Course Specifications

Programme(s) on which the course is given : P., P.&las., P.&G., P.&Ch.
Major or Minor element of programmes : major -minor - major - major
Department offering the programme : P., P., P.&G., P.&Ch.
Department offering the course Physics
Academic year / Level 3
Date of specification approval September 2012

A- Basic Information

Title: Solid state physics(2) Code: P311

Credit Hours: 3 h Lecture: 3h
Tutorial: 00 Practicals:00 Total: 3h

B- Professional Information

1 – Overall Aims of Course

Student should be able to understand the physical properties of solids.
to provide a good base about the variety of properties of solids to be understand through clear, detailed and elementary treatments of fundamental theoretical concepts.
Student should be able to understand the structure of materials through his studies of the physical properties of solids.

2 – Intended Learning Outcomes of Course (ILOs)

a Knowledge and Understanding:

After completing this course the student should be able to

a1- Illustrate mechanical, electrical, thermal, and optical properties of solids should be gained.
a2- Explain the dependence of physical properties on the structure of the solid materials.
a3- Discuss the general applications of this physical properties.

b Intellectual Skills

After completing this course the student should be able to

b1- Compare between the properties to the structure of

solid materials.

b2- Distinguish among the mechanism of electrical, thermal, and optical transitions.

c Professional and Practical Skills

After completing this course the student should be able to

c1- solve problems in solid state physics

c2-apply and interpret the physical properties according to the structure of solid materials.

d General and Transferable Skills

d1-Using computer and internet

d2- work in ateam

3- Contents

Topic	No. of hours	Lecture	Tutorial/Practical
Introduction	3	1	
Mechanical properties of solids	6	2	
Electrical properties of solids	4	3	
Photoconductivity	6	2	
Thermal properties of solids	6	2	
Dielectrical properties of solids	6	2	
Optical properties of solids	6	2	

4– Teaching and Learning Methods

4.1- Lecture

4.2 Discussion

4.3-Reports assignment

5- Student Assessment Methods

5.1 written reports to assess collection of information

5.2-periodic oral exams to assess communication

skills.

Assessment Schedule

Assessment 1 mid term exam after 7 Weeks
Assessment 2 semester work report every 3 weeks
Assessment 3 final exam after 14 weeks

Weighting of Assessments

Mid-Term Examination	**20**	**%**
Final-term Examination	**60**	**%**
Oral Examination.	**10**	**%**
Semester Work	**10**	**%**
Total	**100**	**%**

6- List of References

6.1- Course Notes.
6.2- "solid state physics" W.Neil Ashrovft and N. David, , (1976) by Halt Rinehartan Winston
6.3- "elements of solid state physics" , M. N. Rudden and J. Wilson(1993) John Wiley & sons

7- Facilities Required for Teaching and Learning

Overhead projector, and appropriate class room.

Course Coordinator: Prof .Dr .Anwar A. Higazy
Head of Department: Prof .Dr. Sanaa Maize
Date: / /

جامعة المنوفية **تعديل لنموذج**