Course Specifications

Programme(s) on which the course is given: Post-Graduate (Stratigraphy & Sedimentation)
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 Carbonate Rocks **Code:** G639

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

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

b- Professional Information

1 – Overall Aims of Course:

- To interpret origin and diagenesis of carbonate rocks.
- To recognize the mineralogy and classification of carbonate rocks.
- To describe the porosity and permeability of carbonate 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 mineralogy and classification of carbonate rocks.

a2- Illustrate the porosity and permeability of carbonate reserviour.

b- Intellectual Skills: By the end of this course, the student should be able to:

b1- Analyze the geological factors controlling depositional environments.

b2- Evaluate the porosity and permeability of dolomite reservoir.

c- Professional and Practical Skills: By the end of this course, the student should be able to:

c1- Discuss the mineral types and porosity of carbonate rocks.

c2- Evaluate the porosity and permeability of dolomite reservoir.

d- General and Transferable Skills: By the end of this course, the student should be able to:

d1- Work effectively on solving carbonate rock problems.

d2- Use IT and search on course topics.

d3- Communicate effectively with his professors and colleagues.

3. Contents

Topic	Credit hours	Lecture
Mineralogy and classification of limestone	2	2
Porosity and permeability of limestone	4	4
Mineralogy of dolostone	2	2
Origin and depositional models of dolomite	2	2
Dolomite reservoir rocks	4	4
Limestone reservoir characterization	4	4
Geochemistry of carbonate rocks	2	2
Porosity and permeability of core samples	2	2
Stable isotopes of carbonate rocks	4	4
Economic importance of carbonate rocks	2	2
Total	**28**	**28**

4 – Teaching and Learning Methods

4.1- Professional lecture.
4.2- class discussion.
4.3- Quizzes and homework problems.

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-c2
5.4- Reports, discussion	to assess d1-d3

Assessment Schedule

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

Weighting of Assessments

Written

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

6- List of References

6.1- Course Notes:

6.2- Essential Books (Text Books):

Maurice E. Tucker, V. Paul Wright, J. A. D. Dickson (1990). Carbonate Sedimentology. John Wiley & Sons, 482 p

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

Flugel (1980): Limestone microfacies

6.3- Recommended Books

See many sedimentary petrology books in the library.

6.4- Periodicals, Web Sites, … etc

Journal of Cretaceous Research

Journal of Sedimentology

7- Facilities Required for Teaching and Learning

Porosometerm permeameter, data show and chemical materials

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

Head of Department: Prof. Ahmed Al-Boghdady

Date: / / 2012