GEOL 745 – Petroleum Geology

3-D block diagram of subsurface structure at Woolsey Mound, MC-118, Gulf of Mexico (J. Knapp)

**Brief Summary:**

This course provides a hands-on introduction to the process of and principles for exploration of oil and natural gas, and is based around the annual international Imperial Barrel Award competition sponsored by the American Association of Petroleum Geologists. In addition to addressing topics relevant to petroleum exploration, the course will also provide students an opportunity to work as a team to compete internationally and present their work to professionals in the petroleum industry.

**Course Organization:**

The course will be focused around interpretation and analysis of the dataset provided through the Imperial Barrel Award competition, supplemented by lectures and discussions on selected topics. Up to five class members will be selected to represent the Department of Earth and Ocean Sciences at the annual IBA competition, with Eastern Regionals in late April, and potentially at the finals in late May, per the rules and regulations of the competition.
Important Dates:

- 12 Jan 2015 - First day of classes spring 2015
- 24 Feb 2015 - distribution of IBA dataset for Eastern Section
- 9-13 Mar 2015 – USC Spring break
- 24 Apr 2015 - AAPG Eastern Section IBA competition - Pittsburgh, PA
- 27 Apr 2015 - Last day of classes spring 2015
- 29-30 May 2015 - Final IBA competition, AAPG Annual Meeting, Denver, CO
- 31 May 2015 - IBA Awards Presentation, AAPG Annual Meeting, Denver, CO

Suggested Textbooks:


Software Packages (as appropriate for IBA dataset):

- Petrel
- The Kingdom Suite – SMT
- HampsonRussell
- Landmark Software

Learning Outcomes:

Upon completion of this upper-division course, students will

- understand the multiple facets of modern petroleum exploration
- have a command of various software tools used in manipulating and analyzing geophysical and geological data
- develop the ability to integrate diverse datasets to understand subsurface geology
- complete an assignment in a time-limited manner with significant uncertainties
- establish a team-oriented approach to complex problem solving

Assessment:

Students will be evaluated on the basis of

- class presentation on one of the IBA topics (25%) peer
- assessment of class presentation (25%) peer assessment of
- group effort (25%) 
- written summary of project at end of semester (25%)

(last updated 01/13/2015)