2021 / Fall Semester
Geology 4008
Stratigraphy Lab

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Office: 304 Miller Science Building
Office Hours: 11-12 M-R,2:15-3 M,T and W and 6:00 -6:30 M or by appointment
Department:  Geology

Class meeting time and place: 10 AM, MW in 323 Miller Science Building
Lab meeting time and place: 2:00 PM, Thursdays in 326 Miller Science Building

Course Description: Stratigraphy and Sedimentation

Stratigraphy and Sedimentation - Two hours lecture, three hours laboratory per week. Study of basic stratigraphic relations and the identification, origin, distribution and correlation of sedimentary rocks. Required lab fee. Two hours lecture and three hours lab

Prerequisites: GOL  2242 and 2243

Program Learning Outcomes:

1. Demonstrate knowledge of fundamental geoscience concepts. *(Concepts)*
2. Execute geoscience procedures and methods accurately, appropriately, and safely. *(Geoscience Skills)*
3. Demonstrate proficiency in interpretation and communication of geoscience information. *(Scientific Communication)*
4. Apply geoscience concepts, skills, and scientific communication to identify, analyze, and interpret geoscience phenomena. *(Research)*

General Education Core Curriculum Objectives/Outcomes:

Does not apply to this course.

Student Learning Outcomes:

1. Properly identify and describe sediment rocks
2. Measure and describe stratigraphic units
3. Construct from field data stratigraphic columns, fence diagrams, and correlation charts
4. Describe well cuttings and core
5. Work with and correlate seismic sections
6. Construct isopach and facies maps
7. Produce biostratigraphic correlation charts
8. Properly use Stratigraphic nomenclature

Text and Materials:

Textbook: *Principles of Sedimentology and Stratigraphy* - Sam Boggs, Jr

Course Requirements:

Lecture exams
One Lecture Exam
Quizzes (Approximately 10)
Final Lecture Exam (Comprehensive)

Lab projects
Measured Sections from the lab (Approximately 8)
Three Cross-section
Three Correlation Charts
Biostratigraphic Correlation Chart
Paleocurrent Analysis
Core Project
Cuttings Lab Project
Thickness Map Project
Electric Log Project
Seismic Project
Facies Project
Final Lecture Exam (Comprehensive)

Course Calendar:

Lecture Schedule
Tentative Lecture schedule of topics to be covered in GOL 408 lecture include:

*Note: associated readings to be completed outside of class for each lecture are listed in parentheses and should take about 3 hours.*

Lecture Topics Reading Assignment
• 23 Aug 2021 – Introduction and overview of course (Ch. n/a)
• 25 Aug 2021 – Weathering and soils (Ch. 1)
• 30 Aug 2021 – Transport and deposition of sediment (Ch.2)
• 01 Sept 2021 – Sedimentary textures (Ch.3)
• 06 Sept 2021 – Sedimentary structures (Ch. 4)
• 08 Sept 2021 – Silicilastic sedimentary rocks (Ch. 5)
• 13 Sept 2021 – Carbonate sedimentary rocks (Ch. 6)
• 15 Sept 2021 – Other chemical/biochemical sed rocks (Ch. 7)
• 20 Sept 2021 – Other chemical/biochemical sed rocks (Ch. 7)
• 22 Sept 2021 – Review for Exam midterm exam
• 27 Sept 2021 – Mid Term Exam (Ch. 1-7)
• 29 Sept 2021 – Continental Environments (Ch. 8)
• 04 Oct 2021 – Continental Environments (Ch. 8)
• 06 Oct 2021 – Continental Environments (Ch. 8)
• 11 Oct 2021 – Marginal marine environments (Ch. 9)
• 13 Oct 2021 – Marginal marine environments (Ch. 9)
• 18 Oct 2021 – Marginal marine environments (Ch. 9)
• 21 Oct 2021 – Siliciclastic marine environments (Ch. 10)
• 20 Oct 2021 – Siliciclastic marine environments (Ch. 10)
• 25 Oct 2021 – Carbonate and Evaporite Environments (Ch. 11)
• 27 Oct 2021 – Carbonate and Evaporite Environments (Ch. 11)
• 01 Nov 2021 – Lithostratigraphy (Ch. 12)
• 03 Nov 2021 – Seismic, Sequence and Magnetic Strat. (Ch. 13)
• 08 Nov 2021 – Biostratigraphy (Ch. 14)
• 10 Nov 2021 – Basin analysis, tectonics, and sedimentation (Ch. 16)
• 15 Nov 2021 – Basin analysis, tectonics, and sedimentation (Ch. 16)
• 17 Nov 2021 – Basin analysis, tectonics, and sedimentation (Ch. 16)
• 22 Nov 2021 – Thanksgiving – No Class
• 24 Nov 2021 – Thanksgiving – No Class
• 30 Nov 2021 – Chronostratigraphy (Ch. 15)
• 01 Dec 2021 – Review for Final Exam (Comprehensive)

Final Exam: Monday, December 06, 2021  10:30 AM - 12:30

Lab Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 Aug 2020</td>
<td>Measured Section - Cushing, TX</td>
</tr>
<tr>
<td>02 Sept 2020</td>
<td>Paleocurrent Analysis - Rose Diagram</td>
</tr>
<tr>
<td>09 Sept 2020</td>
<td>Measured Sections Mt. Enterprise, TX</td>
</tr>
<tr>
<td>16 Sept 2020</td>
<td>Measured Sections Mt. Enterprise, TX</td>
</tr>
<tr>
<td>23 Sept 2020</td>
<td>Measured Sections Mt. Enterprise, TX</td>
</tr>
<tr>
<td>30 Sept 2020</td>
<td>Measured Sections Mt. Enterprise, TX</td>
</tr>
<tr>
<td>07 Oct 2020</td>
<td>Correlation Chart Mt. Enterprise, TX, TX</td>
</tr>
<tr>
<td>14 Oct 2020</td>
<td>Panel Diagram Mt. Enterprise, TX</td>
</tr>
<tr>
<td>21 Oct 2020</td>
<td>Core Description</td>
</tr>
</tbody>
</table>
• 28 Oct 2020 – Isopach Map
• 04 Nov 2020 – Electric Log Analysis
• 11 Nov 2020 – Seismic Profile Analysis - Facies
• 18 Nov 2020 – Biostratigraphy Project
• 25 Nov 2020 – Thanksgiving – No Class
• 02 Dec 2020 – Lab Final

Grading Policy:

Lab and Lecture will be 50% each and the two grades will be averaged to make the final grade.

Calculation of final grades:

Lecture Grade Calculation

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture Exam 1</td>
<td>100</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100</td>
</tr>
<tr>
<td>Lab Final Exam</td>
<td>100</td>
</tr>
<tr>
<td>Quizzes</td>
<td>100</td>
</tr>
<tr>
<td>Total points</td>
<td>400</td>
</tr>
</tbody>
</table>

\[ \% \text{Your Lecture Points divided by the Lecture Points Possible (Lecture \%)} \]

Lab Grade Calculation

Assignments will be due at the start of the class period or at an assigned time.

<table>
<thead>
<tr>
<th>Lab Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 Measured Section (Cushing)</td>
<td>(100)</td>
</tr>
<tr>
<td>02 Paleocurrent Project</td>
<td>(100)</td>
</tr>
<tr>
<td>03 Measured Section</td>
<td>(100)</td>
</tr>
<tr>
<td>04 Measured Section</td>
<td>(100)</td>
</tr>
<tr>
<td>05 Measured Section</td>
<td>(100)</td>
</tr>
<tr>
<td>06 Measured Section</td>
<td>(100)</td>
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<tr>
<td>07 Measured Section</td>
<td>(100)</td>
</tr>
<tr>
<td>08 Measured Section</td>
<td>(100)</td>
</tr>
<tr>
<td>09 Measured Section</td>
<td>(100)</td>
</tr>
<tr>
<td>10 Correlation Chart</td>
<td>(100)</td>
</tr>
<tr>
<td>11 Fence Diagram</td>
<td>(100)</td>
</tr>
<tr>
<td>12 Core Description</td>
<td>(100)</td>
</tr>
</tbody>
</table>
13  Well Cuttings Analysis     ____ (100)
14  Electric Log Analysis      ____ (100)
15  Seismic Analysis           ____ (100)
16  Biostratigraphy Project    ____ (100)
17  Facies Analysis            ____ (100)
Total                       ____ (1500)

Your Lab Total Points ____ / Lab Points Possible (1500) = ____

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

Labs 1-11 (measured section and data collection labs and all correlation diagrams (3) and panel diagrams (3) associated with the measured sections projects) must be completed and corrected until a grade of 100% is achieved to pass Stratigraphy with a C or better grade.

Lecture and Lab will count 50% each and will be averaged to give the final grade.

Class % _____ + Lab % _____ Divide by two = Course % ______

The course letter grade is based on Course %:

100-90% = A, 89-79% = B, 79-70% = C, 69-60% = D, 59-00% = F

Make-Up Exams:

Do not miss schedule exams unless you have a Doctor's excuse or Dean of Students Excuse. I reserve the right to give an oral exam as a make-up. Unexcused absence = 0.

All exams will include a multiple-choice section; therefore, **ALWAYS bring a scantron** (Form 882) and a #2 pencil for exams. Additional sections will vary between exams but may include any or all of the following sections: 1) true / false questions; 2) fill in the blank questions; 3) short answer questions; 4) figure illustration; 5) short essay questions. All exams will take place in room 335 unless otherwise stated in class. **Cell phones, calculators, and other electronic devices are NOT permitted during exams.** If you are using them in an exam, it will be assumed that you are cheating and you will receive a grade of “0” on that exam. Exam scheduling conflicts for officially sanctioned university reason will be accommodated at a different time or date. In the event of such conflicts, you must inform me at least one week prior to the exam to reschedule your exam.

**Attendance Policy:**
Students are required to attend every lecture. Attendance will be monitored by unannounced quizzes, up to two per class period, that will effect the course grade. If you are ill or have a university excuse contact me before class.

**Academic Integrity (A-9.1)**

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

**Definition of Academic Dishonesty**

Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at [http://www.sfasu.edu/policies/academic_integrity.asp](http://www.sfasu.edu/policies/academic_integrity.asp)

**Withheld Grades Semester Grades Policy (A-54)**

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.

The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.
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/.

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:

SFA Counseling Services
www.sfasu.edu/counselingservices Rusk Building, 3rd Floor
936.468.2401

SFA Human Services Counseling Clinic
www.sfasu.edu/human services/139.asp
Human Services, Room 202
936.468.1041

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

At the end of the semester you will be asked to evaluate this course. Evaluations will be done on-line and you will be reminded when the evaluation period starts. The course evaluation must be done before the final exam. Students who fail to complete their course evaluation may receive an “incomplete” grade in the course.