

SYLLABUS

COURSE # AND TITLE: GEOL 120, Introduction to Petroleum Geology
OF CREDITS: 4 (3+2P)

CATALOG DESCRIPTION

This course will study various aspects of petroleum geology and fossil fuels. Content will include formation and classification of regional sedimentary rocks, geologic history of the Four Corners Region, and formation, detection, and extraction of oil, natural gas, and coal.

Semester Offered: Summer

Prerequisites: None

Common Student Learning Outcomes

Upon successful completion of San Juan College programs and degrees, the student will....

<i>Learn</i>	<i>Students will actively and independently acquire, apply and adapt skills and knowledge to develop expertise and a broader understanding of the world as lifelong learners.</i>
<i>Think</i>	<i>Students will think analytically and creatively to explore ideas, make connections, draw conclusions, and solve problems.</i>
<i>Communicate</i>	<i>Students will exchange ideas and information with clarity and originality in multiple contexts.</i>
<i>Integrate</i>	<i>Students will demonstrate proficiency in the use of technologies in the broadest sense related to their field of study.</i>
<i>Act</i>	<i>Students will act purposefully, reflectively, and respectfully in diverse and complex environments.</i>

ACADEMIC HONESTY RULES:

San Juan College expects all students to adhere to the Academic Honesty Rules as posted on our website, <http://www.sanjuancollege.edu/AcademicHonesty> . These are the official guidelines for all classes at San Juan College (July 2006).

ACADEMIC ACCOMMODATION RULES STATEMENT:

Students who believe they may need academic accommodations due to physical, psychiatric or learning disabilities are encouraged to inform the instructor as soon as possible during scheduled office hours or by using the email or telephone information provided on the course guide. If you have special needs for campus emergency situations, please inform the instructor immediately. If you have not already done so, it is advised that you contact the Students with Disabilities On Campus office in the Advising & Counseling Center or at (505)566-3271 to verify your disabilities and develop accommodation strategies (approved July 2006; Updated November 2006).

GENERAL LEARNING OBJECTIVES

Upon completion of the course, the student should understand the following content areas:

1. The formation and classification of sedimentary rocks linked to hydrocarbon formation and storage
2. The geologic history of the San Juan Basin that led to the formation of the local hydrocarbon and coal deposits
3. Formation, exploration, and extraction of hydrocarbon resources
4. Formation, classification, and extraction of coal
5. Geologic Cross-Section for well placement

SPECIFIC LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to:

1. Recognize and classify clastic sedimentary rocks.
2. Identify local sandstones that serve as reservoir rocks.
3. Describe the types and structures of various hydrocarbons.
4. Explain the viscosity and volatility of hydrocarbons.
5. Understand the hypotheses of the formation and evolution of hydrocarbons.
6. Describe the characteristics of reservoir rocks, including porosity and permeability.
7. Recognize the various types of hydrocarbon traps.
8. Recognize the tools used in oil and natural gas exploration and recovery.
9. Describe alternative reserves of hydrocarbons.
10. Explain the formation of coal.
11. Identify the grades of coal, including samples from local formations.
12. Understand the formation and extraction of coalbed methane.
13. Describe the world's capacity for production of oil, and the volume of remaining reserves.
14. Explain environmental issues regarding fossil fuel resources.
15. Understand Cross-Section and legal description process.

Syllabus developed by _____ Date: _____

Syllabus reviewed by _____ Date: _____

A current syllabus must be on file in the dean's office for every course being taught during a given semester.