Course Specifications

Programme(s) on which the course is given: Post-Graduate (Hydro-Petroleum)
Major or Minor element of programmes: Major
Department offering the programme: Geology
Department offering the course: Geology
Academic year / Level: 2009-2010/ Post-Graduate
Date of specification approval:

a- Basic Information

Title: Advanced Sedimentary Petrology **Code:** G6310

Credit Hours: 2 Credits **Lecture:** 2 Credit Hours

Tutorial: **Practical:** 2 Hours **Total:** 2 Credit Hours

b- Professional Information

1 – Overall Aims of Course:

- Knowing origin of sedimentary rocks and its relation to oil reservoir.
- Recognizing the characteristics of the phosphate rocks and iron ore deposits in Egyptian sedimentary 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 diagenesis and mechanism of sedimentary rocks.
- **a2-** Illustrate porosity and permeability of sedimentary reservoir rocks.
- **a3-** Understand the origin of ore deposits associated with sedimentary rocks and its depositional environment.

b- Intellectual Skills: By the end of this course, the student should be able to:
- **b1-** Discuss the sedimentary structure and its application to depositional environment.

c- Professional and Practical Skills: By the end of this course, the student should be able to:
- **c1-** Prepare thin sections from hard sedimentary rocks.
- **c2-** Describe hand-specimen of sedimentary rock samples.
- **c3-** Use staining techniques for uncovered carbonate thin sections.

d- General and Transferable Skills: By the end of this course, the student should be able to:
- **d1-** Write report about the geological history of the rocks based on his experience in field work and graphical data.
- **d2-** Interpret of the depositional environments
- **d3-** Solve origin problems of sedimentary rock origin .

3. Contents

Topic	Credit hours	Lecture
Introduction	2	2
Classification of sedimentary rocks	2	2
Sandstone classification and diagenesis	2	2
Limestone classification and diagenesis	6	6
Classification and mineralogy of dolomite	2	2
Evaporite models and origin	2	2

Iron bearing rocks	2	2
Occurrence and origin of phosphorites	4	4
Occurrence and origin of coal	2	2
Volcanoclastic sediments	2	2
Origin of siliceous rocks	2	2
Total	**28**	**28**

4 – Teaching and Learning Methods

4.1- lectures.

5- Student Assessment Methods

5.1-regular verbal and written exam	to assess a1-a2
5.2-mid-term exam	to assess a1-a2, b1-b2
5.3-at the end of term exam	to assess a1-a2, b1-b2, c1-c3
5.4-reports and discussion	to assess d1-d3

Assessment Schedule

Assessment 1: short exam (class activities)	every two weeks
Assessment 2 :mid-term (written and practical)	week 7
Assessment 3: final-term (written and practical)	week 15-16
Assessment 4……. Week …….	

Weighting of Assessments

Written

Mid-Term Exam:	20%
Final-term Exam:	60%
Semester Work (including reports, oral and discussion):	20%
Total:	100%

6- List of References

6.1- Course Notes: Prepared by staff members

6.2- Essential Books (Text Books):

M. E. Tucker (2009). Sedimentary Petrology: An Introduction to the Origin of Sedimentary Rocks. John Wiley & Sons, 272 pages

6.3- Recommended Books:

International stratigraphic guide (1976).

North American Stratigrapic code (1983).

6.4- Periodicals, Web Sites, … etc

Journal of Sedimentary geology (Elsevier), Journal of Sedimentology (Elsevier)

7- Facilities Required for Teaching and Learning

Data show, slide and overhead projectors

Course Coordinator: Prof. Mohamed M. Abu El-Hassan

Head of Department: Prof. Ahmed Al-Boghdady

Date: / / 2012