

Course E-Syllabus

1	Course title	Stratigraphy and Historical Geology
2	Course number	0305201
3	Credit hours	4 Credit hours (Theory and practical)
	Contact hours (theory, practical)	3 hrs. Theory/ week and 1 hr. practical / week
4	Prerequisites/corequisites	General Geology (0305101)
5	Program title	B. Sc. In Geology
6	Program code	0305 2
7	Awarding institution	The University of Jordan
8	School	Science
9	Department	Geology
10	Level of course	2 nd year B.Sc.
11	Year of study and semester (s)	
12	Final Qualification	B. Sc. In Geology
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Teaching methodology	<input type="checkbox"/> Blended <input checked="" type="checkbox"/> Online
16	Electronic platform(s)	<input type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input checked="" type="checkbox"/> Zoom <input type="checkbox"/> Others.....
17	Date of production/revision	27-06-2020

18 Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Office number: **Geo 118**

Phone number (Office): 009626 5355000 ext. 22255

Cell: :00962787583784

Office Hrs.: Every day 11-12 AM

Email: a.abuhamad@ju.edu.jo

19 Other instructors:

Name:

Office number:

Phone number:

Email:

Name:

Office number:

Phone number:

Email:

QF-AQAC-03.02.1.3

20 Course Description:

As stated in the approved study plan.

Welcome to Stratigraphy and Historical Geology! Stratigraphy and Historical Geology course is involved directly or indirectly in most aspects of geological studies. This course covers many subjects including the Evolution of stratigraphic classifications; present day classifications; types of lithostratigraphic units; combined successions of strata; sequences: surface outcrops, correlation of strata, unconformities; chronostratigraphic units; Facies, depositional environments, columnar sections, horizontal, inclined strata, Orogeny . Eras and their characteristics: divisions, sediments, fossils; stratigraphy as a tool in: mineral, water, and petroleum exploration; three hours lab each week and field trips are required.

QF-AQAC-03.02.1.3

21 Course aims and outcomes:

22. Topic Outline and Schedule:

A- Aims:

By the end of the course you will be able to:

- Apply the principles of stratigraphic analysis
- Interpret the different maps e.g. geological maps
- Apply different correlation principles
- Understanding the depositional environments of any given sed. Rocks
- Recognize the different dating tools.
- Understanding the plate movements and relation of this movements with orogeny and sedimentary rocks
- Understanding the evolution theory of the earth
- Identify; organize; describe; the Stratigraphic units, and Lithostratigraphic units following international standards.
- Understanding the general history of the Jordan through geologic time, with focus on orogenic events, sediments, climate, fossils and the rock record.
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B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to ...

- Demonstrate an understanding of the following concepts and principles: unconformities, geologic time, dating methods, evolution, extinction, Structure of the Earth, continental drift, plate tectonics, mountain building (Orogeny), sedimentary facies and sequence stratigraphy & Sea level.
- Explain the concept of geologic time
- Describe sedimentary processes and their use in describing Earth history
- Understand stratigraphic units, principles of stratigraphy and their applications.
- Correlate the stratigraphic sections from different locations.
- Date the beds with included fossils and divide them in biozones.
- Know the geologic time scale and understand the background and history of its formation, Eons, eras and their characteristics: subdivisions, sediments, fossils.
- Interpret past depositional environments using sedimentary rocks and fossils.
- Recognize the relationships between life (first life, evolution of life, extinctions) and plate tectonics.
- Use stratum contour to determine the orientation of a geological surface and be able to construct vertical cross section.
- Summarize how Earth's continents and ocean evolve over geological time, and relate this to specific evidence preserved in the rock record.
- Describe the general history of the Jordan through geologic time, with focus on orogenic events, sediments, climate, fossils and the rock record.

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1	1.1	Course Syllabus, Introduction, The relative geological time scale and modern concepts of Stratigraphy. Sedimentary texture and structure	Microsoft Team and Zoom	Quiz 1	The Evolution of the Earth: Donald R. Prothero & Robert H. Dott, Jr., 7th ed., 2004, MacGraw-Hill, New York.
	1.2				
	1.3				
	1.4				
	1.5				
2	2.1	Mountain building and drifting continents	Microsoft Team and Zoom	Quiz 2	The Evolution of the Earth: Donald
	2.2				

	2.3				R. Prothero & Robert H. Dott, Jr., 7th ed., 2004, MacGraw-Hill, New York.
	2.4				
	2.5				
3	3.1	Cryptozoic history: An introduction to the origin of continental crust.	Microsoft Team and Zoom	Quiz 3	The Evolution of the Earth: Donald R. Prothero & Robert H. Dott, Jr., 7th ed., 2004, MacGraw-Hill, New York.
	3.2				
	3.3				
	3.4		Microsoft Form	15 Grades	
	3.5	First Exam	Microsoft Team and Zoom		
4	4.1	<ul style="list-style-type: none"> • Early life and its patterns • Earliest Paleozoic history: An introduction to Cratons and Epeiric seas. 	Microsoft Team and Zoom		The Evolution of the Earth: Donald R. Prothero & Robert H. Dott, Jr., 7th ed., 2004, MacGraw-Hill, New York.
	4.2				
	4.3				
	4.4				
	4.5				
5	5.1	The later Ordovician: Further studies of plate tectonics and the paleogeography of orogenic belts	Microsoft Team and Zoom	Quiz 4	The Evolution of the Earth: Donald R. Prothero & Robert H. Dott, Jr., 7th ed., 2004, MacGraw-Hill, New York.
	5.2				
	5.3				
	5.4				
	5.5				
6	6.1	The middle Paleozoic: Time of reefs, salt, and forests	Microsoft Team and Zoom		The Evolution of the Earth: Donald R. Prothero & Robert H. Dott, Jr., 7th ed., 2004, MacGraw-Hill, New York.
	6.2				
	6.3				
	6.4				
	6.5	Second Exam	Microsoft Form	15 Grades	
7	7.1	Late Paleozoic history: A tectonic climax and retreat of the sea	Microsoft Team and Zoom	Quiz 5	The Evolution of the Earth: Donald R. Prothero & Robert H. Dott, Jr., 7th ed., 2004, MacGraw-Hill, New York.
	7.2				
	7.3				
	7.4	The Mesozoic Era: Age of reptiles and continental breakup			
	7.5				
8	8.1	Cenozoic history: threshold of the present	Microsoft Team and Zoom		The Evolution of the Earth: Donald R. Prothero & Robert H. Dott, Jr., 7th ed., 2004, MacGraw-Hill, New York.
	8.2				
	8.3				
	8.4				
	8.5	Final Exam	On Campus	50 Grades	

□ Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting

□ Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

23 Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark		Topic(s)	Period (Week)	Platform
Lab reports	10		Different Reports	Every Week	Microsoft Form
Quizzes	10		Different Chapters	Every Week	Microsoft Form
First Exam	15		Different Chapters	After 3 weeks	Microsoft Form
Second Exam	15		Different Chapters	After 6 weeks	Microsoft Form
Final Exam	50	40	All Chapters Lab	After 8 Weeks	Microsoft Form
		10			
Total	100				

24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

Internet connection, PC or Laptop, Account on Microsoft

25 Course Policies:

- Attendance Policy: attendance is mandatory. Class non-attendance usually results in poor grades.
 - All students are expected to follow the policies of the Student Code of Ethics as outlined in the Student Handbook.
- During class lectures, please make sure that all cell phones and pagers are silenced or are in vibrate mode. If you need to answer an urgent call (except during an exam), please leave the class to speak on the phone.
- Please make sure to arrive at class on time, as entering late is a distraction to the students and instructor. Students arriving after an exam has already been passed out (without legitimate excuse) will lose 10 points on that exam, and will have less amount of time to finish the exam compared with the rest of the class.
- Cheating may, at my discretion, result in an **F** for the course.

Grading will not necessarily be “on a curve.” There is no expectation of what the average grade should be, nor what the grade distribution should look like. If everyone were to demonstrate outstanding understanding of all the material, then everyone deserves a grade of A (and I would be very happy to give each one of them)! I therefore encourage you to discuss the course material with each other to get the most out of the class.

Note: the points and percentages given are approximations and may vary slightly

Letter	Percentage
A	90-100
A-	85-89
B+	80-84
B	75-79
B-	70-74
C+	65-69
C	60-64
C-	55-59
D+	50-54
D	45-49
D-	40-44
F	0-39

26 References:

A- Required book(s), assigned reading and audio-visuals:

1. The Evolution of the Earth: Donald R. Prothero & Robert H. Dott, Jr., 7th ed., 2004, MacGraw-Hill, New York.
"This book will be the authorized in our Course"
2. The key to earth history: an introduction to stratigraphy: Peter Doyle, 1994.
3. Stratigraphy and sedimentation of the phanerozoic rocks in central and south Jordan, part A Ram and Khreim Groups: Powell J H. 1989, Bulletin 11, NRA, Amman. 72p.
4. Stratigraphy and sedimentation of the phanerozoic rocks in central and south Jordan, part B Kurnub, Ajlun and Belqa groups: Powell J H. 1989, Bulletin 11, NRA, Amman. 130p.

Additional reading list will be handed out to students if needed.

B- Recommended books, materials and media:

Websites References

- o American Association of Stratigraphic Palynologists
- o Canadian Association of Palynologists
- o Cambrian Explosion Exhibit
- o Dinosauria Online
- o Dino Russ' Lair

27 Additional information:

Name of Course Coordinator: Prof. Dr. Abdalla Abu Hamad Signature:

Date: 227-06-2020

Head of Curriculum Committee/Department: Prof. Dr. Ghaleb Jarrar Signature: -----

Head of Department: Prof. Dr. Ghaleb Jarrar Signature: -----

Head of Curriculum Committee/Faculty: ----- Signature: -----

Dean: ----- Signature: -----