Course Specifications

Programme(s) on which the course is given M.Sc. Chemistry (Physical)

Major or Minor element of programmes: Major

Department offering the programme: chemistry

Department offering the course: chemistry

Academic year / Level:

Date of specification approval: 2012

A- Basic Information

Title: Advanced Physical Chemistry Code: CH6121
Credit Hours: 2 Lecture: 2
Tutorial: 2 Practical:0 Total: 2

B- Professional Information

1 – Overall Aims of Course

1- To give students a tour in advanced physical chemistry subjects
2- Development of student's capability of how to deal physical chemical phenomena in our life.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding:

After completing the course the student should be able to

a1- characterize colloidal state
a2- know different processor of desalination
a3- define Liquid crystals and their applications
a4- understand chemical nanoscience and its application
a5- use solar cells
a6- understand plasma state

b- Intellectual Skills

b1- Build the students capability for improvement and thinking about new materials and techniques in physical chemistry
b2- Improvement the capability of students to select hot topics for research

c- Professional and Practical Skills

c1- Be familiar with different disciplines in chemistry from physical chemistry point of view
c2- Be able to deal with the physical and chemical problems

g-**General and Transferable Skills**

d1- Enhancing capability of selecting modern areas of applied research

3- Contents

Topic	No. of hours	Lecture	Tutorial/ Practical
Colloids and emulsion	4	2	
Liquid crystals	4	2	
Desalination	4	2	
Solar cells	2	1	
Chemical nanoscience	4	2	
Plasma: basics and applications	4	2	
Minerals separation	2	1	

4– Teaching and Learning Methods

4.1- lectures
4.2 – practical for solving problems

5- Student Assessment Methods

5.1 written examination to assess the understanding and comprehension
5.2- practical exam to assess the performance and professionalism

Assessment Schedule

Assessment 1 short exam (class activities) Week every two weeks
Assessment 2 mid-term (written and practical) Week 8
Assessment 3 final-term (written and practical) Week 13 and 14

Weighting of Assessments

Mid-Term Examination	20%
Final-term Examination	60%
Semester Work	20%
Total	100%

6- List of References

6.1- Course Notes
Prepared in the form of book authorized by department

6.2- Recommended Book

General chemistry, physical chemistry
Chemistry (The central science)

7- Facilities Required for Teaching and Learning

Data show

Course Coordinator: Prof. Dr. Salem Hamza

Head of Department: Prof. Dr. Ahmed Abd El-mege Date: / /