



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

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (Phys 102)



هيئة تقويم التعليم
Education Evaluation Commission

Course Specifications

Institution: King Khaled University	Date: 07-10-2019
College/Department : Faculty of science/ Physics Department	

A. Course Identification and General Information

1. Course title and code: Phys 102 (General Health)			
2. Credit hours: 4(3+1)			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) The Academic program at the Dept. Physics, Boys and Girls			
4. Name of faculty member responsible for the course Dr. Muhammad Shabbir, Dr Sohail and Dr. Bakhtiar ul Haq			
5. Level/year at which this course is offered: Third level			
6. Pre-requisites for this course (if any): Nothing			
7. Co-requisites for this course (if any): General physics lab			
8. Location if not on main campus: Mahala Campus Joint Program			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input type="text" value="100"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="text"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="text"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="text"/>	What percentage?	<input type="text"/>
f. other	<input type="text"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

<p>1. What is the main purpose for this course? To understand:</p> <ul style="list-style-type: none"> ➤ Principles of physical measurements, conversion of units, dimensional analysis. ➤ All algebraic processes related to vector quantities. ➤ Motion in one dimension (average speed, velocity, instantaneous velocity, instantaneous acceleration, free falling objects) ➤ Newton`s laws of motion, friction force and different applications. ➤ Work, kinetic energy, work-energy theory and conservative forces. ➤ Potential energy. ➤ Buoyant forces, Archimedes principle, pressure of fluids, equation of continuity and Bernoulli`s equation. ➤ Static equilibrium, torque and elasticity. ➤ Electric conductivity, electric current and electric energy.

<p>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)</p> <p>(Increasing the use of IT or web based reference material, changes in content as a result of new research in the field)</p> <ul style="list-style-type: none"> ➤ Using some conventional textbooks or from Internet. ➤ Executing all objectives ➤ - Tutorials (Theoretical and digital problems) by encouraging the student to use graphics and computers facilities.
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C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:		
1. Topics to be Covered		
List of Topics	No. of Weeks	Contact hours
1- measurements, units and vectors(Scalar and vector product of vectors and applications)	3	9
2- motion in one dimension and motion in two dimensions. (Examples and problems)	2	6
3- Newton`s laws of motion.	2	6

4- Work, kinetic energy and potential energy.	2	6
5- Fluid dynamics.	1	3
6-. Electric field and potential.	1	3
7- Light and optics (Nature of light and laws of geometric optics).-Image formation by (flat mirrors, reflection-spherical mirrors).	2	6
8- Temperature, temperature scale Examples and problems	2	3
List of Topics (Practical)	No. of Weeks	Contact hours
1-Measurement of errors	1	2
2- Helical Spring (Static Method)	1	2
3- Refractive index	1	2
4- Coefficient of Viscosity by Stokes	2	2
5-Thin Lenses	1	2
6- Specific heat capacity of solids	1	2
7- Simple Pendulum	1	2
8- Simple DC Circuits and Ohms law	1	2
9- Surface Tension and capillarity.	1	2
10- Mechanical Equivalent of heat	1	2

2. Course components (total contact hours and credits per semester):		15					
		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	45			15		60
	Actual	45			15		60
Credit	Planned	3			1		4
	Actual	3			1		4

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

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

- A brief summary of the knowledge or skill the course is intended to develop;
- A description of the teaching strategies to be used in the course to develop that knowledge or skill;

The methods of student assessment to be used in the course to evaluate learning outcomes in the domain concerned.

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	Principles of classical Physics	Lecturers	Exams
1.2	Practical Knowledge of Physics	Lecturers	Exams
2.0	Cognitive Skills		
2.1	To differentiate between vectors and scalars, concept of work energy, differentiate between transverse and longitudinal waves, sound and auditory response listening	Classroom lectures and discussions	Exam and Assignment
2.2	To understand the concept of viscosity in fluid flow, Study of blood pressure, effects of acceleration of blood pressure.	Classroom lectures and discussions	Exam and Assignment
3.0	Interpersonal Skills & Responsibility		
3.1	To apply laws of physics studied in this course to medical field	Classroom lectures and discussions	Exam and Assignment
3.2	To apply the concept of fluid flow, intensity level of sounds, lens, defects of eyes, and hazards of radiations from medical Physics points of view.	Classroom lectures and discussions	Mid Exam and Assignment
4.0	Communication, Information Technology, Numerical		
4.1	Numerical problems based on mechanics (vectors, force, work energy, power)	Tutorials	Exams
4.2	Numerical problems based on equation of continuity, Bernoulli equation, Poiseuille's law, intensity of sound, Lens formula, snell's law, critical angle and half-life of radioactive sample.	Tutorials	Exams
5.0	Psychomotor		
5.1		Practical	Practical exam
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	Assignments * Choose best one from two Quizzes and Assignments	Throughout the semester	2.5
2	Quizzes Theory * * Choose best one from two Quizzes and Assignments		2.5
	Midterm Exam - Theory	Week 11 / 12	20
3	Practical Exam	Week 13 / 14	25
4	Final Exam -Theory	Week 16 / 17	50

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)

[10 office hours by the faculty in a weekly schedule](#)

E Learning Resources

1. List Required Textbooks

[General Physics, 2nd Edition. Joseph W. Kane, Morton M. Sternheim, ISBN: 0471809063](#)

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

[University Physics: Models and Applications, William P. Crummett, Arthur B. Western, ISBN-10: 0697111997 ISBN-13: 978-0697111999, William C Brown Pub \(January 17, 1994\).](#)

[Physics, Volume 1, Robert Resnick, David Halliday, Kenneth S. Krane, 5th Edition, Wiley; 2001. ISBN-13: 978-0471320579, ISBN-10: 0471320579](#)

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc.

www.ieee.org and www.acm.org to search latest research in relevant field.

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.) One lecture rooms with 50 seats
2. Technology resources (AV, data show, Smart Board, software, etc.) Data Show (Projectors) in lecture room.
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 At the end of semester written feedback is taken from students about course content, teaching methodology and their understanding of the course.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department Departmental evaluation from students about teacher. Course evaluation report from the course coordinator after the exam
3. Processes for Improvement of Teaching Observations made from the course evaluation report by the course coordinator Head of department observations, suggestions, instructions etc.
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) The course coordinator to verify the standards of the student achievements
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. The subjects are reviewed periodically by the Subject committee and the head of the department for review and improvement. Subject committee comprising of all theory and lab staff of the course, conduct meetings to review the progress of the course.

Name of Course Instructor: Dr. Muhammad Shabbir

Signature:  Date Specification Completed: __07-10-2019__

Program Coordinator: Dr. Mohamed H.A. Suleiman

Signature: _____ Date Received: _____