

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)



Course Specification

Institution:	Date:	09/05/2019
College/Department :	Physics Dpt – Faculty of Science	

A Course Identification and General Information

1. Course title and code: PHYS 101			
2. Credit hours: 3			
3. Program(s): Physics			
(If general elective available in many p	rograms ind	licate this rather than list	programs)
4. Name of faculty member respon	nsible for the	e course:Dr. Mohamad R	Rashad
5. Level/year at which this course is of	fered: 1		
6. Pre-requisites for this course :			
7. Co-requisites for this course (if any)			
8. Location if not on main campus: On	main camp	us	
9. Mode of Instruction (mark all that a	pply)		
a. Traditional classroom		What percentage?	100
b. Blended (traditional and online)		What percentage?	
c. e-learning		What percentage?	
d. Correspondence		What percentage?	
f. Other		What percentage?	
Comments:			



B Objectives

- 1. What is the main purpose for this course? The designing of the course is very nice and specially meant that student should learn the basic laws of the mechanics specially Newton's First Law, 2nd Law and 3rd Laws of Motion. Their use how to tackle the problems of day to day life, using these laws. Student should also learn here what causes motion or equilibrium of the object and the types of forces responsible for it. Apart from this objective of this course module is: student should learn the technique to solve the problems using Laws of Conservation of Energy, Conservation of linear Momentum and conservation of Angular Momentum. This course is meant to give a clear cut picture how work done on an object is associated with Kinetic and potential energy. Nature loves symmetry, student can see using the course module how the nature also obeys various conservative laws like Conservation of linear momentum and conservation of energy in the chapter of Gravitation. Either we talk about motion of satellite around the earth or firing of a projectile from the earth, their mechanism is based on conservation of energy. Of course, one can't ignore Kepler's laws of Planetary motion, in this course; we have a very nice description of the laws to give a clear picture of how the universe made by God also follows these laws. 2. Briefly describe any plans for developing and improving the course that are being implemented. (eg increased use of IT or web based reference material, changes in content as a result of new research in the field) Developing and improving the course by providing:
 - Lecture notes or power point presentation to students.
 - > Use of electronic based reference material.



- > Latest and most recent research materials of this field.
- Some of the topics are planned to be added to related modules
- > Use of recent illustrating overhead projectors, electronic screen in teaching
- Tutorials may improve the ability of question asking and elaboration of any difficulties.

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

1 Topics to be Covered		
List of Topics	No of Weeks	Contact hours
Review and introduction	1	3
Physical quantities – The SI units – Changing units – Fundamental quantities (length, mass and time) –	2	3
Vectors(vectors and scalars – adding vectors geometrically – components of vectors – unit vector - adding vectors)	3	3
Position and displacement - Average velocity and average speed- Acceleration - Free-Fall acceleration	4	3
(position and displacement – velocity – accelerations) in II & III dimensions - projectile	5	3
1 st period Exam	6	3
Types of forces - Net force - Newton's laws	7	3
Ropes and PulleysApplying Newton's laws	8	3
Kinetic energy - work Work- Kinetic energy theorem power	9	3



Potential energy	10	3
Conservation and nonconservation forces		
2 nd period Exam	11	3
Work and potential energy	12	3
Conservation of mechanical energy		
Linear momentum	13	3
Impulse		
	14	3
Conservation of linear momentum-elastic collisions		
	15	3
Revision		

2. Course components (total contact hours and credits per semester):							
		Lecture	Tutoria 1	Laboratory/ Studio	Practic al	Other:	Total
Contact	Planed	36					36
Hours	Actual	36					36
Credit	Planed	3					3
	Actual	3					3

3. Additional study/learning hours expected for students per week. (This should be an average: for the semester not a specific requirement in each week)
Encouraging the students to review the home works daily for one hour (Average five hours weekly)
Encouraging the students to do self-learning and searching for the



new problems that is not solved by them.

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

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). <u>Second</u>, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. <u>Third</u>, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Cod e #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assess ment Metho ds
1.0	Knowledge		
1.1	Demonstrate the knowledge of physical fundamental quantises	Lectures working out problems	Exams, HW, Quiz
1.2	Knows some theoretical basis of physics.	Lectures working out problems	Exams, HW, Quiz
1.3	Know the Energy and Momentum.	Lectures working out problems	Exams, HW, Quiz
2.0	Cognitive Skills		



2.1	Be able to apply Newton's law to solve some simple physics problems.	Problem solving	Exams, HW, Quiz
2.2	Be able to use Momentum concepts in tackling research problems	Problem solving	Exams, HW, Quiz
3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate the ability of learning independently using a different tools	Discussion with student. Group presentation.	Showin g active class particip ation. Perform ing seriousl y on midter ms and final exams.
3.2	Demonstrate time management and organizational skills	Discussion with student. Group presentation.	Showin g active class particip ation. Perform ing seriousl y on midter ms and final exams.
4.0	Communication, Information Technology,	Numerical	<u></u>
4.1	Communicate ideas effectively and accurately using written and oral means.	Exercises . Problem solving.	Write reports.



		Oral quizzes.	Present
			ation.
			Exercis
			es
			related
			to
			specific
			topics.
	Use appropriate scientific media to reach the	Exercises .	Write
	course goal.	Problem solving.	reports.
		Oral quizzes.	Present
			ation.
12			Exercis
4.2			es
			related
			to
			specific
			topics.
5.0	Psychomotor		
5.1	NA		
5.2			

5. Schedule of Assessment Tasks for Students During the Semester					
Assess ment	Assessment tasks (eg. essay, test, group project, examination etc.)	Week due	Proportion of Final Assessment		
1	Effective participation in class room, attendance,	All the	10%		
	Participation and Home works	semeste			
		r			
3	1 st mid exam	7	20%		
4	2 nd mid Exam	11	20%		
5	Final exam	16	50%		
Total			100%		



D. Student Academic Counseling and Support

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

- Tutorial is the best method for supporting student.

- Students should motivate to ask questions to clarify points during the lecture.

- e-mailing system is another powerful tool to communicate with the teaching staff through the website and to write questions related to any aspects of the lesson. The students will get written answers that will surely give confidence to him.

- The available faculty members are added tool to help the students during all the day to clarify any points related to the course.

E Learning Resources

1. Required Text(s): Fundamentals of Physics: 8th edition Halliday/Resnick/Walker.

2. Essential References

Fundamentals of Physics: 8th edition Halliday/Resnick/Walker.

3- Recommended Books and Reference Material (Journals, Reports, etc) (Attach List)

Fundamentals of Physics: 8th edition Halliday/Resnick/Walker.

4-.Electronic Materials, Web Sites etc

Wikipedia, the free encyclopedia - Mechanicss en.wikipedia.org/wiki/**Mechanic**s

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

CDs accompanied with the text book and essential references



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 (Lecture rooms, laboratories, etc.)

- Classrooms ready and equipped with educational media

- Labs equipped with material for teaching chemistry
- 2. Computing resources

- Data show and internet.

- Computer and microphone in Lecture rooms

3. Other resources (specify --eg. If specific laboratory equipment is required, list requirements or attach list)

- Video cameras linked to TV circuits

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching

Office hours are available to students for open discussions.

Students fill a blind online course evaluation form each semester.

2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department

• A statistical regular review and analysis of the students achievement in the department.

Prepare a questionnaire which should be filled by the students at the end of the term. The questionnaire should be after that analyzed and carefully studied.

3 Processes for Improvement of Teaching

- Provide training and workshop opportunities for the teaching staff to improve their teaching strategies.
- Form committees to follow up progress and work on improvement.



المركز الوطني للتقويم والاعتماد الاكاديمي National Center for Academic Accreditation and Evaluation

Provide opportunities to improve academic courses and research through conferences. 4. Processes for Verifying Standards of Student Achievement (eg. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

• Check marking of the answer sheets of examination papers with other colleagues Check progress level of the students (this can be done by an independent teacher by reviewing students' records and compare the students work with another from a different institute).

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Student's, Alumni's and Employer's feedbacks on the quality of the course.
- Consulting other faculty members or collaborators in overseas universities for their views on the method of quality of improvement.
- Check other universities web sites to compare our lectures with them.

Compare the syllabus with those of recognized universities.

Name of Course Instructor: _____M. Rashad__

Signature: Rashad Date Specification Completed: _09/05/2019_____

Program Coordinator: Dr. Fahad Alharbi Signature: Dr. Fahad Alharbi Date Received: 19/4/2019