



COURSE SPECIFICATIONS (CS)

General Physics II

PHYS 111

June 2018



هيئة تقويم التعليم
Education Evaluation Commission

Course Specifications

Institution: King Saud Univ	Date: 2017
College/Department: College of Science/ physics and Astronomy Dept.	

A. Course Identification and General Information

1. Course title and code: General Physics II – PHYS 111
2. Credit hours: 4 (3+0+2)
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Physics program
4. Name of faculty member responsible for the course
5. Level/year at which this course is offered : 3rd semester /2nd Year
6. Pre-requisites for this course (if any) Math 101
7. Co-requisites for this course (if any) PHYS110
8. Location if not on main campus On main campus for Male

B Objectives

1. What is the main purpose for this course?

- Students should be familiar with the laws of static electricity, electric current, nature of light, reflection, refraction of light and linear spectra

And the nature of the black body and the phenomenon of electromagnetism and the composition of the nucleus and types of radiation and the age of half

2 - Understanding physical phenomena and how to use concepts and physical laws

3 - dealing with the basics of physics in daily life

4- Increasing his physical and structural scientific skills

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)

i- Explain strategy of the course in the beginning of the semester.

ii- Discussing some selected homework problems in each chapter.

iii- The lab experiments were reviewed and new experiments have been introduced.

iv- The instructors should: observe- discuss experimental work handled by students and final exam the student experience.

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

Course Description:

The course will provide an overview of topics in general physics : electricity, optics and e.m. radiation

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Electric field and Electric Potential	2	6
Capacitors	2	6
Direct Electric Current	1.5	4.5
Nature of Light	0.5	1.5
Reflection of Light	1	3
Refraction of Light	1.5	4.5
Thin Lenses and Optical Instruments	1.5	4.5
Quantum Theory of Light and Atomic Spectra	2	6
Atom and Natural Radioactivity	2	6
Nuclear reactions, Fission and Fusion	1	3

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

	Lecture	Tutorial	Laboratory or Studio	Practical	Other:	Total
Contact Hours	45		30			75
Credit	45		15			60

3. Additional private study/learning hours expected for students per week. 5

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	Recall units, dimensions of physics quantities	Lecture, debates	First midterm Exams
1-2	Memorize the principle laws in electricity, geometrical optics and modern physics.	Lecture, debates	Second Mid Term Exams
2.0	Cognitive Skills		
2.1	Estimate the force, potential and electric field of point and continuous charges. Calculate different physics quantities by using laws of geometrical optics, atomic and nuclear physics	Lectures and debates	Quiz Final exam
2.2	Differentiate between classical and quantum physics application. Explain refraction, reflection and radioactivity phenomena.	Lectures, homework and Whole group Discussion	analytical reports Quiz Final exam
		.	
3.0	Interpersonal Skills & Responsibility		
3.1	Show the electric capacitance, electric current and its application	Lecture, Homework examples in class and debates	short essays Final exam
3.2	analyze and evaluate the atomic spectra of hydrogen atom and calculate the radioactivity of some isotopes	lab demonstrations	analytical reports and using the lab manuals
4.0	Communication, Information Technology, Numerical		
4.1	demonstrate geometric optics, radiation absorption by different materials.	lab demonstrations and small group discussion	analytical reports , using the lab manuals and group presentations
5.0	Psychomotor		
5.1	Experiment the laws of electricity, geometrical optics and radioactivity.	lab demonstrations and wide variety of hands-on student learning activities	analytical reports and lab exams

6. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Short tests	the third	5%
2	A quarterly project	Seventh	5%
3	First Mid test	sixth	10%
4	Second Mid test	12	10%
5	practical test	12	30%
6	Final test	16	40%
7			
8			

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)
 Three hours per week
 Three hours per week

E Learning Resources

1. List Required Textbooks

Physics for Scientists and Engineers with Modern Physics, R. A. Serway

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

Any general physics books in electrical, light and modern physics

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

A general physics book in electrical, light and modern physics

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

Sites interested in general physics

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

PowerPoint files

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 halls equipped with displays and labs equipped for the required experiments

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

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

To renew and calibrate the equipment used in the lab to obtain the most accurate results possible

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching

1 - Through the seminars can be observed level of understanding of students and improve methods of effective teaching

2 - through the student evaluation questionnaire for the end of the semester

<p>2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department</p> <p>1- Analysis of the student evaluation questionnaire for the end of the semester.</p> <p>2 - Discuss the observations of the teachers of the course</p>
<p>3 Processes for Improvement of Teaching</p> <p>1 - to train professors on the methods of effective education through the courses offered by the Deanship of the development of skills at the University</p> <p>2 - workshops in teaching methods and education organized by the Deanship of the development of skilled</p> <p>3 - Discussion of teaching methods by the teachers of the course at the beginning of the semester</p>
<p>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)</p> <p>1 - Examine the correction of a sample of the students' answers in the final test by the coordinator of the course or another member of the teaching staff who previously taught the course.</p> <p>2 - Standard tests and collective correction of tests.</p>
<p>5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.</p> <p>Review the content of the curriculum for five years and review the written book</p>

Name of Instructor: _Ahmed Ahmed Ibrahim_____

Signature: _____ Date Report Completed: _____

Name of Field Experience Teaching Staff _____

Program Coordinator: _____

Signature: _____ Date Received: _____