PHS201 – Physics 1 Course Syllabus

Course Name		Physics 1
Course Code		PHS201
Type of Course		Compulsory
Course Level		Undergraduate Degree
ECTS Credits		5 ECTS
Weekly Theory Hour		3
Weekly Practice Hour		-
Weekly Laboratory Hour		-
Year		2013-2014
Term		FALL
Instructor (s)		Asst. Prof. Dr. Yoney Kirsal
Teaching System		This course utilizes the Moodle course management system to share information and resources. To access the course site, log on to this link: http://elearning.gau.edu.tr and select the course from list of courses. All course materials will be posted here.
Education Language		English
Prerequisite Course		-
Other Recommended Matters		-
Training Status		-
Course Objectives		The main objectives of this course are to engage students in the discovery of mechanics principles and to provide them with theory and applications in a clear, understandable presentation.
Learning Outcomes		1. Understand and apply the methods of solving elementary mechanics problems that leads to the first insights into the rudiments of related fields in Technical sciences. 2. Understand conceptually topics of mechanics and apply them to basic Technical problems. 3. Apply and integrate the basic physical sciences and the principles of Technical sciences into a working practical knowledge. 4. Enhance the student's ability and motivation to solve seemingly difficult problems in various fields. 5. Provide the student with a fruitful and friendly introduction to the subject by giving them the opportunity to establish conceptual relations between mechanics and a wide range of topics in Technical sciences disciplines.
Course Contents		Standards, dimensions, system of units, vectors, motion in one and two dimensions, Newton's Law of motion and its application, Newton's Law of universal gravitation, work and energy, conservation of energy, momentum, and motion of systems rigid bodies and rotational dynamics.
Weekly Detailed Plan	**WEEKS**	**TOPICS**

		Theoretical Courses	Application
	1	**Introduction to the Course**	
	2	Physics and Measurement (Chapter 1 of Ref. Book)	
	3-4	Vectors (Chapter 3 of Ref. Book)	Concept and formulas
	5	Motion in one dimension (Chapter 2 of Ref. Book)	Concept and formulas
	6	Motion in two dimensions (Chapter 4 of Ref. Book)	Concept and formulas **Homework 1**
	7	REVISION	Problem Solving
	8	**MIDTERM**	
	9	The Laws of Motion (Chapter 5 of Ref. Book)	Concept and formulas
	10	The Laws of Motion (Chapter 5 of Ref. Book)	Concept and formulas
	11	Circular Motion and Other Applications of Newton's Laws (Chapter 6 of Ref. Book)	Concept and formulas **Homework 2**
	12	Energy and Energy Transfer (Chapter 7 of Ref. Book)	Concept and formulas
	13	Potential Energy (Chapter 8 of Ref. Book)	Concept and formulas **Homework 3**
	14	Static Equilibrium and Elasticity (Chapter 12 of Ref. Book)	Concept and formulas
	15	**FINAL EXAM**	

Textbook / Material / Recommended Readings	**Main:** 1. Physics for Scientists and Engineers, with Modern Physics, Giancoli, Douglas, 4th ed, ISBN: 0-13-149508-9. 2. Physics, for Scientists and Engineers, 6th edition, written by; R. E. Serway and J. W. Jewett, published by; Thomson Book/Cole Publisher Company. **Supplementary:** 3. Physics for Scientists and Engineers, Extended Version, Vol. 1, written by; Fishbane, Gasiorowicz, Thornton, published by; Prentice Hall Book Company. 4. Physics, Classical and modern, 2nd Edition, written by; F. J. Keller, W. E. Gettys, M. J. Skove, published by; McGraw Hill Book Publisher Company, 1993. 5. Theory and problems of Applied Physics, Schaum's outline series, written by; Arthur Beiser, published by; Mc.Graw-Hill Book Company.

ASSESSMENT METHODS

Term Activities	Number	Semester (Year) Contribution %
Attendance	**1**	**10**
Homework	**3**	**30**
Midterm	**1**	**20**
Final	**1**	**40**
TOTAL		**100**

Percentage of Classroom Activities		**60**
Percentage of Final Activities		**40**
	TOTAL	**100**

Calculation work load within the framework of learning, teaching and evaluation activities

Activities	Number	Time (Hour)	Total Work Load (hour)
Weekly Theory Hour	14	3	42
Weekly Studying	14	2	28
Homeworks	3	10	30
Midterm	1	20	20
Final	1	30	30
TOTAL WORKLOAD (hour)= 150			
COURSE ECTS CREDIT=Total Work Load (hour) /(30 hour/ECTS)= 150 / 30 = 5			

Contribution of Learning Outcomes to Programme Outcomes

Learning Outcomes	Programme Outcomes																
	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PO 13**	**PO 14**	**PO 15**	**PO 16**	**PO 17**
LO1	5	4	5	5			4	5						4	4	4	4
LO2	5	4	5	5			5	4					4	4	4	4	4
LO3	5	3	3		4			5	4				5	5	5	5	5
LO4	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5
LO5	5	3	5	5	5	5	5	5	5	4	5	4	5	5	5	5	5

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

CITT Department Programme Outcomes

1. Having adequate level of knowledge and skills in current/new computing and educational technologies.
2. Having sufficient communication and teaching skills in teaching profession.
3. Being able to teach updated computing technologies efficiently in English.
4. Being able to identify information technology problems through using various analysis and synthesis.

5. Being pragmatic to develop and apply persistent information technology solutions to educational and business problems.
6. Being able to use critical and computational thinking skills to produce alternative solutions at every level of project development life-cycle.
7. Being capable to work in disciplinary and interdisciplinary teamwork.
8. Being sensitive, reactive and responsive to professional, social and ethical issues. Having social and ethical awareness in teaching and in providing solutions to problems.
9. Having adequate level of knowledge and skills in current/new computer hardware, operating systems and computer networks.
10. Adequate level of knowledge and skills in current/new programming languages, programming paradigms (procedural and object-oriented) and programming environments (visual, console-based programming).
11. Being able to analyse, plan and manage educational software design and project development.
12. Having the capability of evaluating and criticising educational software design and development.
13. Adequate level of knowledge in using and integrating current/new e-learning and distance education systems such as learning management systems (LMS).
14. Having sufficient skills and knowledge in using instructional technology and material design.
15. Having skills to apply and use special teaching approaches, theories, teaching strategies, methods and techniques (such as to those people with disabilities).
16. Using appropriate measurement and evaluation techniques to assess students' learning and development in addition to supporting them with good level of feedback.
17. Having sufficient knowledge in the process of establishment of Republic of Turkey. Identifying social, cultural, political and economic problems through understanding Ataturk's principles and revolution.