5	5	5	5	5	5	5
LO4	5	5	5	5	5	5	5	5	5	5	5
LO5	5	5	5	5	5	5	3	5	5	5	5
LO6	3	3	3	3	3	3	5	3	3	3	3
LO7	3	3	3	3	3	3	5	3	3	3	3
LO8	5	5	5	5	5	5	5	5	5	5	5

Contribution Level : 1 Very low, 2 Low, 3 Medium, 4 High, 5 Very High