



COURSE INFORMATION FORM

SEMESTER	Fall
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COURSE CODE	151811202	COURSE NAME	Physics I (A)
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SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAGE
1	3	0	0	3	3	COMPULSORY (x) ELECTIVE ()	English

COURSE CATAGORY			
Basic Science	Basic Engineering	Mechanical Engineering [if it contains considerable design, mark with (√)]	Social Science
X		()	

ASSESSMENT CRITERIA			
	Evaluation Type	Quantity	%
MID-TERM	Mid-Term	1	N/A
	Quiz		
	Homework		
	Project		
	Report		
	Others (.....)		

FINAL EXAM		1	N/A
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PREREQUIEITE(S)	
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COURSE DESCRIPTION	Measurement and units, vectors, Kinematics, Dynamics, Work and energy, Momentum and collisions, Rotational motion, Equilibrium, Harmonic motion.
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COURSE OBJECTIVES	To teach the basic principles and laws of physics, and to give their several applications in daily life.
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ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION	Students will be able to realize and solve several physical problems in some application areas. By the use of such solutions, students will also perceive the role of physics in some applied sciences such as engineering and medical sciences.
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COURSE OUTCOMES	By the end of this module students will be able to: <ol style="list-style-type: none"> 1. Understand vector and scalar quantities. 2. Identify, formulate, and solve problems analytically that appear in physical systems. 3. Analyze and resolve natural phenomenon. 4. Associate the gained knowledge, analyze and interpret data. 5. Apply and link the gained knowledge of natural sciences to interdisciplinary fields. 6. Correlate and apply gained knowledge directly with technology and industry.
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TEXTBOOK	Young H.D., Freedman R.A., (2008). University Physics, Pearson.
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OTHER REFERENCES	<ol style="list-style-type: none"> 1. Serway R.A., Jewett J.W., (2007). Physics for Scientists and Engineers, Brooks/Cole. 2. Fishbane P.M., Gasiorowicz S., Thornton S.T., (2004). Physics: For Scientists and Engineers with Modern Physics, Prentice/Hall. 3. Giancoli D.C., (2000). Physics for Scientists & Engineers, Prentice/Hall. 4. Halliday D., Resnick R., (1999). Fundamentals of Physics, John Wiley. 5. Ohanian H.C., Markert J.T., (2007). Physics for Engineers and Scientists, W. W. Norton & Company.
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TOOLS AND EQUIPMENTS REQUIRED	
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COURSE SYLLABUS

WEEK	TOPICS
1	Measurement and units
2	Vectors
3	Motion in one dimension
4	Motion in two dimensions
5	Newton's laws of motion and their applications
6	Work and power
7	Energy
8	Midterm Exam
9	Midterm Exam
10	Momentum and collisions
11	Rotational motion
12	Applications of rotational motion
13	Equilibrium
14	Harmonic motion
15,16	Final Exam

NO	PROGRAM OUTCOMES	1	2	3
1	Sufficient knowledge of engineering subjects related with mathematics, science and mechanical engineering; an ability to apply theoretical and practical knowledge on solving and modeling of mechanical engineering problems.	[]	[]	[x]
2	Ability to determine, define, formulate and solve complex mechanical engineering problems; for that purpose an ability to select and use convenient analytical and experimental methods.	[]	[]	[x]
3	Ability to design a complex system, a component and/or an engineering process under real life constraints or conditions, defined by environmental, economical and political problems; for that purpose an ability to apply modern design methods.	[]	[x]	[]
4	Ability to develop, select and use modern methods and tools required for mechanical engineering applications; ability to effective use of information technologies.	[x]	[]	[]
5	In order to investigate mechanical engineering problems; ability to set up and conduct experiments and ability to analyze and interpretation of experimental results.	[]	[x]	[]
6	Ability to work effectively in inner or multi-disciplinary teams; proficiency of interdependence.	[]	[]	[x]
7	Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language.	[]	[x]	[]
8	Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement.	[]	[]	[x]
9	Understanding of professional and ethical issues and taking responsibility	[x]	[]	[]
10	Awareness of project, risk and change management; awareness of entrepreneurship, innovativeness and sustainable development.	[x]	[]	[]
11	Knowledge of actual problems and effects of engineering applications on health, environment and security in global and social scale; an awareness of juridical results of engineering solutions.	[x]	[]	[]

1:None. 2:Partially contribution. 3: Completely contribution.

Prepared by: Asst. Prof. Sertaç Eroğlu

Date: 01.07.2014

Signature(s):