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

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

هيئة تقويم التعليم
Education Evaluation Commission

Course Specifications

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

A. Course Identification and General Information

1. Course title and code: **General Physics 1 , PHYS201**
2. Credit hours: **3**
3. Program(s) in which the course is offered. **Physics**
(If general elective available in many programs indicate this rather than list programs)
4. Name of faculty member responsible for the course: Dr. A. Abdesselam
5. Level/year at which this course is offered: **4**
6. Pre-requisites for this course (if any): **MATH101** and **PHYS101**
7. Co-requisites for this course (if any):
8. Location if not on main campus: Main campus and women campus
9. Mode of Instruction (mark all that apply):

a. traditional classroom	■	What percentage?	
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?
Introduce the students to the Newton laws of dynamics for both translation and rotation together with some simple applications.

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)

Work on lectures notes and handouts to help the students work standalone.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:
This course walks the student through Newton's classical mechanics starting from simple linear motion and culminating at rotations. It also covers several concepts required for the use the involved laws.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Review and introduction	1	3
Force and Motion-Newton's First law, force, mass	2	3
Force and Motion –II Newton's 2nd law, Some particular forces, Newton's 3rd law	3	3
Force and Motion –II: Friction, properties of friction, uniform circular motion.	4	3
Kinetic Energy and Work Kinetic energy, work. Work-kinetic energy theorem	5	3
Potential Energy and Conservation of Energy: Work and potential energy, conservative forces, conservation of mechanical energy.	7	3
Centre of Mass and Linear momentum.	8	3
Conservation of linear momentum, elastic and inelastic collision in one dimension, collision in two dimension.	9	6

Rotations: linear and angular quantities.	10	3
Kinetic energy of rotation, calculation of rotational inertia, torque, work and rotational kinetic energy	12	3
Rolling as translation and rotation combined, kinetic energy of rolling, angular momentum, Newton's Second law in angular form. Angular momentum of system of particles, conservation of angular momentum.	13	3

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planed	36					36
	Actual	36					36
Credit	Planed	3					3
	Actual	3					3

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

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). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, 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.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	Demonstrate the knowledge of the three laws of Mechanics.	Lectures working out problems	Exams, HW, Quiz
1.2	Knows some simple applications of the law of Newton's mechanics.	Lectures working out problems	Exams, HW, Quiz

1.3	Know the place and role of Newton mechanics in physics.	Lectures working out problems	Exams, HW, Quiz
2.0	**Cognitive Skills**		
2.1	Be able to apply Mechanics laws to solve some simple physics problems.	Problem solving	Exams, HW, Quiz
2.2	Be able to use Mechanics 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.	Showing active class participation. Performing seriously on midterms and final exams.
3.2	Demonstrate time management and organizational skills	Discussion with student. Group presentation.	Showing active class participation. Performing seriously on midterms and final exams.
4.0	**Communication, Information Technology, Numerical**		
4.1	Communicate ideas effectively and accurately using written and oral means.	Exercises . Problem solving. Oral quizzes.	Write reports. Presentation . Exercises related to specific topics.
4.2	Use appropriate scientific media to reach the course goal.	Exercises . Problem solving. Oral quizzes.	Write reports. Presentation . Exercises related to specific topics.
5.0	**Psychomotor**		
5.1	NA		
5.2			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	HM & Quizzes	1-12	10%
2	First Exam	7	25%
3	Second Exam	12	25%
4	Final Exam	15	40%

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) For every lecture hour there should be an office hour. Also the instructor should be easily reachable at any time.

E Learning Resources

1. List Required Textbooks Fundamentals of Physics: 8th edition Halliday/Resnick/Walker.
2. List Essential References Materials (Journals, Reports, etc.)
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc. Online resources: https://www.youtube.com/watch?v=ApUFtLCrU90 The student is encouraged to surf the net by himself looking for diverse resources explaining the concepts of mechanics (videos, lectures Notes,…etc.)
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

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.) Classrooms
2. Technology resources (AV, data show, Smart Board, software, etc.) Datashow
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

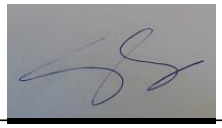
G Course Evaluation and Improvement Processes

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. • Provide opportunities to improve academic courses and research through conferences.
4. Processes for Verifying Standards of Student Achievement (e.g. 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: ____A. Abdesselam_____

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

Program Coordinator: Dr. Fahad Alharbi

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