University: Benha **Faculty of Science**
Course specifications:
Programme (s) on which the course is given: BIOLOGY
Major or minor element of programmes: Major
Department of offering the programme: BIOLOGY
Department offering the course: Chemistry
Academic year /Level: 2nd year /2nd term
Date of specification approval: 2008

A – Basic information

Title: Practical physical chemistry **Code:** 242 CH
Credit Hours: **Practical:** 4 hrs/w **Total:** 4 hrs /w

B – Professional Information

1. Overall aims of course: At the end of this course the student able to:

Focusing on the bases of physical chemistry.

2. Intended learning outcomes of course (ILOS):

a- Knowledge and understanding:

At end of this course student able to:
a1- Know the theoretical basis of experimental physical chemistry.
a2- Make the preparation of standard solutions.
a3- Make the ideal conditions of experimental process.
a4- select experimental of some experimental physical chemistry.

b- Intellectual skills:

None

c- Professional and practical skill:

By the end of the course the student will be able to:
c1- set the optimum conditions for an experimental process.
c2- data analysis

d- General and transferable skills:

d1- Use the computer
d2- Communicate with topics and internet
d3- Community linked thinking

3. Contents:

Topics	No. of hours	Practical
The theoretical basis of experimental physical chemistry. Determination of viscosity and density of liquid	8	8
Determination of the heat of solution.	4	4
Determination of the order of reaction of the catalytic decomposition of H_2O_2.	8	8
Determination of the order of reaction of the saponification of ethylacetate.	4	4
Salting out effect	4	4
Phase equilibrium. Water-phenol system	8	8
Adsorption of solute on solid	4	4

Determination of Avogadro's number.	4	4
Revision and discussion	4	4
Total	48	48

4. Teaching and Learning methods:

4.1- practical experiments

5. Student assessment methods:

5.1 Discussions to assess applying and evaluating the information

5.2 Practical to assess the acquired profession skills

5..3 Mid term exam to assess understanding **intellectual** skills

5.4 End of term exam to assess knowledge with understanding

2-Assessment Schedule

Assessment 1: Discussions	Week 1-12
Assessment 2: Essay	Week 3
Assessment 3: Mid term	Week 7
Assessment 4: Final exam	Week 14

Weighting of assessments

Mid term examination	5 %
Final term examination	60%
Oral examination	5%
Semester work	30 %
Total	100%

Any formative only assessments

6. List of references:

6.1- **Course notes:** Hand out notes

6.2-**Essential text books**

Alexander Alexsive (Practical inorganic and analytical Chemistry), Mir Publisher (1995)

6.3- **Recommended books**

Alexander Alexsive (Practical inorganic and analytical Chemistry), Mir Publisher (1995)

6.4-**Periodicals**

6.5- **Web sites:** www.google.com

6.7- **workshop notes**

7. Facilities required for teaching and learning

- Computers - Analytical balance – Glass wares and chemicals.

Course coordinator: Dr.\ I.S. AHMED

Head of Department: Prof. Dr.\ Hassan A. Desoki
Date: / /