

GEO3400: COMMUNICATING GEOSCIENCE (3 cr) Spring 2021: COURSE SYLLABUS

- Location: GEOL 102
- CLASS SCHEDULE TR 12 – 1:15 p.m.
- Course Instructor: Dr. Kelly K. Bradbury
- Email: kelly.bradbury@usu.edu
- Phone: 435-760-4506
- Office: GEOL 112
- Office Hours: T 1:30 - 2:30; R – 11 - 12 p.m., or please email me to make an Appointment
- TA: Hannah Cothran Email: Hannah.cothran@usu.edu

- **Spring Semester 2021 (1/19/21 –12/13/19), excluding:**
- February 15: President's Day
- March 12: No class day
- April 8: Friday Class Schedule
- April 21 -27: No Test Week
- Final Report Presentations: April 22
- Last day of Class - Final Report Presentations: April 27

Course Materials: Reading assignments, open access online resources, and handouts will be posted to Canvas or presented in class, no textbook is required.

Course Design: Lectures, student-based learning through in-class activities and “writing labs”, computer-based and peer-review activities.

COURSE OVERVIEW:

Critical thinking, writing, presentation, and professional skills are fundamental for successful communication in science. This course aims to develop and refine these skills in undergraduate students, particularly within the field of Geoscience. We will focus on helping students to understand the scientific method, scientific data, technical content, separation of observation vs. interpretation, and to learn, think, and communicate like Geoscientist's. We will develop and practice basic writing and communication skills that are allow one to communicate effectively to scientists and non-scientists.

Learning Objectives:

1. Knowledge building of basic geoscience/technical writing skills through writing and reading.
2. Practice presentation and communication skills (written, oral, interactive).
3. Development of: critical thinking skills and understanding of the scientific method; observations vs. interpretations; database management methods; graphics/illustrations; peer review.

TOPICS COVERED:

A. Critical thinking skills

- a. Distinguish observation vs. interpretation
- b. Reading peer-reviewed literature
- c. Scientific method and forming a hypothesis, if-then statements

- d. Active reading strategies

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B. Writing skills

- a. Sentence and paragraph construction
- b. Peer-reviewed literature access ~ open access online vs. in-house library papers
- c. Citation and reference lists
- d. Rock descriptions
- e. Field notes and data/results
- f. Standard types of writing in the Geosciences (technical reports, abstracts, research papers, readme.txt in spreadsheets, proposals, activity reports/work logs, emails)
- g. Paper summaries
- h. Literature review and research paper

C. Data and oral presentation skills

- a. Figures, figure captions, graphs, data tables
- b. Adobe Illustrator skills
- c. Powerpoint
- d. Oral presentation skills

D. Preparing for Geoscience (STEM) employment

- a. Resumes/CV
- b. Cover Letters
- c. Practice Interviews and Elevator pitches
- d. Weekly Departmental Seminars + Guest Speakers

COURSE EXPECTATIONS:

1. **Participation** is a primary expectation is participation of in-class activities such as peer-review, paper discussions, and reflections. Example ~ If we are going to discuss a paper before class, READ and come prepared to actively contribute to the class discussions.
2. **Writing** assignments, peer-review, and in-class activities. Weekly writing, presentation, and communication assignments form the core of this course. We will work to improve these skills over the course of the semester through peer-review and editing. Writing assignments form the primary means of assessment.
3. **Attendance** is mandatory and impacts your participation grade. Please make prior arrangements with me if you are going to miss class and/or let me know if there is an extenuating circumstance.
4. **Late assignments** – will result in a lowering the maximum possible grade by 2.5% each day past the due date.

COURSE METRICS AND GRADING POLICY*:

- ❖ **Writing Assignments (50%)**
 - Most assignments will require revisions and editing, integrating the TA, peers, and instructor's feedback.
 - Library exercises and on-line research activities to gain information will be included in the assignments
 - Writing labs
 - Writing will be graded based on quick checks (for drafts) or rubrics based on content, organization, sentence, paragraph structure and word choice, references and citations, and separation of observation vs. interpretation
 - We will use Microsoft Word and Powerpoint for writing and presentation activities
- ❖ **Peer Review (10%)**
 - Drafts of most assignments will be peer-reviewed prior to turning in a revised draft
 - Peer-review effort and feedback will be turned in and graded
- ❖ **Oral Presentations and Creative Scholarship (20%)**
 - Several short communication assignments, sketches, social media postings, videos, etc.
 - Research Project Posters will be created in Adobe Illustrator and presented through PowerPoint, Zoom, or Audio/Video recording and include a brief (5 min or less) oral presentation
 - A final 10-minute oral presentation of the research project will be given to class via Zoom, PowerPoint, or video/audio recording
 - Assessed based on clarity, incorporation of feedback, and appropriate and effective use of visual graphics, figures, vocabulary
- ❖ **Final Research Project Report (10%)**
 - Paper builds on select prior assignments and skillsets (6-8 pages) with figures
- ❖ **Weekly Class Participation/Discussions, and Attendance (10%)**
 - Please work to be actively engaged in discussions and to practice participating, asking questions, taking peer-review and the quality of your work seriously, etc.
- ❖ ***Late assignments** – will result in a lowering the maximum possible grade by 2.5% each day.