المملكة العربية السعودية الهيئة الوطنيسة التقويم والاعت مساد الأكاديمسي

# ATTACHMENT 2 (e)

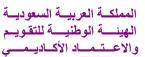
**Course Specifications** 

# Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

**Course Specifications** 

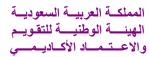
General Physics for Engineering students (Phys. 128)



# **Course Specifications**

Institution Majma	ah University	Date of Report 25/3/1435
College/Department	College of Science Al-Zulfi / Physics Department	

1. Course title and code: General Phys.	sics for Engineering students // (PHY 128)			
2. Credit hours <b>3 hours</b>				
3. Program(s) in which the course is off	fered.			
(If general elective available in many programs indicate this rather than list programs)  Physics Program (B.Sc.)				
4. Name of faculty member responsible				
	Dr. Ahmed Adel			
5. Level/year at which this course is off	fered			
	Preparatory Year			
6. Pre-requisites for this course (if any)				
	NO			
7. Co-requisites for this course (if any)				
	No			
8. Location if not on main campus  College of Science Al-Zulfi				
9. Mode of Instruction (mark all that ap	0			
a. Traditional classroom	√ What percentage? 85 %			
b. Blended (traditional and online)	√ What percentage? 15 %			
c. e-learning	What percentage?			
d. Correspondence	What percentage?			
f. Other	What percentage?			
Comments: The mode of instructor is distributed and Traditional online with 15%]	d used two items [Traditional classroom with 85% and			



### **B** Objectives

What is the main purpose for this course?

The main objective of this course is to provide the students with a background of basic physics concepts, which allows them to understand the general laws of mechanics and electricity.

At the end of this course, students should be capable to

- 1. Understand the fundamental laws and principles of mechanics and electricity.
- 2. Describe the nature phenomena by using the language of physics.
- 3. Solve physics problems efficiently through the appropriate use of basic mathematical and physical concepts.
- 2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)
  - 1. Annual review of the course using recent textbooks and references.
  - 2. Electronic materials and computer based programs are used to support the lecture course.
  - 3. Increase use of video material
  - 4. Exploring the possibility of introducing students to a specialized software

# C. Course Description (Note: General description in the form to be used for the Bulletin or Handbook should be attached)

(The credit point is equal 25-30 hours)

		ntact h	ours	ontact		Self- Study			urs
Торіс	Lecture	tutorials	Lab	Total of contact hours	Internet	Library	Homework	Discussions	Total hours
Units and measurement	3	-	-	3	1	1	3	1	9
Vectors	3	-	-	3	1	2	3	1	10
Motion along straight line	6	-	-	6	1	2	3	1	13
Mid-term 1	-	-	-	2	-	-	-	-	2
Motion in two dimensions and three dimensions	6	-	-	6	1	1	3	1	12
Force and motion I	6	-	-	6	2	1	3	1	13
Force and motion II	6	-	-	6	1	1	3	1	12
Mid-term 2	-	-	-	2	-	-	-	-	2
Kinetic energy, work, and power	6	-	-	6	1	1	3	1	12
Electricity	6	-	-	6	1	2	3	1	13
Final Exam	-	-	-	2					2
Total	42	-	-	48	9	11	24	8	100

	Course components (total contact hours and credits per semester):							
	Credit	Contact hours			Self-Study	Others	Total	
		Lecture	Tutorial	Laboratory	Practical			
NCAAA	3	48				52		100
ECTS	5	48				52		100

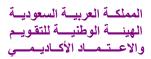
3. Additional private study/learning hours expected for students per week.	3 Hours	

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

For each of the domains of learning shown below indicate:

- A brief summary of the knowledge or skill the course is intended to develop.
- A description of teaching strategies used in the course to develop that knowledge or skill.
- The methods of student assessment used in the course to evaluate learning outcomes in the domain concerned.

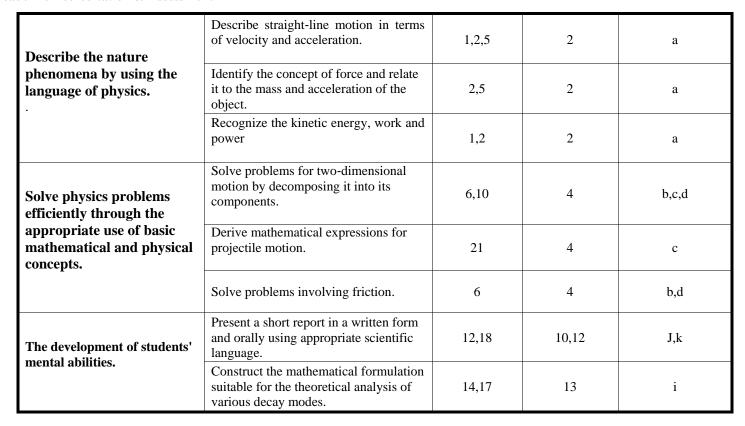
	NQF Learning Domains	Course Teaching	Course Assessment
	And Course Learning Outcomes	Strategies	Methods
1.0	Knowledge		
1.1	Recognize the fundamental physical quantities and their units.	Developing basic communicative ability through:	Class Participation     Graded homework
1.2	Describe straight-line motion in terms of velocity and acceleration.	- Lecturing	- Graded nomework - Quizzes
1.3	Define vectors in Cartesian and polar Coordinates and their addition in terms of their Cartesian components.	- Team work - Discussion	- Midterms - Final Exam
1.4	Identify the concept of force and relate it to the mass and acceleration of the object.	- Exercises	
1.5	Define Weight, normal force, and contact force.		
1.6	Recognize the kinetic energy, work and power		
1.7	Define electric field and electric potential.		
2.0	Cognitive Skills		



physics in those practical situations covered in the course.  -Class discussion  -Presentat  -Class discussion  -Presentat  -Project presentation  - Research independently.  2.3 Apply the gained mathematical and experimental knowledge in any physical related topic.  2.4 Analyze and utilize Newton's laws of motion.  Interpersonal Skills & Responsibility	uestion
course.  2.2 Use the vector notation in order to separate the two or three dimensional problems into their components along different Cartesian directions and solve each independently.  2.3 Apply the gained mathematical and experimental knowledge in any physical related topic.  2.4 Analyze and utilize Newton's laws of motion.  3.0 Interpersonal Skills & Responsibility  - Class discussion - Presentat - Project presentation - Research - Research - Research - Interpersonal Skills & Responsibility	uestion
three dimensional problems into their components along different Cartesian directions and solve each independently.  2.3 Apply the gained mathematical and experimental knowledge in any physical related topic.  2.4 Analyze and utilize Newton's laws of motion.  3.0 Interpersonal Skills & Responsibility	1
different Cartesian directions and solve each independently.  2.3 Apply the gained mathematical and experimental knowledge in any physical related topic.  2.4 Analyze and utilize Newton's laws of motion.  3.0 Interpersonal Skills & Responsibility	
2.3 Apply the gained mathematical and experimental knowledge in any physical related topic. 2.4 Analyze and utilize Newton's laws of motion. 3.0 Interpersonal Skills & Responsibility	oun raports
knowledge in any physical related topic.  2.4 Analyze and utilize Newton's laws of motion.  3.0 Interpersonal Skills & Responsibility	oun raports
2.4 Analyze and utilize Newton's laws of motion.  3.0 Interpersonal Skills & Responsibility	oun reports
	oun ronorts
	oun roports
3.1 Completing assignments in due time.  -Discussion with students - Evaluation of ground and individual company and individual company.	
3.2 Participate in class discussion and think critically.  - Making students aware about time management in  - Peer or self-asses	
3.3 Acting responsibly and ethically in carrying out individual as well as group projects.  completing their assignments and projects  and final exams are of the student's ab	re evidence
3.4 Communicate, listen, negotiate, and evaluate their strengths and weaknesses as members of a team.  -Encourage students to help each other	
- Group presentation - Group assignments	
4.0 Communication, Information Technology, Numerical	
4.1 Developing the student skills in the usage of computer, network, and software packages relevant to nuclear - Exercises - Oral Presenta	ition
physics Problem solving - Oral Examina	ation
4.2 Improving student communication skills such as :  writing, reading, presenting, negotiating and debating  - Oral quizzes  -Essay Question	on
- Essay questions	
5.0 Psychomotor	
5.1 Not applicable Not applicable Not applicable	

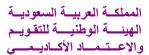
# 5- Please fill in this table based on the following criteria:

Course Objectives:	Course Outcomes:	PLO	NCAAA	Asiin
Understand the	Recognize the fundamental physical quantities and their units.	1,2	2	a,b
fundamental laws and principles of mechanics and electricity	Analyze and utilize Newton's laws of motion.	1,2,6	2,4	С
and street,	Define electric field and electric potential	1,2	2	a,b



5. \$	Schedule of Assessment Tasks for Stude	ents During the Semest	er
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	First exam*	5	20%
2	Second exam*	11	20%
3	Lab. Exam	-	
4	Presentation	-	
5	Homework	Weekly	
6	Quizzes	End of topics	
7	Discussions	Weekly	20%
8	Team group	Three time/ semester	
9	Tutorials	-	
10	Computer tools used	Every report	
11	Project	-	
12	Peer project	-	
13	Final exam *	End of the semester	40%
	Total		100 %

<sup>\*</sup> First exam, second exam and final exam are written exam



### D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

• Office hours 6 hr/ week.

### E. Learning Resources

1. List Required Textbooks

**Introductory Physics** 

2. List Essential References Materials (Journals, Reports, etc.)

Physics for Scientists and Engineers, Raymond A. Serway and John W. Jewett, Thomson Brooks/Cole © 2004; 6th Edition

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

Schaum's Outline of College Physics, 11th Edition (Schaum's Outline Series) F. J. Bueche and E. Hechet, McGraw-Hill

4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)

http://science.pppst.com/physics.html

http://physwiki.ucdavis.edu

http://www.physics.org

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

**Physics Simulation Softwares.** 

### F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture room with at least 25 seats.

Auditorium of a capacity of not less than 100 seats for large lecture format classes

2. Computing resources (AV, data show, Smart Board, software, etc.)

A smart board to write on and computer.

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Library, and Seminar Room, Wi-Fi internet connections.

# المملكة العربية السعودية الهيئة الوطنيسة للتقويم والاعتماد الأكاديمسي

# **G** Course Evaluation and Improvement Processes

G Course Evaluation and Improvement Process	es			
1 Strategies for Obtaining Student Feedback on Eff	Pectiveness of Teaching			
Student evaluation electronically organized by the University.				
2 Other Strategies for Evaluation of Teaching by the				
There is a department committee responsible for the	development of the strategies of Teaching.			
3 Processes for Improvement of Teaching	_			
1. Course report.				
2. Program report.				
3. Training Courses.				
A Dungages for Varifying Standards of Student As	hierrament (e.g. ahaalt moulting by an independent			
4. Processes for Verifying Standards of Student Ac				
	, periodic exchange and remarking of tests or a sample			
of assignments with staff at another institution)				
Efficiency of course will be reflected on the results of	the class, which may be reviewed by members of the			
teaching staff in addition to other duties such as discr				
course should be developed periodically to ensure that	at it contains the latest developments in the field of			
study. Development could be put as an objective in the				
5 Describe the planning arrangements for periodical	ally reviewing course effectiveness and planning for			
improvement.				
1- Course Evaluation				
2- Exam Evaluation				
3- Improvement plan				
4- Program Outlearning with course outlearning				
5- Outlearning from the pre-requisite course				
Faculty or Teaching Staff:				
Signature:	Date Report Completed:			
Received by:	Dean/Department Head			
Signature	Date:			