

GPH 201: Principles of Geophysics

Instructor:

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Office Hours: Sun Tue 1:00 – 2:00 pm


Course Information:

Meeting Time: Sun Tue 2:00 – 3:00 pm

Credits: 3 hours (2+1)

Reference Books:

 An introduction to geophysical exploration (third 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:

■ 1 st Midterm Exam	10%
■ 2 nd Midterm Exam	10%
■ Problem Set	15%
■ Lab	25%
■ Final Exam	40%

Course Topics:

- Fundamental Considerations
- Seismic Refraction Method
- Seismic Reflection Method

1st Midterm Exam

- Earthquake Seismology
- Electrical Method

2nd Midterm Exam

- Gravity Prospecting
- Magnetic Method