Petroleum Exploration Techniques
GEOL 5333 001
Spring 2024
E.L. Miller Science Building, Rm 330
T 6:45 pm – 9:15 pm

Name: Dr. Julie M. Bloxson
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Office: E.L. Miller Science Building, Rm 309
Office Hours: T: 9:00 am – 11:00 am
W: 11:00 am – 12:00 pm
Th: 9:00 am – 11:00 am
By apt also.
Department: Earth Sciences and Geologic Resources

Course Description
Three hours lecture. An introduction to Petroleum Exploration Techniques commonly used in the field. Course will mostly focus on wireline logging, although some time will be spent on cores, and seismic interpretation if permitted.

Student Learning Outcomes
After successful completion of this course students will be able to:
• Identify and describe the different types of well logs used and their collection process, such as gamma ray, density and porosity.
• Identify what various types of well logging responses indicate.
• Use Petra software to create a subsurface project, and create cross sections.
• Create and interpret subsurface structural maps and features.
• Create and interpret volumetrically derived maps and geologic features.

Text and Materials

If you seem to struggle with the well logs:

Course Requirements
You are expected to have read the material for the week outlined below, which will facilitate in content retention and aid in classroom discussions. I will also provide some supplemental material throughout the semester that is expected to be read before the designated class. These will consist of scientific research articles, excerpts from other books, and short course documents. There will be a combination of homework exercises and in-class exercises, along with periodically meeting in the computer lab to facilitate content. There will be one exam, plus three projects.
Please limit food in the classroom, phone calls (silence phones), texting, and other distracting behaviors. If you need to leave, please do so quietly.

**Grading Policy**

<table>
<thead>
<tr>
<th>Exam</th>
<th>200 points</th>
</tr>
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<tbody>
<tr>
<td>Project 1</td>
<td>100 points</td>
</tr>
<tr>
<td>Project 2</td>
<td>150 points</td>
</tr>
<tr>
<td>Project 3</td>
<td>200 points</td>
</tr>
<tr>
<td>Project 4</td>
<td>250 points</td>
</tr>
<tr>
<td>Graduate Project</td>
<td>300 points</td>
</tr>
<tr>
<td>Total</td>
<td>your total points/1200 points*100= class%</td>
</tr>
</tbody>
</table>

100-90%     A
89-80%      B
79-70%      C
69-60%      D
59-0%       F

**Attendance Policy**

Attendance is mandatory, and necessary in order to succeed in class. In-class assignments can only be made up with an excused and documented absence. Project assignments need to be turned in on their due date, and will have 10% deducted for every day late. After 5 days late, they will no longer be accepted. To make-up an exam, only excused absences will be accepted (doctor’s note, sporting event, etc., with proper documentation). We will arrange a time and place for the make-up exam, which will be a different exam than the one given in class.

**Course Calendar**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic/Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wk1</td>
<td>23-Jan</td>
<td>Introduction - What makes a good map? Contouring and Contouring Techniques - Chapter 2</td>
</tr>
<tr>
<td>Wk2</td>
<td>30-Jan</td>
<td>Measuring Depth, Directionally Drilled wells and Directional Surveys - Chapter 3</td>
</tr>
<tr>
<td>Wk3</td>
<td>6-Feb</td>
<td>Log Correlation Techniques - Chapter 4</td>
</tr>
<tr>
<td>Wk4</td>
<td>13-Feb</td>
<td>Cross Sections - Chapter 6</td>
</tr>
<tr>
<td>Wk5</td>
<td>20-Feb</td>
<td>Cross Sections - Chapter 6</td>
</tr>
<tr>
<td>Wk6</td>
<td>27-Feb</td>
<td>Fault Maps - Chapter 7</td>
</tr>
<tr>
<td>Wk7</td>
<td>5-Mar</td>
<td>Spring Break</td>
</tr>
<tr>
<td>Wk8</td>
<td>12-Mar</td>
<td>Fault Maps - Chapter 7</td>
</tr>
<tr>
<td>Wk9</td>
<td>19-Mar</td>
<td>Structure Maps - Chapter 8</td>
</tr>
<tr>
<td>Wk10</td>
<td>26-Mar</td>
<td>Structure Maps - Chapter 8</td>
</tr>
<tr>
<td>Wk11</td>
<td>2-Apr</td>
<td>Project 2 - Fault Maps</td>
</tr>
<tr>
<td>Wk12</td>
<td>9-Apr</td>
<td>Structure Maps - Chapter 8</td>
</tr>
<tr>
<td>Wk13</td>
<td>16-Apr</td>
<td>Isochore and Isopach Maps - Chapter 14</td>
</tr>
<tr>
<td>Wk14</td>
<td>23-Apr</td>
<td>Isochore and Isopach Maps - Chapter 14</td>
</tr>
<tr>
<td>Wk15</td>
<td>30-Apr</td>
<td>Graduate Project - Volumetrically derived Maps</td>
</tr>
<tr>
<td>Finals</td>
<td>Tuesday @ 6:45 pm</td>
<td></td>
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</tbody>
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**Credit Hour Justification**

Meets for a minimum of 57.5 lecture contact hours during the semester, including the final exam. Students are required to complete assignments based on readings, periodic quizzes and exams over course content, and a final exam. Students will be required to complete in-class and out-of-class assignments that evaluate their comprehension of course materials. Successful completion of all elements for the course requires at least six additional hours of out-of-class work each week.
Academic Integrity

The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one's self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one's own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one's own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

Withheld Grades - Semester Grades Policy 5.5
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. For additional information, go to [http://www.sfasu.edu/policies/course-grades-5.5.pdf](http://www.sfasu.edu/policies/course-grades-5.5.pdf).

Students with Disabilities
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/).
Mental Health and Wellness
SFA values students' mental health and the role it plays in academic and overall student success. SFA provides a variety of resources to support students' mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
The Dean of Students Office
Location: Rusk Building, 3rd floor lobby
www.sfasu.edu/deanofstudents
936.468.7249
dos@sfasu.edu

SFA Human Services Counseling Clinic
Location: Human Services, Room 202
www.sfasu.edu/humanservices/139.asp
936.468.1041

The Health and Wellness Hub “The Hub”
Location: corner of E. College and Raguet St.
To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers comprehensive services that treat the whole person – mind, body and spirit. Services include:
- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education
www.sfasu.edu/thehub
936.468.4008
thehub@sfasu.edu

Crisis Resources:
- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- johCrisis Text Line: Text HELLO to 741-741