DYNAMICS

1	Course Title:	DYNAMICS	
2	Course Code:	INS2014	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	2	
6	Semester:	4	
7	ECTS Credits Allocated:	5.00	
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. M.ÖZGÜR YAYLI	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	bdeliktas@uludag.edu.tr 224 2900744 Uludağ Univ. Müh.Mim Fak. İnşaat Müh. Böl. Görükle, Bursa	
17	Website:	http://insaat.uludag.edu.tr	
18	Objective of the Course:	To present the student the concepts and applications of the motions of bodies using the principles established by Newton and Euler.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Be able to describe orally and in writing the problems in dynamic and kinematics
		2	Be able to model the fundamental principles of applied kinematics for particles and rigid bodies in engineering dynamics by using simple drawing techniques and modern computer technology.
		3	Be able to implement an integrated understanding of engineering dynamics principles through applications involving problem solving and through creation of design solutions to engineering scenarios.
		4	Be able to model the dynamics problems by using the simple drawing techniques and modern computer tools and also be able to drive the mathematical formulations of dynamics problems.
		5	Be able to analyze the dynamics of particles and rigid bodies with applications.
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21	Course Content:		
	Course Content:		

Week	Theoretical	Practice
1	Kinematics of Particles	
2	Kinematics of Particles	
3	Kinetics of Particles: Newton's Second Law	
4	Kinetics of Particles: Newton's Second Law	
5	Kinetics of Particles: Energy and Momentum Methods	
6	Kinetics of Particles: Energy and Momentum Methods	
7	Systems of Particles	
8	Systems of Particles	
9	Kinematics of Rigid Bodies	
10	Kinematics of Rigid Bodies	
11	Plane Motion of Rigid Bodies: Forces and Accelerations	
12	Plane Motion of Rigid Bodies: Forces and Accelerations	
13	Plane Motion of Rigid Bodies: Energy and Momentum Methods	
14	Plane Motion of Rigid Bodies: Energy and Momentum Methods	

22	Textbooks, References and/or Other Materials:	Vector Mechanics for Engineers–Dynamics, 8th SI Ed., Beer F. P., Johnston E. R. and Clausen W. E., McGraw-Engineering Mechanics-Dynamics, 5th SI Ed., Meriam J. L., Kraige L. G. and Palm W.J., John Wiley, 2003.
23	Assesment	

Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study and preperation		14	4.00	56.00
Homeworks		6	4.00	24.00
Projects	**R**	2	12.00	24.00
Field Studies		0	0.00	0.00
Quiz				
Midterm exams	2	1	3.00	3.00
Others		0	0.00	0.00
Final Exam				
Final Exams	1	1	3.00	3.00
Total Work Load				152.00
Total Work load / 30 h(				
Contribution of Term (Year) Learning Activities to Success Grade		50.00		5.07
ECTS Credit of the Course				5.00

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	0	5	0	0	0	0	3	2	0	0	0	2	0	0	0	0
ÖK2	5	3	0	4	0	4	3	0	0	0	0	0	0	0	0	0

ÖK3	5	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	5	0	0	0	5	4	0	0	0	0	0	3	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**