

Course Code

GP02

Course Title**Gravity and Magnetic Methods:
Applications for Prospecting****Instructor**

Dr. Co kunSarı

**Professional Career**

Dr. Sari received his B.Sc. degree in Ege University and completed his M.Sc. and Ph.D. degree in DokuzEylül University. Between 1988 and 1989, he made his scientific studies in Free University, Berlin for one year. Till today, he has performed more than 50 proceedings and papers in national and international conferences. He also had duties in common scientific projects in Turkey and European universities. He has been giving lectures in ÇanakkaleOnsekiz Mart and IspartaSüleymanDemirel University. Thus, he made a contribution to train the students.

He also served as a reviewer in some of the scientific publications. He is carrying on the studies especially interpretation of gravity and magnetics data, modeling of geophysical data and exploration of geothermal fields.

Dr.Sari also nominated as manager in different departments of the DokuzEylül University. He is still doing duty for Engineering Faculty as a head of department of Geophysics at the same university.

Course Description and Objective

Definition of Gravity and Magnetic Data, Regional-Residual, Derivative and Continuation Maps, Analysis of Gravity and Magnetic Anomaly Maps and Qualitative Interpretation, Forward Modeling of Gravity and Magnetic Data and Simple Interpretation Techniques, Principles of the Inversion Techniques and Application on Gravity and Magnetic Data, Interpretation of Gravity and Magnetic Anomaly Maps.

The course objective is to provide an inside understanding of gravity and magnetic data analysis, interpretation of gravity and magnetic anomaly maps and forward and inverse modeling with a theoretical and practical understanding of the main techniques in geophysics and with a focus on the integration of other geological and geophysical data into the acquisition, processing and interpretation processes.

Who Should Attend

Geoscientists who work in the field of exploration oil and gas

Prerequisite

None

Learning Level

Basic level for geoscientists

Duration

4 days

Course Material

Printed documents

Course outline**Day One**

- The role of gravity in oil and mineral exploration
 - o Basic principles
 - o Newton's Law, gravitational force, acceleration and potential
 - o Instruments
 - o On land
 - o At sea
 - o Airborne

- Gravity field measurements
 - o Gravity measurements on land
 - o Measurements of gravity at sea
 - o Airborne gravity surveys

Day Two

- Determination of densities
 - o Reduction of gravity data
 - o Typical gravity anomalies for various geological features
 - o Interpretation of gravity data
 - o Design of surveys
 - o Data processing and enhancement
 - o Determination of density for gravity interpretation
 - o Forward and inverse modeling

Day Three

- Introduction to magnetic prospecting
 - o Fundamental principles, basic concepts and definitions
 - o Magnetism of the Earth
 - o Magnetic susceptibility of rocks
 - o Instruments used for magnetic measurements
 - On land
 - At sea
 - Airborne
- Magnetic surveying techniques
 - o Magnetic survey on Land
 - o Magnetic survey at sea
 - o Airborne magnetic survey
- Interpretation of magnetic data
 - o Qualitative interpretation
 - o Quantitative interpretation
 - o Data processing and enhancement
 - o Interpretation of total field data
 - o Forward and inverse modeling

Day Four

- Case histories (For gravity and magnetic data evaluation and interpretation)

Antalya, Turkey 26-29 Apr USS 2,450	Istanbul, Turkey 18-21 Oct USS 2,450
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