



<b>Course Code</b> OGEE-340	<b>Course Title</b> Formation Evaluation	<b>ECTS Credits</b> 6
<b>Department</b> Engineering	<b>Semester</b> Fall, Spring	<b>Prerequisites</b> OGEE-320, OGEE-330
<b>Type of Course</b> Required	<b>Field</b> Oil & Gas Engineering	<b>Language of Instruction</b> English
<b>Level of Course</b> 1 <sup>st</sup> Cycle	<b>Year of Study</b> 3 <sup>rd</sup>	<b>Lecturer(s)</b> Dr Paul Featherstone
<b>Mode of Delivery</b> Face-to-face	<b>Work Placement</b> N/A	<b>Co-requisites</b> None

**Objectives of the Course:**

- The main objectives of the course are to:
- Introduce the students to the fundamental concepts of well log interpretation
  - Provide solid knowledge to interpret well logs to in order to make decisions relative to well completion, etc.
  - Provide solid knowledge to read well logs, apply the necessary environmental corrections, and perform well log interpretations to hydrocarbon bearing formations and communicate the results effectively
  - Provide solid technical knowledge to conduct library and/or internet search and communicate the results through an oral presentation.
  - Provide solid technical knowledge to recognize safety issues including handling radioactive sources.

**Learning Outcomes:**

- After completion of the course students are expected to:
- Have an understanding of the fundamental concepts of well log interpretation.
  - Demonstrate the ability to interpret well logs to in order to make decisions relative to well completion, etc.
  - Demonstrate the ability to read well logs, apply the necessary environmental corrections, and perform well log interpretations to hydrocarbon bearing formations and communicate the results effectively.
  - Demonstrate the ability to conduct library and/or internet search and communicate the results through an oral presentation.
  - Recognize safety issues including handling radioactive sources.

**Course Contents:**

- Log interpretation, fundamental concepts
- SP log and applications
- Conventional resistivity logs and applications
- Acoustic (sonic) log and applications

- Gamma ray and caliper logs
- Formation density compensation
- Compensated neutron and side wall neutron porosity logs
- Litho-density log and applications
- Collective applications and interpretation of the above geophysical well logs

**Learning Activities and Teaching Methods:**

Lectures, projects, discussion

**Assessment Methods:**

Homework, project assignments, tests, final exam.

**Required Textbooks/Reading:**

Authors	Title	Publisher	Year	ISBN
Donald Helander	Fundamentals of Formation Evaluation	SPE	1983	9780930972028
Schlumberger	Log Interpretation Charts	Schlumberger	2009	

**Recommended Textbooks/Reading:**

Authors	Title	Publisher	Year	ISBN
Sylvain J. Pirson	Handbook of Well Log Analysis: For Oil & Gas Formation Evaluation	Prentice Hall		9780133828047
Schlumberger	Foundamentals of formation testing	Schlumberger	2006	