

UNIVERSITY OF WYOMING  
**GEOL 4050: Geology of Wyoming**  
3 credit hours  
Classroom Building Room 105  
Spring 2019  
TR 1:20-2:35

**Course instructor: Dr. Carol D. Frost**

**Contact information:** [frost@uwyo.edu](mailto:frost@uwyo.edu), Office ESB 3044, office phone 307-363-1628

**Office hours: M 2-3, R 11-1 and by appointment**

**Course prerequisites:** none

**Course Description:** This course introduces students to the nearly 4 billion-year history recorded in Wyoming's geologic record. Guest lecturers contribute their expertise on many topics, and readings augment the information presented in class.

**Learning objectives and outcomes:** At the completion of this course, students will:

1. Understand the geologic events taking place over nearly 4 billion years of Earth history that created Wyoming's landscape we see today,
2. Produce an outline capturing the main points of each lecture and analyze one figure or topic from the accompanying reading assignment, and
3. Research and produce a 1-page brochure on an outstanding Wyoming geologic feature of the student's choice.

**General references:** These materials provide general background to the lectures.

Love, J.D., and Christiansen, Ann Coe, 1985, *Geologic map of Wyoming*: U.S. Geological Survey, scale 1:500,000. (\$25, available at the Wyoming State Geological Survey. A strongly recommended purchase.)

Love, J.D., Christiansen, Ann Coe, and Ver Ploeg, A.J., 1993, *Stratigraphic chart showing Phanerozoic nomenclature for the State of Wyoming*: Geological Survey of Wyoming MS-41. (\$5, available at the Wyoming State Geological Survey. This chart is very useful for sorting out the complex Phanerozoic stratigraphic nomenclature of Wyoming.)

Snoke, A.W., Steidtmann, J.R., and Roberts, S.M., eds., 1993, *Geology of Wyoming* (2 volumes + map pocket): *Geological Survey of Wyoming Memoir No. 5*, 937 p. (This set was reprinted in 2002, and now is available in soft-back cover with a CD containing all oversized foldout plates. \$50, available at the Wyoming State Geological Survey.)

Snoke, A.W., 1997, Geologic history of Wyoming within the tectonic framework of the North American Cordillera, in Jones, R.W., and Harris, R.E., eds., Proceedings of the 32nd Annual Forum on the Geology of Industrial Minerals: *Wyoming State Geological Survey Public Information Circular 38*, p. 1–52. (This summary is a revised and updated version of a paper originally published under the same title [Snoke, 1993] in *Geology of Wyoming*, Wyoming State Geological Survey Memoir 5, p. 2–56.)

**Attendance policy:** Because much of the learning in this course takes place in class, attendance is required. *If you are absent for any reason you must write a 2-page essay summarizing the topics and readings for that class session and turn it in at the beginning of the following class period.* If you fail to turn in an essay on time or if you miss more than three classes without a valid university-excused absence you will automatically fail the course. University policies on excused absences are outlined in [UW Regulation 2-108 \(Student Attendance Policy\)](#).

**Late work:** Grades for late work will drop by 5% for each day late up to one week. Assignments more than 1 week late will receive no credit.

**Grading:**

**70%--Outlines of the lectures and summary of a point from the reading**—for each class, an outline of the lecture, a paragraph summarizing one pertinent figure or point from the reading, and a personal reflection. These will be turned in before spring break and on the last day of class.

**25%--Geoheritage assignment**—Includes topic and annotated bibliography due March 14, draft product for peer evaluation during the last week of class, and final product turned in by May 14 at 5 pm.

**5%--Class participation**—Includes active participation in class and providing feedback to classmates on their geoheritage assignment.

**Final Project Date:** The due date for the Geoheritage assignment above is set based on the scheduled final exam date set by the registrar, which is Tuesday, May 14.

**Grading scale:** Letter grades A, B, C, D, F will be used in this class (no +/-)

**Classroom Behavior Policy:** *UW expectations are that at all times, treat your presence in the classroom and your enrollment in this course as you would a job. Act professionally, arrive on time, pay attention, complete your work in a timely and professional manner, and treat all deadlines seriously. You will be respectful towards you classmates and instructor. Spirited debate and disagreement are to be expected in any classroom and all views will be heard fully, but at all times we will behave civilly and with respect towards one another. Personal attacks, offensive language, name-calling, and dismissive gestures are not warranted in a learning atmosphere. As the instructor, I have the right to dismiss you from the classroom, study sessions, electronic forums, and other areas where disruptive behavior occurs.*

*Electronic devices such as mobile phones should be turned off. Laptops are allowed for note-taking purposes. No video or audio recording during class is allowed to protect the privacy of your fellow students except as part of class assignments and activities.*

**Classroom Statement on Diversity:** *The University of Wyoming values an educational environment that is diverse, equitable, and inclusive. The diversity that students and faculty bring to class, including age, country of origin, culture, disability, economic class, ethnicity, gender identity, immigration status, linguistic, political affiliation, race, religion, sexual orientation, veteran status, worldview, and other social and cultural diversity is valued, respected, and considered a resource for learning.*

**Disability Support:** *The University of Wyoming is committed to providing equitable access to learning opportunities for all students. If you have a disability, including but not limited to physical, learning, sensory, or psychological disabilities, and would like to request accommodations in this course due to your disability, please register with, and provide documentation of your disability as soon as possible to Disability Support Services (DSS), Room 128 Knight Hall. You may also contact DSS at (307) 766-3073 or [udss@uwyo.edu](mailto:udss@uwyo.edu). It is in the student's best interest to request accommodations within the first week of classes, understanding that accommodations are not retroactive. Visit the DSS website for more information at: [www.uwyo.edu/udss](http://www.uwyo.edu/udss)"*

**Academic Dishonesty Policies:** *Academic dishonesty will not be tolerated in this class. Cases of academic dishonesty will be treated in accordance with UW Regulation 2-114. The penalties for academic dishonesty can include, at my discretion, an "F" on an exam, an "F" on the class component exercise, and/or an "F" in the entire course. Academic dishonesty means anything that represents someone else's ideas as your own without attribution. It is intellectual theft – stealing - and includes (but is not limited to) unapproved assistance on examinations, plagiarism (use of any amount of another person's writings, blog posts, publications, and other materials without attributing that material to that person with citations), or fabrication of referenced information. Facilitation of another person's academic dishonesty is also considered academic dishonesty and will be treated identically.*

**Duty to Report:** *UW faculty are committed to supporting students and upholding the University's non-discrimination policy. Under Title IX, discrimination based upon sex and gender is prohibited. If you experience an incident of sex- or gender-based discrimination, we encourage you to report it. While you may talk to a faculty member, understand that as a "Responsible Employee" of the University, the faculty member MUST report information you share about the incident to the university's Title IX Coordinator (you may choose whether you or anyone involved is identified by name). If you would like to speak with someone who may be able to afford you privacy or confidentiality, there are people who can meet with you. Faculty can help direct you or you may find info about UW policy and resources at <http://www.uwyo.edu/reportit>*

*You do not have to go through the experience alone. Assistance and resources are available, and you are not required to make a formal complaint or participate in an investigation to access them.*

**Substantive changes to syllabus:** *All deadlines, requirements, and course structure is subject to change if deemed necessary by the instructor. Students will be notified verbally in class, on our WyoCourses page announcement, and/or via email of these changes.*

**Student Resources:**

*DISABILITY SUPPORT SERVICES: [udss@uwyo.edu](mailto:udss@uwyo.edu), 766-3073, 128 Knight Hall, [www.uwyo.edu/udss](http://www.uwyo.edu/udss)*

*COUNSELING CENTER: [uccstaff@uwyo.edu](mailto:uccstaff@uwyo.edu), 766-2187, 766-8989 (After hours), 341 Knight Hall, [www.uwyo.edu/ucc](http://www.uwyo.edu/ucc)*

*ACADEMIC AFFAIRS: 766-4286, 312 Old Main, [www.uwyo.edu/acadaffairs](http://www.uwyo.edu/acadaffairs)*

*DEAN OF STUDENTS OFFICE: [dos@uwyo.edu](mailto:dos@uwyo.edu), 766-3296, 128 Knight Hall, [www.uwyo.edu/dos](http://www.uwyo.edu/dos)*

*UW POLICE DEPARTMENT: [uwpd@uwyo.edu](mailto:uwpd@uwyo.edu), 766-5179, 1426 E Flint St, [www.uwyo.edu/uwpd](http://www.uwyo.edu/uwpd)*

*STUDENT CODE OF CONDUCT WEBSITE: [www.uwyo.edu/dos/conduct](http://www.uwyo.edu/dos/conduct)*

**Tentative schedule of lecture topics** (Readings for each class are provided on WyoCourses.)

<b>Date</b>	<b>Topic</b>	<b>Lecturer</b>
29-Jan	Introduction and Overview	Carol Frost
31-Jan	Archean Earth: a framework	Carol Frost
5-Feb	Hadean origins of the Wyoming Province	Carol Frost
7-Feb	When did plate tectonics begin?	Carol Frost
12-Feb	Neoproterozoic Himalayan-style orogeny	Carol Frost
14-Feb	Cratonization of the Wyoming Province	Carol Frost
19-Feb	Two Paleoproterozoic orogenies	Carol Frost
21-Feb	Mesoproterozoic magmatism	Carol Frost
26-Feb	Paleozoic stratigraphic framework	Carol Frost
28-Feb	Early Mesozoic stratigraphic framework	Kelli Trujillo
5-Mar	Western Interior Cretaceous basin	Ranie Lynds
7-Mar	Sevier orogenic belt	Jay Chapman
12-Mar	Knight's chalk talk	Carol Frost
14-Mar	Geoheritage assignment-topic and annotated bibliography due. Lecture outlines due SPRING BREAK Mar 18-22	Carol Frost
26-Mar	Laramide orogeny	Erin Campbell
28-Mar	Eocene alkalic magmatism	Simone Runyon
2-Apr	Paleocene-Eocene Thermal Maximum	Ellen Currano
4-Apr	Coal, oil and gas resources of Wyoming	Kelsey Kehoe, Rachel Toner, Jesse Pisel
9-Apr	Wyoming's fossil heritage	Laura Vietti
11-Apr	Heart Mountain detachment	Carol Frost
16-Apr	Eocene Lakes, Late Cenozoic exhumation	Carol Frost
18-Apr	Yellowstone/Teton magmatism and tectonics	Carol Frost
23-Apr	Yellowstone/Teton magmatism and tectonics	Carol Frost
25-Apr	Glacial geology of Wyoming	Neil Humphrey
30-Apr	Yellowstone's hydrothermal features	Ken Sims
2-May	Geophysical structure of Wyoming	Ken Dueker
7-May	Geoheritage projects-peer review	Carol Frost
9-May	Geoheritage projects-peer review. Lecture outlines due.	Carol Frost
14-May	Geoheritage assignment due by 5 pm	