



مركز الاعتماد  
وإضمان الجودة  
ACCREDITATION & QUALITY ASSURANCE CENTER



**The University of Jordan**

**Accreditation & Quality Assurance Center**

## **Course Syllabus**

**Course Name:**  
**Petrology Lab**

1	Course title	Petrology Lab
2	Course number	0305212
3	Credit hours (theory, practical)	1
	Contact hours (theory, practical)	3 practical
4	Prerequisites/corequisites	0305231
5	Program title	Environmental and Applied Geology
6	Program code	
7	Awarding institution	The University of Jordan
8	Faculty	Science
9	Department	Geology
10	Level of course	2 <sup>nd</sup> year
11	Year of study and semester (s)	
12	Final Qualification	B Sc
13	Other department (s) involved in teaching the course	
14	Language of Instruction	English
15	Date of production/revision	

#### 16. Course Coordinator: Dr Najel Yaseen

Office number: 202  
 Office hours: Sun, Tuesday & Thursday 9 - 10  
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#### 17. Other instructors:

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

#### 18. Course Description:

This lab deals with the identification of the three rock types: igneous, sedimentary, and metamorphic through systematic description of hand specimens and optical properties of minerals and their types and quantities. This course will also cover the principles of systematic rock classification through their mineral composition and textures. All this will be used to understand their petrogenesis. The lab will be given for the whole semester three hours weekly

#### 19. Course aims and outcomes:

<p><b>A- Aims:</b></p> <p>To introduce the student to handspecimen and thin section aspects of petrographic description          To introduce the student to common structures and textures found in igneous, sedimentary, and metamorphic rocks          To strengthen and expand the student's understanding of rock classification</p> <p><b>B- Intended Learning Outcomes</b>  <b>(ILOs):</b> Upon successful completion of this course students will be able to ...</p>
1- use the petrographic microscope
2- use terminology related to rock description
3- classify igneous rocks based on QAPF diagram
4 differentiate between undersaturated and oversaturated igneous rocks
5- recognize and identify granitic textures
6- relate igneous textures to the mode of igneous rock occurrences
7- classify sedimentary rocks (clastic, non clastic)
8- identify the different types of clastic rocks
9- differentiate between cement and matrix
10- differentiate between different types of limestones
11- use terminology related to metamorphic rock structures
12- use textures to classify metamorphic rocks ( foliated and non foliated)
13- deduce the grade of metamorphism
14 use the concept of key (index)minerals in metamorphic rocks

## 20. Topic Outline and Schedule:

Topic	Week	Instructor	Achieved ILOs	Evaluation Methods	Reference
Textures terminology for igneous rocks	1		1 & 2		Laboratory handout
Igneous rocks classification (modal), Granite, Granodiorit and quartz bearing syenite	2		1,2,3,		Laboratory handout
Gabbro, diorite , basalt and andesites	3		2,3, 5& 6		Laboratory handout
Undersaturated igneous rocks. Monzonite, syenite, basanites	4		2.3.4 5&6		Laboratory handout
Ultramafic igneous rocks, dunite,	5		2,3,4&5		Laboratory handout

lherzolite, hornblendite					
Clastic sedimentary rocks: Conglomerates and Sandstones	6		7 & 8		Laboratory handout
Sandstones, Greywackes and Mudstones	7		7,8 &9		Laboratory handout
Carbonates	8		10		Laboratory handout
Textures terminology for metamorphic rocks	9		11		Laboratory handout
Slate, phyllite and hornfels	10		12,13&14		Laboratory handout
Schist and gneiss	11		12,13&14		Laboratory handout
Quartzite and Marble	12		12,13&14		Laboratory handout
Eclogite, amphibolite, Migmatites	13		12,13&14		Laboratory handout

## 21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:  
 30 to 45 minutes lecture (power points with representative pictures)  
 laboratory work on rocks and representing thin sections,

Writing reports for each lab  
 quizzes  
 exams

## 22. Evaluation Methods and Course Requirements:

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

Writing lab reports 15%  
 Theoretical mid exam 15  
 Practical mid exam 15  
 Quizzes 5%

Final theoretical 25%  
 Final practical 25%

**23. Course Policies:**

A- Attendance policies:

Following the JU rules

B- Absences from exams and handing in assignments on time:

Following the JU rules

C- Health and safety procedures:

non

D- Honesty policy regarding cheating, plagiarism, misbehavior:

Following the JU rules

E- Grading policy:

0 - 39 F

40 - 44 D-

45 - 49 D

50 - 54 D+

55 - 59 C-

60 - 64 C

65 - 69 C+

70 - 74 B-

75 - 79 B

80 - 84 B+

85 - 89 A-

90- 100 A

F- Available university services that support achievement in the course:

**24. Required equipment:**

Polarizing microscopes  
Representative thin sections and handspecimen  
Accessory plates  
Interference colour charts

**25. References:**

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

Laboratory handout

B- Recommended books, materials, and media:

Blatt, h., Tracy, R., and OWENS, B. Petrology, igneous, sedimentary, and Metamorphic. Third edition

**26. Additional information:**

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

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

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

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

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

Copy to:

Head of Department  
Assistant Dean for Quality Assurance  
Course File