

Course Description Form

1. Course Name: Optical Mineralogy	
Optical properties can be studied under a microscope to identify minerals and rock type.	
2. Course Code:	
3. Semester / Year: Year	
First and Second Semester / Year 2024	
4. Description Preparation Date:	
14/ 03/ 2024	
5. Available Attendance Forms:	
My presence only	
6. Number of Credit Hours (Total) / Number of Units (Total)	
60 hours per year. 2 hours per week / 3 units per year	
7. Course administrator's name (mention all, if more than one name)	
Name: Assistant. Teacher. Ali Kareem Jahid Abdulhassan Alawadi Email: alikaar.geo@sci.utq.edu.iq	
8. Course Objectives	
● - Introduce the student to methods of polarisation light ● - Know the types of refractive indices and their importance ● - Determine the physical properties of tectonites through rock samples ● - How to measure the optical index ● - Recognise the atomic structure of minerals ● - Relationship between crystal axes	● - Measuring and identifying Indicatrix axes ● - The student learns how to make rock sections and study them under microscope. ● - Know the optical properties of rock samples ● - Interpret the results of petrographic analyses and know the rock content of subsurface petroleum formations ● - Know the chemical composition of minerals ● - Determine the mineral content of rock samples
9. Teaching and Learning Strategies	

Strategy	1- Collaborative concept mapping learning strategy. 2- Brainstorming teaching strategy. 3- Notebooking strategy 4- Application Strategy for Mathematical Problems 5- Collecting samples for cutting, processing and interpreting results
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10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2the+2lab	1- The student	Boreal systems,	1- Explain the	Weekly, monthly, daily, and written exams and the end of the first-semester exam.
2	2the+2lab	knows the	polarised light,	theoretical	
3	2the+2lab	methods of	symmetric and	material through	
4	2the+2lab	polarisation o	anisotropic	lectures and the	
5	2the+2lab	light	minerals,	use of video and	
6	2the+2lab	2- Knowing th	refraction,	visual simulation	
7	2the+2lab	types of	refractive index,	to understand	
8	2the+2lab	refractive inde	grain boundaries,	evolution.	
9	2the+2lab	and their	optical index,	2- Making	
10	2the+2lab	importance	first exam	quarterly report	
11	2the+2lab	3-Determine t	Biaxial indicators	for each student	
12	2the+2lab	physical	the relationship	and discussing	
13	2the+2lab	properties of	between crystal	them to increase	
14	2the+2lab	tectonics	and indirect axes,	research and	
15	2the+2lab	through rock	interference	scientific	
Holiday	2the+2lab	samples	colours, refraction	knowledge.	
		4-Method of	of interference	3- Scientific and	
		measuring the	colours,	applied travels to	
		optical index	interference	develop student	
		5- Recognise t	patterns, types of	thinking	
		atomic structu	monocular	4- Practic	
		of minerals	interference	application a	
		6- The	patterns,	mathematical	
		relationship	identification of t	issues on pap	
		between	optical marker,	and using mode	
		crystalline axe	Second exam	programs	
		7- Measuring		processing a	
		and identifyin		interpretation	

		indirect axes 8 The student learnt how to make sections of rocks and study them under a microscope 9- Knowing the optical properties of rock samples 10- Interpret the results and make analogues of the composition and know the rock content of subsurface petroleum formations 11- Knowing the chemical composition of minerals 12- Determine the mineral content of rock samples			Weekly, monthly, daily, a written exams at the end of the second-semester exam.
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11. Course Evaluation

The distribution is as follows: 35 points for monthly and daily exams and reports for the theoretical side and 15 points for monthly and daily exams for the practical side for the first semester. 35 marks for monthly and daily exams and reports for the theoretical side and 15 marks for monthly and daily exams for the practical side for the second semester. 100 marks for final exams

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	- Fundamentals of Microscopic Mineralogy (Dr Faisal Al-Kafishi 1981)
Main references (sources)	- Foundations of Mineralogy (1978)

Recommended books and references (scientific journals, reports...)	• - The Chemistry of Minerals (Dr Faisal Al-Kafishi, 1994)
Electronic References, Websites	https:// www.youtube.com @dr.basimhameedsoltan5943 https://www.researchgate.net/profile/Ali-Jaheed/research.net