



**Department of Earth Sciences and Petroleum
College of Science**

University of Salahaddin-Erbil

Subject: Stratigraphy-Practical

Course Book – (2nd year)

Lecturer's name: Avin Hameed Abdullah

Academic Year: 2023/2024

Course Book

1. Course name	Stratigraphy
2. Lecturer in charge	Avin Hameed Abdullah
3. Department/ College	Geology/ science
4. Contact	e-mail: avin.abdullah@su.edu.krd
5. Time (in hours) per week	Practical: 8 Hour 2 Four group
6. Office hours	9 Hour
7. Course code	
8. Teacher's academic profile	<p>*Graduated at the Department of Geology, Salahaddin University/ College of Science (2004-2005).</p> <p>* M.Sc. in Stratigraphy and sedimentary, Geology Department, College of Science, Salahaddin University-Erbil, Iraq.</p> <p>*Assistant lecturer in Geology Department, Salahaddin University-Erbil, teaching practical to undergraduate students in the laboratory of subjects Stratigraphy and sedimentary</p>
9. Keywords	Relationships, Map, Correlation, unite, stratigraphy ,law

10. Course overview:

This course focuses on the study of introduction to Stratigraphy.

1-Introduction-Standard Symbols for measuring stratigraphic section

2-Sequencing of geological events Categories of Stratigraphic Units;

-Rock Stratigraphic(Lithostratigraphic) Units

-Time Stratigraphic(Chronostratigraphic) Units

-Geologic Time (Geochronologic) Units

3-Correlation of Lithostratigraphic Units

-Correlation of Biostratigraphic Units

-4 Measuring and describing stratigraphic section

5-Development and movement of sedimentary Facies

11. Course objective:

Regular attendance is the best way to assure a good grade in this class. Different form of teaching is illustrated to gain best results, and it is much easier to absorb the information in lecture than to try and learn it on your own from the text. As an incentive to come regularly, quizzes will be given every lab

Also, it is the purpose of this course to assemble and integrate the facts, principles, and hypothesis bearing upon stratigraphy and sedimentation in a form that may be studied and assimilated in an efficient manner.Prerequisites include the normal sequence of undergraduate courses in geology and related sciences.

12. Student's obligation

- Always, be present in the hall before the instructor.
- You must close mobile before entering the hall. come to class regularly
- be willing to become involved in the course
- complete on-line exercises and quizzes
- collaborate with your neighbours to exchange ideas and learn new concepts
- hand in your own work on the in-class exercises

13. Forms of teaching

Teaching includes different manners|:

Power point presentations

Explanations on blackboard

Classroom discussions

14. Assessment scheme

Daily activities and Seminar 6 mark, Quiz 6 mark , reports 8mark

Exam 15 marks

Total 35 Marks

15. Student learning outcome:

Most of the graduated student s followed the oil companies those work in the Kurdistan Region especially in the last years.

16. Course Reading List and References:

1-Boggs,Jr,S.,2006.Principles of Sedimentology and stratigraphy.Prentice-Hall, New York,662p

2-Krumbein,W.C.andSloss,L.L.,1963.Stratigraphyand Sedimentation. Freeman and Company, San Francisco,660p.

3-Nichols,G.,2009.Sedimentology and Stratigraphy. Second Edition.

4-Wiley-Blackwell,419p. 2- Boggs, S. J, 2006, Principles of

Sedimentology and Stratigraphy.4th ed., Prentice-Hall, 662P.3- Folk,

5-R. L., 1974, Petrology of Sedimentary Rocks, Hemphill Publication

Company, Texas, 170P.4- Nichols, G., 1990, Sedimentology and

stratigraphy, Black Well Science, 355P.

6- Pettijohn, F. J., Potter, P. E., and Seiver, R., 1987, Sand and sandstone, Springer-Verlag, New York, 553P.

7- Selley, R. C., 2000, Applied Sedimentology, Academic Press, 521P.

8- Tucker, M.E., 1981, Sedimentary petrology an introduction, Volume 3, Blackwell scientific Publications, 252P.

17. The Topics:	Lecturer's name
<p>Week1 introduction to Stratigraphy.</p> <p>-Introduction-Standard Symbols for measuring stratigraphic section -Lithologic Symbols -Fossil Symbols -Sedimentary Structures Symbols</p>	<p>Avin Hameed 2 hour</p>
<p>Week 2</p> <p>Sequencing of geological events Principle of uniformitarianism Principle of original horizontality Law of lateral continuity Law of superposition Law of cross-cutting relationships Principle of inclusions Law of founal succession</p>	
<p>Week3</p> <p>Stratigraphic</p> <p>-Categories of Stratigraphic Units; -Rock Stratigraphic(Lithostratigraphic) Units (Group, Formation, Member, Lens and Tongue, Bed)</p> <p>Time Stratigraphic(Chronostratigraphic) Units Definition (System, Series Stage)</p> <p>-Geologic Time (Geochronologic) Units Definition (Eon, Era, Period ,Epoch, Age)</p>	
<p>Weeks 4 Definition</p> <p>-Correlation of Lithostratigraphic Units</p>	
<p>Week 5</p> <p>-Correlation of Biostratigraphic Units</p>	

<p>and -Time Stratigraphic Correlation Methods of biostratigraphical correlation</p> <p>Week 6 Measuring and describing stratigraphic section Surface stratigraphical section subsurface stratigraphical section</p> <p>a-Geophysical methods b-well data</p> <p>Week 7 Development and movement of sedimentary Facies 1-Facies pile up vertically -Facies show a transgressive onlap pattern – Facies show a regressive offlap pattern Lateral Relationships among Lithosomes -Combined Lateral and Vertical Relationships Transgression and Regression Overlap and Offlap Onlap and Overstep</p> <p>Week 8 Stratigraphic Maps -Classification of Stratigraphic Maps Structure Contour Maps Isopach Maps Isopach Maps</p> <p>Week 9 Facies Maps Paleogeomorphologic Maps Paleogeologic Maps</p> <p>Week 10 – Examination</p>	
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18. Examinations:

Note: Each question equals (10) degrees

1. What are the basic principles (Laws) of stratigraphy? Explain and Draw.
2. Which factor was used in classification the shapes of Lithosomes? Show
- 3- What are the specification of preferred measured stratigraphic section.
- 4- Why the subsurface studies are less accurate and less reliable than those based on outcrop?
- 5- Compare between Topographic and Structure-contour maps?
- 6- Compare between Isochore and Isopach maps?
- 7- Interpret the stratigraphic sequence in transgressive facies pattern fines upward?
8. List the methods and problems of rock-unit nomenclature and correlation.
9. Write, in the form of table, classification of stratigraphic maps

19. Peer review

Dr Ali Ashoor Abid