Course Description Form

1. Course Name: Geophysics

seismology, seismic method (refractive and reflection), electrical method gravitational and magnetic method

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)

120 hours per year. 4 hours per week/ 4 Units

7. Course administrator's name (mention all, if more than one name)

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8. Course Objectives

- Geophysics is the application of physics to the study the Earth
- It is based on the study of the physical properties rocks and their variation from one region to another
- Learn about earthquake seismology
- Refractive and refractive oil exploration methods in formations and methods of interpretation
- Refractive and refractive exploration methods identify fractures, breaks and water saturation in ground layers under structures and buildir treatment methods, and ease of hazard identificatio
- Earth's physical properties geophysics ai to detect the presence of subsurfa structures or objects and to determ their size, shape, and depth by vary physical properties.
- By studying the Earth's interior by study the variation in physical propert between rock layers
- Differences between the strengths a intensities of magnetic, electr resistivity, thermal conductivity, grav and other geophysical properties
- Electrical method for determining wa content and reservoirs
- Gravimetric and magnetic methods study subsurface density changes a identify large-scale geological structures

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- Data Interpretation and Exploration

10. Course Structure

Week	Hours	Required	Unit or subject	Learning	Evaluatio
		Learning	name	method	n method
		Outcomes			
1	2the+2lab	1- The student	Definition of	1- Explain the	Weekly,
2	2the+2lab	familiarized wi	seismology,	theoretical	monthly,
3	2the+2lab	oil exploration	Seismic issues,	material throug	daily, and
4	2the+2lab	methods	seismic method,	lectures and th	written
5	2the+2lab	2-To familiarize	elasticity theory,	use of video an	exams and
6	2the+2lab	students with t	stress-strain-elast	visual	the end of
7	2the+2lab	importance of	moduli, factors	simulations to	the first
8	2the+2lab	geophysical	affecting seismic	understand	semester
9	2the+2lab	theories and la	wave velocities,	evolution.	exam.
10	2the+2lab	using reflection	first exam	2- Making	
11	2the+2lab	and refraction	Seismic refraction	quarterly repor	
12	2the+2lab	surveys.	hidden layer	for each studen	
13	2the+2lab	3-Determine	problem, apparen	and discussing	
14	2the+2lab	subsurface	velocity, seismic	them to increas	
15	2the+2lab	structures fron	reflection, seismic	research and	
Holiday	2the+2lab	gravity and	reflection,	scientific	
16	2the+2lab	magnetic value	processing steps,	knowledge.	
17	2the+2lab	4-Learn about	interpretation of	3- Scientific an	
18	2the+2lab	seismology,	seismic reflection,	applied travels	
19	2the+2lab	magnitude,	Second exam	develop	
20	2the+2lab	intensity, cause	Electrical Method	students'	
21		and how to	Apparent	thinking	
22	2the+2lab	minimize risk.	Resistivity,	4- Praction	
23	2the+2lab	5-Data	Relationship	application a	
24	2the+2lab	processing and	between Porosity	mathematical	
25	2the+2lab	interpretation	and Resistivity,	issues on pap	
26	2the+2lab	6- Identify oil	Electrode	and usi	
27	2the+2lab	traps and their	Arrangement,	modern	
28	2the+2lab	locations	Resistivity of Rock	programs f	
29	2the+2lab	7- Knowing the	and Earth Materia	processing a	
30	2the+2lab	water content	Electrical Resistiv	interpretation	

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 Principles of Geophysical Methods (Shar Required textbooks (curricular books, if any) 1988) Milsom, John, 2003 Main references (sources) Recommended books references and Kearey, P., Brooks, M. and Hill, I. (scientific journals, reports...) (2002), Telford, W.M., Geldart, L.P., Sheriff, R.E. and Keys, D.A(1990) Electronic References, Websites https:// https://www.usgs.gov/centers /gggsc/science/geophysics

	https://www.researchgate.net/profile/Ali-Jahe/ed/research.net
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