

Sedimentary Depositional Environments
Fall 2017

GEOL 5364-001 CRN 18229 -- 3 credits

GEOL 6334-001 CRN 18230 – 3 credits

Lecture & Lab: TR 11:00-11:50am; R 12:00-2:50PM; GS 404

Instructor: Dr. Katherine Giles

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Office: 201A Geological Sciences; 747-7075

Office Hours: M-Th 9:00 – 11:00am

Suggested Texts

Sedimentary Environments: Processes, Facies and Stratigraphy, H. G.

Reading 2nd or 3rd edition, Blackwell Publishing. ISBN 978-0-6320-3627-1

Facies Models 4: Noel James and Robert Dalrymple, Geotext 6, Geological Association of Canada 2010. ISSN 1208-2260; 6); ISBN 978-1-897095-50-8

Grading

Fieldtrip November 10-12	20%
Weekly Reading & Presentation Summary	50%
Discussion participation	5%
Depositional environment presentation	25%

Fieldtrip Nov. 10-12

November 10 Depart for Indio Mountains. West Texas; Camp overnight

November 11 Indio Mountains: Alluvial Fan, Fluvial, Lacustrine and Shallow Marine Systems; Overnight at Indios Ranch House

November 12 Guadalupe Mountains Submarine Fan and Pelagic Systems

Weekly Reading and Presentation Summary

- Weekly digital summary write-up (in Word with figures embedded) of depositional facies basics based on reading from 2 suggested text references.
- Readings will be available in hard copy in room 201 and online in Black Board.
- The summary is due the following Tuesday after the student presentation was made. Summary should include notes from the student presentation.

Discussion Participation

Participation in class discussions and asking questions will be noted.

Depositional Environment Presentations

Each student will be responsible for presenting a lecture on a depositional environment and to produce a power point presentation on that topic, as well as a written summary. Your PowerPoint and written summary will be posted on Black Board.

Your lecture should include:

- General description of depositional setting and important controlling processes
- Sediment types & characteristics - such as grain size, sorting, bedforms
- Sedimentary facies distribution (map view)- using modern example(s) to describe
- Stratigraphic facies patterns (based on progradational system)- Ancient example(s) – preferably a “hydrocarbon reservoir” example
- Reference List- to include at least 10 references on the topic

Drop date: The UTEP Fall 2017 drop deadline is November 3, 2017. The College of Science will remain aligned with the University and not approve any drop requests after that date.

Policy on make-up assignments: No make-up assignments will be given for reasons other than illness (doctor's note required), absence with my prior approval, or when you are on official University business (documentation required). Make-up assignments will be scheduled at my convenience. Please contact me as soon as possible if you know you will miss a class!

Incomplete grades: All grades of Incomplete must be accompanied by an Incomplete Contract that has been signed by the instructor of record, student, departmental chair, and the dean. Although UTEP will allow a maximum of one year to complete this contract, the College of Science requests it be limited to one month based upon completion data. A grade of Incomplete is only used in extraordinary circumstances confined to a limited event such as a missed exam, project, or lab. If the student has missed a significant amount of work (e.g. multiple assignments or tasks), a grade of Incomplete is not appropriate or warranted.

Academic Honesty: The Geological Sciences Department has gone to great lengths in order to make learning the material easier than engaging in scholastic dishonesty, which is defined in the UTEP Student Handbook and also at <http://sa.utep.edu/osccr/academic-integrity/>. Proven violations of these detailed regulations may result in any of the consequences outlined in the Student Handbook.

Plagiarism: Using another person's ideas, words, drawings, etc. without giving proper credit (through a citation) is considered plagiarism. This includes anything from a book, magazine, technical report or journal, or website. It ALSO includes anything copied from another student's

paper or from a paper you wrote for another class where you received credit for it. Plagiarism is considered *Academic Dishonesty* and you may be reported to the Dean of Students if we suspect you of plagiarism. We regularly randomly compare students' papers for similar wording and conduct internet searches on suspicious text. If you plagiarize as a professional it can cost you your job! Please see additional material at the Blackboard site on how to properly cite references. Get help from Technology Support sooner rather than later.

Students with Disabilities: If you have a disability and believe you may need accommodations in this class you are encouraged to contact the Center for Accommodations and Support Services (CASS) at 915-747-5148 or cass@utep.edu within the first *two weeks* of class. They are located in room 106 of the East Union Building. We will work with you and CASS to find accommodations that will help lead to success in my course. The sooner you have CASS contact Dr. Doser the better able we are to help you.

Military Service: If you are a military student with the potential of being called into military service and/or training during the course of the semester you are encouraged to contact me or the teaching assistant regarding these matters.

Tentative Class Schedule

- August 29 Class Overview; Introduction to Depositional Systems;
August 31 Process Lecture: Fluid flow types and bedforms
- September 5 Process Lecture: Paleosol formation
September 7 Process Lecture: Trace fossils, subaerial exposure/dessication, Oxic versus anoxic conditions, water chemistry, concretions
- September 12 Alluvial Fans Presentation
September 14 Fluvial Presentation, Comparison of Alluvial Fans & Fluvial Discussion
- September 19 Process Lecture: Hyperpycnal and Hypopycnal flows
September 21 Lacustrine Presentation
- September 26 *No class-Giles in Paradox Basin*
September 28 *No class-NMGS Fall Field Conference*
- October 3 Process Lecture: Tides & Tide-Generated Bedforms
October 5 Tidal Flats and Sabkhas Presentation
- October 10 Process Lecture: Waves & Wave-Generated Bedforms
October 12 Wave-Dominated Shorelines & Shoreface Environment
- October 17 *No Class – Giles AAPG ICE London Meeting*
October 19 *No Class – Giles AAPG ICE London Meeting*
- October 24 *No Class – GSA Meeting Seattle*
October 26 Deltas Presentation
- October 31 Process Lecture: Gravity Flows
November 2 Deep-Sea Fans Presentation
- November 7 *Planning meeting for fieldtrip*
November 9 Process Lecture: Pelagic sedimentation
- November 10 Depart for Indio Mountains. West Texas; Camp overnight**
November 11 Fieldtrip - Indio Mountains. West Texas; Camp overnight
November 12 Fieldtrip – Guadalupe Mountains, West Texas
- November 14 Process Lecture: Eolian Generated Bedforms
November 16 Eolian Presentation
- November 21 *No Class – Thanksgiving Break*
November 23 *No Class – Thanksgiving Break*
- November 28 Estuary System Presentation
November 30 Glacial Systems Presentation