GEO. 420K - INTRODUCTION TO FIELD & STRATIGRAPHIC METHODS
***MON/WED SECTIONS*, SPRING 2023**

***LECTURE*:** **Monday** and **Wednesday**, 2:00 - 3:00 p.m.; JGB 3.222

LAB: **Friday** 2:00 - 5:00 p.m. in EPS 2.104 (#27590), EPS 2.136 (#27595), EPS 4.104 (#27600)

INSTRUCTORS:

Dr. Brian Horton, JGB 5.220ab
horton@jsg.utexas.edu
Phone: Office: 512- 471-1869

Dr. Daniel Stockli, JGB 5.224
stockli@jsg.utexas.edu
Phone: Office: 512-964-8771

TEACHING ASSISTANTS:

JGB 3.328	Maximilan Ehrenfels	max.ehrenfels@utexas.edu	#27590
EPS 3.124D	Nicholas Regier	nregier@my.utexas.edu	#27595
EPS 3.124C	Madison Preece	mbp2242@my.utexas.edu	#27600

OFFICE HOURS: Horton: M, W 1-2, or by appointment
Stockli: M, W 11-12, or by appointment
T.A.s: See lab syllabus

GRADING:

Field Projects 48%
Labs 22%
Lab Exam(s)..... 15%
Class Exam(s) 15%

There will be no makeup exams or projects.

PREREQUISITES: A grade of C or better in Geo. 416K, 426P, and 416M (Geo. 426P may be taken concurrently with 420K) for B.S. Geology, or C or better in Geo. 416M and Geo. 416K for G.E.H., Geophysics, Hydrogeology and B.A. Geology. If you do not have these prerequisites and have not already done so, see one of us immediately.

OTHER ITEMS: ***This is an in-person class only, with required attendance for all labs, lectures and field trips.*** By registering for Geo. 420K, students agree to be available for field trips on at least **4** weekends. See the following pages for the field trip dates. In addition, some Friday labs will be conducted off campus, but during normally scheduled lab hours.

Field trip and lab announcements will be posted on the 420K Canvas site. *Check it often* for information and materials for upcoming labs and field trips.

Academic dishonesty will not be tolerated. Anyone in violation of University policy (see Student Handbook) will receive a failing grade and is subject to additional punative measures, which may include expulsion from the University.

REQUIRED TEXT: Coe, A. L., Geological Field Techniques. Wiley-Blackwell, 323 pp.

Geo420K Lecture, Lab and Field Trip Manual, available from UT Copy Services, Graduate School of Business, GSB 3.136 (M-F 9am-4pm).

WEB SITE: UT Canvas site for Geo420K

REQUIRED ITEMS: See list below. The items are available in a supply packet at the University Co-op (2246 Guadalupe St.). Please purchase the packet – do not make substitutions.

LECTURE AND LAB SCHEDULE - GEO. 420K, MW Sections, 2023

Date	Lecture	Lab
1/9	Intro; Sedimentary Rock Descriptions; Clastic Successions (B.H.)	No Lab
1/11	Depositional Systems; Stratigraphy & Subsurface Analysis (B.H.)	
1/16	Martin Luther King Jr. Day (no class)	1/20. Sed Rock Descriptions
1/18	Cyclicity & Stratigraphic Sequences (B.H.)	Unit/Facies Descriptions
1/23	Cenozoic GOM History and Tertiary Regional Context (B.H.)	1/27. Net Sand Isopach Maps
1/25	Field Trip 1 Prep. (B.H.)	
******	**Trip 1: Cenozoic Siliciclastic Successions (1/28 or 1/29)**	
1/30	Sedimentary Basin Analysis, Tectonics, Sediment Provenance (B.H.)	2/3. Sequence Stratigraphy
2/1	Biostratigraphy, Trace Fossils, Fauna (B.H.)	and Correlations
2/6	Cretaceous Stratigraphy of Central Texas (B.H.)	2/10. Unconformities in Map
2/8	Trip 1 Debrief; Bio-, Chemo-, & Litho-stratigraphy (B.H.)	View & Cross Sections
2/13	Logging Carbonates: Descriptions & Depositional Systems (B.H.)	2/17. Maps, Time-Strat
2/15	Field Trip 2 Prep.; high-resolution outcrop photos (B.H.)	Relationships
******	**Trip 2: Cretaceous Carbonate Section Correlation (2/18 or 2/19)**	
2/20	Review and Trip 2 Q&A/discussion (B.H.)	2/24. Lab Review
2/22	Midterm Exam	
2/27	Base Maps, Grids, and Location Methods (D.S.)	3/3. Lab Midterm
3/1	The Global Positioning System (D.S.)	
3/6	Geologic Map Patterns; Strike Lines, Dip & Unit Thickness (D.S.)	3/10. Topographic
3/8	The Geologic Compass – Strike/Dip, Bearing/Plunge (D.S.)	Maps & GPS*
	3/11 - 3/19 SPRING BREAK	
3/20	Cenozoic & Paleozoic Geology of Central Texas (D.S.)	3/24. Compass/Pace and
3/22	Field Trip 3 Prep. (D.S.)	Compass Map*
******	**Trip 3: Mapping Project (3/25 or 3/26)**	
3/27	Introduction to Faults and Folds (D.S.)	3/31. Geologic Maps 1
3/29	Down Plunge Viewing/Geologic Maps as Cross Sections (D.S.)	
4/3	Trip 3 Debrief; Precambrian Geology of Llano Uplift (D.S.)	4/7. Geologic Maps 2
4/5	Metamorphic Rocks: Textures and Fabrics in Tectonites (D.S.)	
4/10	Cross Section Construction (D.S.)	4/14. Field Move Clino
4/12	Field Trip 4 Prep. – sketching and measuring (D.S.)	or Cross Sections
******	**Trip 4: Sketching and Measuring in pC Rocks (4/15 or 4/16)**	
4/17	Digital Mapping Tools and Techniques (D.S.)	
4/19	Trip 4 Debrief (D.S.)	4/21. Lab Final
4/24	Course Evaluation and Review (D.S.)	
4/29	**Final Exam (Saturday, April 29, 1:00 – 3:00 pm)**	

***** Lab conducted outdoors, prepare accordingly.
(B.H.) – Dr. Brian Horton
(D.S.) – Dr. Daniel Stockli