

# Course Specifications

Programme(s) on which the course is given: Post-Graduate (Mineralogy & Petrology)

Major or Minor element of programmes: Major

Department offering the programme: Geology

Department offering the course: Geology

Academic year / Level: 00/ Post Graduate

Date of specification approval:

## a- Basic Information

**Title:** Advanced Igneous Petrology

**Code:** G632

**Credit Hours:** 3 Credit Hours

**Lecture:** 3 Credits

**Tutorial:**

**Practical:** -----

**Total:** 3 Credit Hours

## b- Professional Information

### 1 – Overall Aims of Course

- a. Introducing common structures and textures found in igneous rocks.
- b. Identification and description of the different types of igneous rocks.
- c. Illustrating the origin and the formation of igneous rocks.

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

- a- Knowledge and Understanding:** By the end of this course, the student should be able to:
- a1- Understand the petrogenesis of igneous rocks.
  - a2- Understand terminology. Nomenclature and classification used in igneous petrology.
  - a3- Detect the importance of igneous rocks as a source of minerals formation.
- b- Intellectual Skills:** By the end of this course, the student should be able to:
- b1- Differentiate between the different types of igneous rocks...
  - b2- Characterize the relationship between igneous rock formation and genesis of different ores.
- c- Professional and Practical Skills:** By the end of this course, the student should be able to:
- c1- Apply and adopt the course topics into professional application.
  - c2- Write a scientific report about rock forming minerals of igneous rocks and their textures.
- d- General and Transferable Skills:** By the end of this course, the student should be able to:
- d1- Critically use the internet as a tool of communication and as a source of information.
  - d2- The ability to investigate various igneous rocks.
  - d3- communicate effectively to a variety of audiences in written, verbal and graphical forms.

### 3. Contents

Topic	Credit hours	Lecture
Introduction to igneous rocks	3	3
Textures of igneous rocks	3	3
Acidic igneous rocks	6	6
Intermediate igneous rocks	6	6
Basic igneous rocks	6	6
Ultra basic igneous rocks	6	6
Origin of granites	3	3
Igneous rocks and tectonism	3	3
Igneous rocks in Egypt	3	3
Ores of igneous rocks in Egypt	6	6
<b>Total</b>	<b>42</b>	<b>42</b>

### 4 – Teaching and Learning Methods

4.1-Professional lectures

4.2- Class discussion.

4.3- Preparation of scientific reports during the semester.

### 5- Student Assessment Methods

5.1- Regular written exam.

to assess a1, a2

5.2- Mid-term exam.

to assess a2, c1

5.3- At the end of term exam.

to assess a1-a2, b1-b2, c1-c2,

d1-d2

5.4- Reports and discussions

to assess d3-d4

#### Assessment Schedule

Assessment 1: Short exam (class activities)

every two weeks

Assessment 2: Mid-term exam (written)

week 7

Assessment 3: Final-term exam (written and verbal)

week 15-16

#### Weighting of Assessments

Semester Work and discussions:

20 %

Mid-Term Exam :

20%

Final-term Exam :

60%

Total:

100%

### 6- List of References

6.1- All topics are given from international and high standard local journals (Annals of the Geological Survey, Egyptian Journal of Geology).

#### 6.2. Text Books:

Myron G. Best and Eric H Christiansen, (2000). Igneous Petrology. Wiley-Blackwell; 1<sup>st</sup> edition, 455p

6.4- Periodicals, Web Sites, ... etc

Journal Mineralogy and Petrology (Springer), Journal of African Earth Sciences (Elsevier)

### 7- Facilities Required for Teaching and Learning

Laptop, data show, computers, internet, international journals.

**Course Coordinator:** Prof. Ahmed A. Al Boghdady

**Head of Department:** Prof. Ahmed A. Al Boghdady

**Date:** / /2012