METHODICAL DESIGN PRINCIPLES AND APPLICATION

1	Course Title:	METHODICAL DESIGN PRINCIPLES AND APPLICATION
2	Course Code:	MAK 5207
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	7.50
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None.
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç.Dr. KADIR ÇAVDAR
15	Course Lecturers:	-
16	Contact information of the Course Coordinator:	Doç. Dr. Kadir ÇAVDAR cavdar@uludag.edu.tr 224-2941975 UÜ MMF Makine Müh. Bölümü, 16059 Bursa.
17	Website:	www20.uludag.edu.tr/~cavdar
18	Objective of the Course:	The main objective of the course is to provide the senior engineering student with a realistic understanding of the engineering design process and to develop engineering design synthesis ability. Students are encouraged to develop a creative or/and innovative design project on preferably a real design problem, possibly manufacturing a prototype.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	Can learn the basic principles of design processes and morphology.
	2	Wins the problem solving and decision making, modeling and simulation abilities.
	3	Can learn the human and ecological factors in design.
	4	Wins the the ability to economic decision making.
	5	Wins the methodical design thinking ability.
	6	Wins the experience of working in a team.
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Explanations of term projects Introduction to the course..	

2	The design process and morphology.	
3	Problem solving and decision making.	
4	Using of computers in engineering design.	
5	Project engineering, planning and management.	
6	Conceptual design.	
7	Methodical design thinking.	
8	Repeating courses and midterm exam	
9	Methodical design thinking ability. Economic decision making and cost evaluation.	
10	Economic decision making and cost evaluation.	
11	Human and ecological factors in design.	
12	Human and ecological factors in design.	
13	Case studies in mechanical engineering design.	
14	Case studies in mechanical engineering design.	

22	Textbooks, References and/or Other Materials:	1. PP slides (in Turkish), Kadir Çavdar, from the web site of Dr. Cavdar. 4. Konstruktionslehre, Pahl G., Beitz W., Springer Verlag, 1997. Pfennig M., Springer = Lehrbuch, 1993. 6. Mühendislik Tasarımı-Engineering Design, Çev. H.Rıza
23	Assesment	

Activites	NUMBER	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	14	3.00	42.00
Practicals/Labs	0	0	0.00	0.00
Self study and preperation	14	14	3.00	42.00
Homeworks	1	1	30.00	30.00
Projects	10	10	4.00	40.00
Field Studies	0	0	0.00	0.00
Midterm exams	1	1	16.00	16.00
Others	1	1	30.00	30.00
Quiz	0	0	0.00	0.00
Final Exams	1	1	25.00	25.00
Total Work Load				225.00
Total work load/ 30 hr		1	50.00	7.50
Final Exam	1			
ECTS Credit of the Course				7.50

Contribution of Term (Year) Learning Activities to Success Grade	50.00
Contribution of Final Exam to Success Grade	50.00
Total	100.00
Measurement and Evaluation Techniques Used in the Course	

24	**ECTS / WORK LOAD TABLE**

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	4	5	0	0	0	0	0	0	3	0	0	0	0	0	0	0
ÖK2	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
ÖK3	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
ÖK4	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	0	0	0	0	5	5	5	5	4	0	0	0	0	0	0	0
ÖK6	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	**1 very low**		**2 low**		**3 Medium**		**4 High**			**5 Very High**						