

GPH 201: Principles of Geophysics

Instructor:

Dr. Sattam Abdulkareem Almadani, Assistant Professor of Geophysics

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Office Hours: Sun Tue 12:00 – 1:00 pm


Course Information:

Meeting Time : Sun Tue 1:00 – 2:50 pm

Credits : 3 hours (2+1)

Reference Books:

 An introduction to geophysical exploration (3rd edition) - P. Keary, M. Brooks, and I. Hill, Blackwell Publishing, 2002. ISBN: 0-632-04929-4

 Introduction to applied geophysics: Exploring the shallow subsurface - H.R. Burger, A.F. Sheehan, and C.H. Jones, W.W. Norton and Company, 2006. ISBN: 0-393-92637-0

Course Description:

Physical and mathematical laws and its relation to the Earth properties, Elasticity theory and properties of wave propagation in seismic reflections, refractions, wave equations, Seismic wave characteristics, Potential field theories, Principles of different exploration techniques, Interpretation of earth's structures from geophysical data.

Grades:

Based on examinations and class participation as follows:

▪ Attendance	5%
▪ Participation	5%
▪ Homework	10%
▪ Lab	20%
▪ 1 st Midterm Exam	10%
▪ 2 nd Midterm Exam	10%
▪ Final Exam	40%

Course Topics:

- Fundamental Considerations
- Seismic Refraction Method
- Seismic Reflection Method
- Earthquake Seismology
- Electrical Method
- Gravity Prospecting
- Magnetic Method