Course Specifications

Programme(s) on which the course is given: M.Sc. Stratigraphy and Sedimentation
Major or Minor element of programmes: Major
Department offering the programme: Geology
Department offering the course: Geology
Academic year / Level: 00/ Post Graduated
Date of specification approval:

a- Basic Information

Title: Advanced Lithostratigraphy **Code:** G626

Credit Hours: 2 Credit Hour **Lecture:** 2 Credit

Tutorial: **Practical:** None **Total:** 2 Credit Hours

b- Professional Information

1 – Overall Aims of Course

- **a.** Knowing different stratigraphic units.
- **b.** Dividing outcrop sections into lithostratigraphic untis, and correlate them with other sections.
- **c.** Determining lateral and vertical relationships between different lithostratigraphic units.
- **d.** Interpreting the data obtained and the geologic history of the studied area.

2 – Intended Learning Outcomes of Course (ILOs)

a- Knowledge and Understanding: By the end of this course, the student should be able to:
- **a1-** Know how to measure the outcrop sections and presentation of data obtained.
- **a2-** Illustrate correlation of rock units by different methods.

b- Intellectual Skills: By the end of this course, the student should be able to:
- **b1-** Differentiate and correlate different rock units.
- **b2-** Evaluate the rock column subdivisions.
- **b3-** Construct and interpret different stratigraphic maps**.**

c- Professional and Practical Skills: By the end of this course, the student should be able to:
- **c1-** Draw columnar sections and dividing them into rock units.
- **c2-** Use facies relationship as a tool for interpretation of geologic history.

d- General and Transferable Skills: By the end of this course, the student should be able to:
- **d1-** Work effectively as a part of a team and solve problems regarding the stratigraphy of the areas of investigation and to write reports
- **d2-** Integrate the information from various geology branched to solve stratigraphic problems

3. Contents

Topic	Credit hours	Lecture
History of geology	4	4
Development of the geologic time scale	2	2
Stratigraphic nomenclature and stratigraphic code	2	2
Collecting the data (surface and subsurface stratigraphic sections)	2	2
Stratigraphic relationships(vertical and lateral relationships among lithosomes)	2	2
Presentation of data and interpretation	2	2
Principles of correlation and physical criteria of correlation	4	4
Biologic criteria of correlation and chrono-corelation	2	2

Geochronology-the concept of time and relative versus absolute dates.	4	4
Chronology based on salinity of seas, rate of sedimentation, growth increments, seasonal deposits, and radiometric dating	2	2
Unconformities (their recognition and significance)	2	2
Total	**28**	**28**

4 – Teaching and Learning Methods

4.1-Professional lectures

4.2- Class discussion

5- Student Assessment Methods

5.1-Regular reports and discussions	to assess a1, a2
5.2-Mid-term exam	to assess a2, c1
5.3-Final-term exam (written and verbal) exam	to assess a1-a2, b1-b2, c1-c2

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

Weighting of Assessments

Semester Work and discussions:	20 %
Mid-Term Exam :	20%
Final-term Exam :	60%
Total:	100%

6- List of References

6.1- Different articles provided by the course coordinator

North American Stratigraphic Commission on Stratigraphic Nomenclature, 1983, North American Stratigraphic Code: Am. Assoc. Petroleum Geologists Bull., v.67, 841-875.

Hedberg, H. D. (ed), 1976: International Stratigraphic Guide: A guide to stratigraphic classification, terminology and procedure: International Subcommission on stratigraphic classification of IUGS Commission on stratigraphy, John Wiley &Sons, New York, 200p.

Krumbein, WC. And Sloss, L.L. 1963: Stratigraphy and sedimentation. W. H. Freeman, San Francisco, 660p.

Sam boggs, J. c. 1987: Principles of sedimentology and stratigraphy. Merrill Pulbishing Company, Columbus, Ohio, 969p.

6.4- Periodicals, Web Sites, … etc

Geol. Soc. Am. Bull.

Am. Assoc. Petroleum Geologist Bull.

7- Facilities Required for Teaching and Learning

Laptop, data show, slides and overhead projectors

Course Coordinator: Prof. Hosny E. Soliman

Head of Department: Prof. Ahmed Al-Boghdady

Date: / /2013