2019 / Fall Semester
Geology 408 Lab
Stratigraphy Lab

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Office Hours: 9-10 M, W, F, 11-12 T, W, R, F and 2:30-3:30 M, W, or by appointment
Department: Geology

Class meeting time and place: 10 AM, MW in 323 Miller Science Building
Lab meeting time and place: 2:30 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 242 and 243; Math 220 and 233; CHE 134; PHY 131 and 132 or BIO 131 and 133 depending on track

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
• 26 Aug 2019 – Introduction and overview of course (Ch. n/a)
• 28 Aug 2019 – Weathering and soils (Ch. 1)
• 02 Sept 2019 – Transport and deposition of sediment (Ch. 2)
• 04 Sept 2019 – Sedimentary textures (Ch. 3)
• 09 Sept 2019 – Sedimentary structures (Ch. 4)
• 11 Sept 2019 – Silicilastic sedimentary rocks (Ch. 5)
• 16 Sept 2019 – Carbonate sedimentary rocks (Ch. 6)
• 18 Sept 2019 – Other chemical/biochemical sed rocks (Ch. 7)
• 23 Sept 2019 – Other chemical/biochemical sed rocks (Ch. 7)
• 25 Sept 2019 – Review for Exam midterm exam
• 30 Sept 2019 – Mid Term Exam (Ch. 1-7)
• 02 Oct 2019 – Continental Environments (Ch. 8)
• 07 Oct 2019 – Continental Environments (Ch. 8)
• 09 Oct 2019 – Continental Environments (Ch. 8)
• 14 Oct 2019 – Marginal marine environments (Ch. 9)
• 16 Oct 2019 – Marginal marine environments (Ch. 9)
• 21 Oct 2019 – Marginal marine environments (Ch. 9)
• 23 Oct 2019 – Siliciclastic marine environments (Ch. 10)
• 28 Oct 2019 – Siliciclastic marine environments (Ch. 10)
• 30 Oct 2019 – Carbonate and Evaporite Environments (Ch. 11)
• 04 Nov 2019 – Carbonate and Evaporite Environments (Ch. 11)
• 06 Nov 2019 – Lithostratigraphy (Ch. 12)
• 11 Nov 2019 – Seismic, Sequence and Magnetic Strat. (Ch. 13)
• 13 Nov 2019 – Biostratigraphy (Ch. 14)
• 18 Nov 2019 – Thanksgiving – No Class
• 20 Nov 2019 – Thanksgiving – No Class
• 25 Nov 2019 – Chronostratigraphy (Ch. 15)
• 29 Nov 2019 – Basin analysis, tectonics, and sedimentation (Ch. 16)
• 02 Nov 2019 – Review for Final Exam (Comprehensive)
• 04 Dec 2019 – Review for Final Exam (Comprehensive)

Final Exam: Wednesday, December 11, 2019 10:45 AM – 1:15 pm

Lab Schedule

Week          Topic
• 29 Aug 2019 – Measured Section - Cushing, TX
• 05 Sept 2019 – Paleocurrent Analysis - Rose Diagram
• 12 Sept 2019 – Measured Sections Mt. Enterprise, TX
• 19 Sept 2019 – Measured Sections Mt. Enterprise, TX
• 26 Sept 2019 – Measured Sections Mt. Enterprise, TX
• 03 Oct 2019 – Measured Sections Mt. Enterprise, TX
• 10 Oct 2019 – Correlation Chart Mt. Enterprise, TX, TX
• 17 Oct 2019 – Panel Diagram Mt. Enterprise, TX
• 24 Oct 2019 – Core Description
• 31 Oct 2019 – Isopach Map
• 07 Nov 2019 – Electric Log Analysis
• 14 Nov 2019 – Seismic Profile Analysis
• 21 Nov 2019 – Thanksgiving – No Class
• 28 Nov 2019 – Biostratigraphy Project
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

Lecture Exam 1: __________ 100 points
Final Exam: __________ 200 points
Quizzes: __________ 100 points
Total points: __________ 400 points

______ % 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.

Lab Grade

01 Measured Section (Cushing) ___(100)
02 Paleocurrent Project ___(100)
03 Measured Section ___(100)
04 Measured Section ___(100)
05 Measured Section ___(100)
06 Measured Section ___(100)
07 Measured Section ___(100)
08 Measured Section ___(100)
09 Measured Section ___(100)
10 Correlation Chart ___(100)
11 Fence Diagram ___(100)
12 Core Description ___(100)
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, 89-80% = 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/](http://www.sfasu.edu/disabilityservices/).

**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.