

**University Benha**

**Faculty Science**

Course Specifications

Programme(s) on which the course is given : **Chem & Physics**

Major or Minor element of programmes

Department offering the programme: **Physics**

Department offering the course: **Physics**

Academic year/level **2<sup>nd</sup> year / 1<sup>st</sup> semester**

Date of specification approval: **2008**

### **A- Basic Information**

**Title: Experimental physics**

**Code: Phy 281**

**Credit Hours:**

**Lecture: - hr/week**

**Tutorial: - hr/week**

**Practicals: 3**

**Total: 3 hr/week**

### **B- Professional Information**

**1 – Overall Aims of Course: By Finishing of this course the graduate will be able to:**

Understand the Hygenz principle, Interference, diffraction and polarization of light.

**2 – Intended Learning Outcomes of Course (ILOs)**

**a- Knowledge and Understanding:**

**To make the graduate able to:**

A1- Understand the light interference phenomena.

A2- Study the different methods of obtaining the viscosity and surface tension of a fluids.

A3- understand how to use the electric devises in safety way.

A4- Learn different method to determine some constants in nature

A5- Learn different method to determine some properties of matter

A6- Collect, summarize and analyze the practical data.

### **b- Intellectual Skills**

**To make the graduate able to:**

b1- Understand how to use the electric devices in safety way.

b2- Collect, summarize and analyze the practical data.

b3- Reason in a any optical phenomena by a logic way.

### **c- Professional and Practical Skills**

**To make the graduate able to:**

c1 - Analyze the ability of constructing different electric circuits

c2- Design the optical devices.

### **d- General and Transferable Skills**

d1- Solve problems.

d2- Work in team.

d3- Write reports

## **3- Contents**

<b>Topics actually taught</b>	<b>No. of hours</b>	<b>Lecture</b>	<b>Practical / Tutorial</b>
Determination of the temperature coefficient of resistance	3		3/0
Construction of ohmmeter	3		3/0
Kerry Foster Bridge	3		3/0
Anderson bridge	3		3/0
Surface tension	3		3/0
Interference of light waves	3		3/0
Viscosity	3		3/0
Determination of Young' s modulus	3		3/0
The thermal conductivity modulus of rubber	3		3/0
Newton rings	3		3/0

## **4- Teaching and Learning Methods**

4.1-Discussion sessions

4.2-Class activities

## 5- Student Assessment Methods

5.1 Oral exam to assess understanding

5.2 Mid-term exam to assess Understanding

5.3 Final term exam to assess knowledge with understanding

### Assessment Schedule

Assessment 1 Oral exam week 1-12

Assessment 2 Mid-term exam week 7

Assessment 3 Final term exam week 13

### Weighting of Assessments

Mid-Term Examination	10%
Final-term Examination	60%
Oral Examination.	10%
Practical Examination	20 %
Semester Work	0%
<u>Other types of assessment</u>	<u>%</u>
Total	100%

## 6- List of References

6.1- Course Notes

.....Lecture materials.....

6.2- Recommended Books

Optics,2<sup>nd</sup> edition; Jurgen R. Mey, LEBS Longman (1998)

6.3- Recommended Books

Optics,2<sup>nd</sup> edition; Jurgen R. Mey, LEBS Longman (1998)

6.4- Periodicals, Web Sites, ... etc

<http://www.hep.com>

<http://www.physics2000>

<http://www.physics.today>

## 7- Facilities Required for Teaching and Learning

Personal computer, data show and power point application.

**Course Coordinator: Dr. Mohammed Abd Elwahab**

**Head of Department: Prof. Dr. L.I. Abou-Salem**

Date: 1/6 /2008