

Planning and Quality Assurance Affairs

Form (A)

Course Specifications

General Information

Course name	Geophysics
Course number	GEOL3317
Faculty	
Department	
Course type	Major Needs
Course level	3
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Intended Learning Outcomes

Knowledge and Understanding	* Studying the subsurface layers and their constituents, exploration groundwater, exploration and excavation of the petroleum
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Course Contents

1 - Definition of the Geophysics science, The principles of the Geophysical exploration methods (Reflection and Refraction Seismic, Gravity, Magnetic, and Electricity). The applications to detect and explore the Geological subsurface Structure, Economic minerals, Groundwater and Oil. Practical part Determination the Seismic velocities, applications of the Gravity maps to determine the shape and the depth of the subsurface structure, applications on magnetic maps to determine the shape and the depth of basement rocks. Application on electricity data to explore the conductive bodies
2 - The study aims to introduce how to use the geophysical methods in investigation the subsurface of the earth layers and their economics values

Teaching and Learning Methods

1 - Explanation and discussion with presentation devices
2 - Applying the geophysical methods in the field
3 - Exercises in Lab

Students Assessment

Assessment Method	TIME	MARKS
First term exam	In seventh week	10
Second term exa	In eleventh week	10
Exercises and practical assignments	Lab	10
Final practical exam	In fourteenth week	20
Final term exam	In sixteenth week	50

Books and References

Essential books	Keary, P. and Brooks, M. (1991) An Introduction to Geophysical Exploration. The Blackwell Science Ltd London
Recommended books	Blacky, R.J. (1996) Potential Theory in Gravity & Magnetic Applications. Cambridge University Press, Cambridge
	Dobrin, M.B. (1976) Introduction to Geophysics Prospecting, McGraw-Hill, New York
	Milson, J. (1996) Field Geophysics. John Wiley & Sons, New York
	Robinson, E.S. and Coruh, C. (1988) Basic Exploration Geophysics. John Wiley & Sons, New York
	Telford, W.M. Geldart, L.P. and Sheriff, R.E. (1990) Applied Geophysics. Cambridge University Press, Cambridge