Course Specifications

Programme(s) on which the course is given : P., P.&comp., P.&G., P.&Ch.
Major or Minor element of programmes : major -major - major - major.
Department offering the programme : P., P.&Math., P.&G., P.&Ch.
Department offering the course Physics
Academic year / Level 2
Date of specification approval: September 2012

A- Basic Information

Title: Applied Physics (2) Code: P286

Credit Hours: 4 h Lecture:00
Tutorial:00 Practicals: 8h Total: 8h

B- Professional Information

1 – Overall Aims of Course

at the end of this course the student should acquire advanced knowledge about the laws of electricity, magnetism, optics, and atomic physics also, the student should be able to perform some measurements and to verify basic laws of physics

2 – Intended Learning Outcomes of Course (ILOs)

a Knowledge and Understanding:

By studying this course the student should be able to

a1- understand the basic laws electricity, magnetism, optics, and atomic physics
a2- understand the basics of statistical representation

b Intellectual Skills

By studying this course the student should be able to

b1-scientific thinking
b2-have enhaced ability to understand, discuss, and explain the physical phenomenon

c Professional and Practical Skills

By studying this course the student should be able to

c1- setup and develop some experiments in physics

c2- measure and explane some physical constants

c3-verficaton of some laws of physics

d General and Transferable Skills

d1-the use of measurement instruments

d2-representation of scientific data, reduction of the experimental error

d3- using PC and internet searching

3- Contents

Topic	No. of hours	Lecture	Tutorial/Practical
Discussion about the aims of the lab	**8**		
Origin of experimental errors	**8**		
Discussion about methods of experimental error reduction	**8**		
Presentation of data	**8**		
Differaction grating	**8**		
Newton rings	**8**		
Specific rotation	**8**		
Absorption coefficient of glass	**8**		
Fourth power law of radiation	**8**		
Characteristics of p-n	**8**		

junction			
RC circuit	**8**		
Modulus of rigidity	**8**		
Magnetic field of a coil			

4– Teaching and Learning Methods

4.1- practical work

4.2 reports

4.3-disscutions

5- Student Assessment Methods

5.1 sheet exams to assess the theoretical knowledge

5.2-practical exams . to assess practical skills.

5.3 discussions to assess student scientific thinking

5.4 research projects to assess the overall outcome

Assessment Schedule

Assessment 1 sheet exam Week 8&16 (mid &final term).

Assessment 2 practical exams Week 8&16 (mid &final term).

Assessment 3 oral exams Week every week

Assessment 4 research projects Week final

Weighting of Assessments

Mid-Term Examination 10 %

Final-term Examination 10 %

Oral Examination. 10 %

Practical Examination 60 %

Semester Work 10 %

Total 100 %

Any formative only assessments

6- List of References

6.1- Course Notes

experimental physics ,department of physics,2005.

6.2- Essential Books (Text Books)

Physics ,Haliday

6.3- Recommended Books

6.4- Periodicals, Web Sites, … etc

7- Facilities Required for Teaching and Learning

Experimental lab, computer…

Course Coordinator: Pro.Dr. Ahmed Elmahlawy

Head of Department: Prof .Dr. Sanaa Maize

Date: / /