

1	Course title	Field geologic techniques
2	Course number	0305311
3	Credit hours (theory, practical)	4.5, 9 hours practical weekly
	Contact hours (theory, practical)	(14:00-6:30) twice a week.
4	Prerequisites/co requisites	
5	Program title	Field geologic techniques
6	Program code	---
7	Awarding institution	Department of geology
8	School	Science
9	Department	Geology
10	Level of course	Bachelor
11	Year of study and semester (s)	2018\2019 Winter semester (First semester)
12	Final Qualification	
13	Other department (s) involved in teaching the course	No other department (s) involved in teaching the course
14	Language of Instruction	English
15	Date of production/revision	13.08.2018

16. Course Coordinator:

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

210, Sun, Mon and Thur (9:00-12:00), m.hseinat@ju.edu.jo, Dr. Mu'ayyad Al Hseinat

17. Other instructors:

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

Sun, Mon (11:00-12:30), B.Saqarat@ju.edu.jo, Dr. Bety Al Saqarat

18. Course Description:

As stated in the approved study plan.

Familiarization with compass, topographic maps and other field equipments; stratigraphic cross and columnar sections; geological survey for different rocks; columnar sections correlation; preparing reports on the geological and environmental surveys; investigating the environmental circumstances of Landslides and mining areas, as well as soil and water resources pollution. Facies and microfossils description.

19. Course aims and outcomes:**A- Aims:**

- To have a theoretical base about the type of geological maps, coordinates, grid system, methods of mapping.
- To teach the students some field techniques as compass measurements of beds and structures.
- Construct field columnar sections and cross sections
- Prepare a geological report for each trip including geological measurements (strike, dip and dip direction .. etc) and drawing a geological cross- and columnar- sections.
- Write a final geological report contains all knowledge they learned during the course.

B- Intended Learning Outcomes (ILOs): Upon successful completion of this course students will be able to

Skill Outcomes Knowledge and

1-Locating and tracing geologic contacts on topographic base maps, able to use and interpret aerial photographs.

2- Be able to use: Compass, and GPS systems for Mapping and Structural geology features: Faults, folds, inclined bedding.

3- Stratigraphy of sedimentary rocks. (and other types of rocks "according to the location".

4-Ability to describe out crops, contact relations, structures and lithologies in the field.

5- Preparation report, drafted map and other illustrations

20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
Introduction, Instruments and Equipments	1	Bety Al Saqarat and Mu'ayyad Al Hseinat	1	Oral questions in the lecture	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication. -Basic Geological mapping, third edition, 1997, by John Barnes, Wiley -Personal notes
Geological maps, base maps, coordinates, grids	2	Bety Al Saqarat and Mu'ayyad Al Hseinat	1+2	Reports	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John

					Wiley & Sons, Ltd., Publication. -Basic Geological mapping, third edition, 1997, by John Barnes, Wiley -Personal notes
Methods of geological mapping,	3	Bety Al Saqarat and Mu'ayyad Al Hseinat	2	Oral questions in the lecture	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication. -Basic Geological mapping, third edition, 1997, by John Barnes, Wiley -Personal notes
Field measurements and techniques	3	Bety Al Saqarat and Mu'ayyad Al Hseinat	2+3	Reports	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication. -Basic Geological mapping, third edition, 1997, by John Barnes, Wiley -Personal notes
Columnar section	4	Bety Al Saqarat and Mu'ayyad Al Hseinat	3	Reports	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication. -Basic Geological mapping, third edition, 1997, by John Barnes, Wiley -Personal notes
Mapping: geological measurements	4	Bety Al Saqarat and Mu'ayyad Al Hseinat	2+3+4	Reports	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication.

					-Basic Geological mapping, third edition, 1997, by John Barnes, Wiley -Personal notes
Mapping: geological measurements	5	Bety Al Saqarat and Mu'ayyad Al Hseinat	2+3+4	Reports	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication. -Basic Geological mapping, third edition, 1997, by John Barnes, Wiley -Personal notes
Mapping: geological measurements	6	Bety Al Saqarat and Mu'ayyad Al Hseinat	2+3+4	Reports	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication. -Basic Geological mapping, third edition, 1997, by John Barnes, Wiley -Personal notes
Fold measurements	7	Bety Al Saqarat and Mu'ayyad Al Hseinat	2	Reports	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication. -Basic Geological mapping, third edition, 1997, by John Barnes, Wiley -Personal notes
Joint and fault measurements	8	Bety Al Saqarat and Mu'ayyad Al Hseinat	2	Reports	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication. -Basic Geological mapping, third edition, 1997, by

					John Barnes, Wiley -Personal notes
Final report, writing and discussion	9, 10, 11	Bety Al Saqarat and Mu'ayyad Al Hseinat	5	Reposts	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication. -Basic Geological mapping, third edition, 1997, by John Barnes, Wiley -Personal notes
Final exam	12	Bety Al Saqarat and Mu'ayyad Al Hseinat	1+2+3+4+5	Theoretical exam	-GEOLOGICAL FIELD TECHNIQUES, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication. -Basic Geological mapping, third edition, 1997, by John Barnes, Wiley -Personal notes

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

- Using Field Geology equipment's (campus, Hummer, GPS), Using Geological and Topographical Maps, Weekly Field Trip.

22. Evaluation Methods and Course Requirements:

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

Field trip reports 30%

Final theoretical exam 30%

Report evaluation 40%

Total 100%

23. Course Policies:

A- Attendance policies: Students must attend 85% of the lectures and field trips. Otherwise the course is dropped.

B- Absences from exams and handing in assignments on time: Medical excuses are accepted for retaking the missed exams.

C- Health and safety procedures: Field safety procedures are explained at the beginning of classes

D- Honesty policy regarding cheating, plagiarism, misbehaviour: As University rules

E- Grading policy: Reports are graded and returned to students

F- Available university services that support achievement in the course: Field Trips, equipment (compasses, hummers, GPS, etc.....)

24. Required equipment: (Facilities, Tools, Labs, Training....)

Compasses, Hummers, GPS, geological maps

25. References:

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

1. Geological Field Techniques, Angela L. Coe Tom W. Argles David A. Rothery Robert A. Spicer, 2010. A John Wiley & Sons, Ltd., Publication.

2. Basic Geological mapping, third edition, 1997, by John Barnes, Wiley

Recommended books, materials, and media:

1. Geology in the field, 1985 by R. Compton, Wiley

26. Additional information:

We give the students an introduction about the geological software/s.

Name of Course Coordinator: -----Signature: ----- Date: -----

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

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