



**Faculty of Earth Sciences**



**Geophysics Department**



**The Geological Society**  
*Accredited degree courses*

### ***BOREHOLE GEOPHYSICS***

<b>Course Name</b>	<b>Course ID</b>	<b>Prerequisites</b>
<b><i>BOREHOLE GEOPHYSICS</i></b>	<b><i>EGP 451</i></b>	<b><i>EPS 211 / EGP 211 / ESR 211</i></b>

#### **Course Description**

Principles of well logging. Self-potential, resistivity, sonic rays, density and neutron logs. Relationships between well measurements and rock properties. Dip measurements of shale beds and their problems. Interpretation of water and oil bearing beds

#### **Course Objectives**

This course aims at the following studies:

1. Delineate the significance of the geophysical borehole techniques in various aspects of exploration.
2. To define the principle importance of borehole logging in evaluation of formation.
3. To provide some main important concepts and limitations in geophysics in general and borehole logging.
4. To teach the student to use the prints of different logs.

#### **General References for the Course:** (Books/Journals...etc.)

Students in this course can read from:

1. *Basic Well Log Analysis for Geologists*, by Asquith, G. and Gibson, C., 1982. Academic Press, London.
2. *Encyclopedia of Well Logging*, by Desbrandes, R., 1985. Institut Francais Du Pétrole Publications, Éditions Technip.
3. *Fundamentals of Well-Log Interpretation*, by Serra, O., 1984. Amsterdam: Elsevier.
4. *Theory, Measurement, and Interpretation of Well Logs*, by Bassiouni, Z., Henry L. Doherty, 1994. Memorial Fund of AIME Society of Petroleum Engineers:

Richardson, TX., USA.

### **List of URLs for this Course**

- [www.google.com](http://www.google.com)
- [www.igme.gr/e30.htm](http://www.igme.gr/e30.htm)

### **Course Outcome**

The student is supposed to know the methods, objectives and applications of the geophysical boreholes logs and will also learn the following:

1. Student knows the methods of the significance of geophysical borehole logs.
2. Student knows the main concepts and limitations in geophysical logging.
3. Student can interpret the description of different types of logs.
4. Student can do the Interpretation of geophysical borehole logging.
5. Student can apply some applications of borehole logs.