

University: Benha

Faculty of Science

Course Specifications

Programme(s) on which the course is given . Basic Science

Major or Minor element of programmes: Major

Department offering the programme : Chemistry

Department offering the course : Mathematics

Academic year / Level : First year(Physical science) /Second Semester

Date of Department approval : 2008

A- Basic Information

Title: Dynamics

Code: 172 M

Credit Hours:

Lecture:3 hrs/week

Tutorial:2

Practical:

Total:5 hrs

B- Professional Information

1 – Overall Aims of Course: By the end of the course the student will able to

- i) Know the motion related to different coordinates**
- ii) Enable the student to study the motion of a particle in a straight line and in a plane**
- iii) Study some physical phenomena's**

2 – Intended Learning Outcomes of Course (ILOs)

a-Knowledge and Understanding: By the end of the course the student will able to:

- a1- Find the velocity acceleration in different coordinates**
- a2- Develop the ability of the student to deal with Dynamics**
- a3- Apply what was studying in the previous courses**

b-Intellectual Skills

- b1- Extend the mentality abilities for the student**

b2- Make discussion concerning assigned problems

b3- Extend of mental ability for the student

c-Professional and Practical Skills

c1- Develop the ability of the student to relate between topics

c2- Apply what was studying in the previous courses

c3- Develop the capability of the student for thinking

d-General and Transferable Skills

d1- Solve problems

d2- Work in groups

d3- Analysis of results

3- Contents

Topic	No. of hours	Lecture	Tutorial/Practical
Vector analysis	5	3	2
The motion on a circle and the simple pendulum	10	6	4
The restrictive motion	10	6	4
The variable mass	5	3	2
The projectiles	10	6	4
Simple harmonic motion	10	6	4
Electromagnetic theory	10	6	4

4– Teaching and Learning Methods

4.1- Lecturing

4.2- Discussions

4.3- Exercises

4.4- Homework

5- Student Assessment Methods

5.1 Discussions to assess applying and evaluating the information

5.2 Essay to assess understanding

5.3 Mid term exam to assess understanding

5.4 End of term exam to assess knowledge with understanding

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 10%

Final-term Examination 80%

Oral Examination. 5%

Semester Work 5%

Other types of assessment %

Total 100%

Any formative only assessments

6- List of References

6.1- Course Notes

6.2- Essential Books (Text Books)

Dynamics of a Particle and of Rigid Bodies, S. L. Loney, Cambridge at the University Press, 1960

6.3- Recommended Books

Dynamics of a Particle and of Rigid Bodies, S. L. Loney, Cambridge at the University Press, 1960

6.4- Periodicals, Web Sites, ... etc

Science direct, google.com; Chemweb.com

7- Facilities Required for Teaching and Learning

Course Coordinator: Dr.Gamal Abdel Rahman

Head of Department: Prof. Dr. Effat Abbas

Date: