

GEOLOGY 310/COLL 300 - Fall 2021
History, Culture and Geology of the Big Bend National Park (BBNP) in Texas

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Teaching Assistant: Chloe Obara, Geology Technician (2021-22), Geology Class of 2020; McG TC Side Room

What is a COLL 300? GEOL 310 to El Paso and Big Bend National Park in Texas also serves as a COLL 300 course. COLL 300s are an integral part of the curriculum. This course will connect you with people, places and ideas and will lift you out of your familiar surroundings and deepen the way you see yourself in the world. You will use your knowledge, emerging expertise in framing questions, and communication skills to engage the world in a self-reflective, cross-cultural way.

Required:

You will need a valid passport to visit Boquillas, Mexico, an official border crossing in BBNP. You are responsible for purchasing your airline ticket to/from El Paso, Texas. Depart: Monday, January 3, 2022 to arrive in El Paso as close to noon as possible. Return: Thursday, January 13, 2022 near noon or early afternoon.

Pre-requisites: GEOL 101 or 110 and GEOL 160. Prefer at least one of these: GEOL 321 (Rock-Forming Minerals), GEOL 322 (Sedimentary Record) or GEOL 323 (Earth Structure and Dynamics) but not required. This course is for those who are beyond the introductory level in geology.

Things you should know (before going on the trip):

- How to use topographic and geologic maps.
- Basic rock and mineral identification and description.
- The Geologic Time Scale - periods/ages by name, Eras and Eons by name, absolute numeric ages of the Eras and Eons
- General geologic stratigraphy of Big Bend National Park

We will be practicing the skills above in the classroom. Please see Brent or Linda should you have any concerns about this or need extra practice.

Required tools:

Field notebook, hand lens, cell phone. Rock hammers are not allowed in the National Park. Please do not bring it. You can purchase a field notebook and hand lens from Carol Roe (McG 228).

Other tools: binoculars and camera. A list of essential gear to pack is on the Blackboard site. Start collecting your gear now.

Access to McG-Street Hall:

Please see Carol Roe (McG 228 if your ID card doesn't give you access into the building and Room 219. While you're taking this course, you should have 24/7 access to these facilities.

Textbook:

Big Bend Vistas (3rd edition), William MacLeod. The text will be useful for general background information and help you on the (open-note, open-book) final exam. The 1st edition is the best. If you can find a used copy, buy it. Additional readings are posted to Blackboard.

In the Classroom:

We will meet every Tuesday evening at 5pm in Room 219 for 60-80 minutes according to the schedule below. It is important that you attend every class. If for any reason you cannot, please email or talk to Brent or Linda right away. This schedule may change. You will be notified by W&M email if it changes.

Objectives: To introduce you to: 1) basic sediment stratigraphy, paleontology, depositional environments, rock deformation and volcanology; 2) geologic mapping of folds and faults in sedimentary rocks; and 3) the history and culture of west Texas and what it's like to live along the border with Mexico.

Grading

BBNP Stratigraphy Quiz	10%
U.S./Mexico Border Issues – Article Review	10%
U.S./Mexico Border Issues – Reflection	10%
Geology of El Paso Area	15%
Topography and Geology of BBNP with cross sections	20%
Overall Attitude and Participation	10%
Field Expert Presentation with Worksheet	10%
Post Field Trip Exam	15%

Grading scale: >93 = A; 90-92.9 = A-; 87-89.9 = B+; 83-86.9 = B; 80-82.9 = B-; 77-79.9 = C+; 73-76.9 = C; 70-72.9 = C-; 67-69.9 = D+; 63-66.9 = D; 60-62.9 = D-; <60 = F

Classroom Schedule

Class Meeting	Subject	Assignments and Readings due
September 7	Course overview – What to expect - Geologic history of the western North America	Read up to page 41 of the text.
September 14	Big Bend National Park: Geologic history – building the <u>stratigraphy</u> (rocks, fossils)	Read the article “The Taking” posted on Blackboard
September 21	Topography and Geology of BBNP – using maps and creating cross sections	Quiz on geologic history of BBNP (geologic ages and stratigraphy)
September 28	Topography and Geology of BBNP – cont’d.	Topography and Geology of BBNP and cross sections exercise due
October 5	Geology of the El Paso, TX area	
October 12	Geology of the El Paso, TX area – cont’d.	Geology of El Paso exercise due
October 19	Fall Break - no class	
October 26	Guest Speaker: Jennifer Bickham-Mendez (Sociology) – Key Border Issues between the U.S. and Mexico	Draft Expert in the Field Worksheet due
November 2	Think-Pair-Share Expert in the Field Worksheet	
November 9	Small Group Discussions – Border Issues	Border Issues Article Review due Topography and Geology of BBNP and cross sections exercise due
November 16	Zoom with Don Corrick – History of Big Bend	
November 23	Final Logistics – Last Class	Final Expert in the Field Worksheet due; Border Issues Reflection Due
January 26	Post Field Trip Exam Due	Upload to Google Drive

Field Schedule (depending on the weather):

Date	Activity	Lodging
Monday, January 3	Flight to El Paso, Texas Dinner at Pink House	Hawthorn Suites by Wyndham El Paso Airport
Tuesday, January 4	In El Paso: "Pill Hill"; TransMountain Highway; Big Unconformity	same
Wednesday, January 5	Travel to BBNP; Talc Mine; Willow Mountain	Chisos Mountain Lodging (Rio Grande Motel; Casa Grande Lodge)
Thursday, January 6	Lost Mine Trail; Visitor Center; Fossil Exhibit; Petroglyphs and Concretions	same
Friday, January 7	Ernst Tenaja; Grapevine Hills	same
Saturday, January 8	Ross Maxwell Scenic Drive; Santa Elena Canyon; Tuff Canyon	same
Sunday, January 9	Window; Boquillas Canyon: Boquillas Village	same
Monday, January 10	Petrified Forest; Marathon; Caballos Fm.	same
Tuesday, January 11	Geologic Mapping of Dagger Flats	same
Wednesday, January 12	South Rim Trail	same
Thursday, January 13	Leave for El Paso, Texas Departing flights for Home	same

Course policies

Attendance: Attendance and participation are required. The best policy is communication. If you have circumstances in which you cannot attend a class, please email Linda and Brent right away.

Late assignments: Grades will be docked by 10% for every day that an assignment is late. If an assignment is more than one week late, you will receive a zero for that assignment. If you have a medical/family excuse, please let us know immediately. No exceptions. The best policy is communication. If you are having a busy week and need a little more time to complete the assignment, please email Linda and Brent right away BEFORE the assignment is due

Electronics: You are welcome to use laptops and cell phones during class—but only if they are silenced and you are using them specifically for coursework. Please remember that inappropriate electronics use (social media, e-mail, surfing, reading news, playing games, etc.) is distracting to those seated around you and is unprofessional.

Library help: Research librarians can provide virtual assistance through phone, email, live online chat and more in-depth research consultations by phone or Zoom.

Counseling Center: Located in the McLeod Tyler Wellness Center, the Counseling Center (757-221-3620) offers a range of mental health services and resources to students wanting help with personal concerns.

Dean of Students Office: Care Support Services helps students to identify and manage interpersonal, academic, and wellness concerns. Email care@wm.edu or call (757) 221-2511.

Path Forward: W&M's COVID-19 response <https://www.wm.edu/sites/pathforward/index.php>

Community Statement: The W&M Geology Department welcomes, supports, engages, and celebrates the broad range of backgrounds and experiences in our community. We affirm our individual and collective responsibility for creating and fostering a respectful, cooperative, inclusive, and equitable campus environment for all individuals, regardless of race, ethnicity, nationality, culture, religion, political beliefs, gender, gender identity / expression, sexual orientation, age, disability, or marital, parental, or veteran status. All people have the right to be addressed and referred to in accordance with their personal identity. In this class, you will have the chance to indicate the name that you prefer to be called and the pronouns with which you would like to be addressed.

Student Accessibility Services: William & Mary accommodates students with disabilities in accordance with federal laws and university policy. Any student who feels they may need an accommodation based on the impact of a learning, psychiatric, physical, or chronic health diagnosis should contact Student Accessibility Services staff at 757-221-2512 or at sas@wm.edu to determine if accommodations are warranted and to obtain an official letter of accommodation. For more information, please see www.wm.edu/sas.

Honor Code Policy: William & Mary has had an honor code since at least 1779. Academic integrity is at the heart of the university, and we all are responsible for upholding the ideals of honor and integrity. The student-led honor system is responsible for resolving any suspected violations of the Honor Code, and we will report all suspected instances of academic dishonesty to the honor system. The Student Handbook (www.wm.edu/studenthandbook) includes your responsibilities as a student. Your full participation and observance of the Honor Code is expected. Note that we will use a series of tools (e.g., SafeAssign) to check whether students are plagiarizing on class activities and the project pitch. To read the Honor Code, see www.wm.edu/honor

Sustainability at W&M: I support sustainability initiatives on the WM campus. To reduce paper use, many of your course documents (including the syllabus, readings, and most assignments) will be provided on the course Blackboard page. Please try to save paper by reading these documents online, if possible. If you must print out documents, please consider printing double-sided and/or with two sheets per page. For more information, please see the Sustainability at W&M website: www.wm.edu/sustainability.