

## **ERTH410 Undergraduate Seminar Fall 2021**

**Lecture: M 1:30 – 3:30 PM POST 723**

**Instructor:** Greg Ravizza, POST 712, [ravizza@hawaii.edu](mailto:ravizza@hawaii.edu)

**Tentative Office hours:** Monday 3:30 - 4:30 PM, but it is always possible to make an appointment. Also, meetings via Zoom are always an option. These can be done outside of regular working hours as needed.

**Focus Designations.** E-focus: This course has a Contemporary Ethical Issues (E) Focus designation. Contemporary ethical issues are fully integrated into the main course material and will constitute at least 30% of the content. At least 8 hours of class time will be spent discussing ethical issues. Through the use of lectures, discussions and assignments, students will develop basic competency in recognizing and analyzing ethical issues; responsibly deliberating on ethical issues; and making ethically determined judgments.” Embedded within this frame work emphasizing ethics, EARTH410 will also meet the hallmarks required of an “O” focus course. More detail on how the “O” and “E” focus requirements will be met are given below.

### **During this course the students will:**

1. improve oral communication skills, primarily as an individual but also as a member of working groups.
2. learn an applied framework for making ethical deliberations, using the “[eight key questions](#)” approach developed by James Madison University (JMU), and the [American Geosciences Institute’s Guidelines for Ethical Professional Conduct](#).
3. explore a variety of controversial issues at the intersections(s) of societal needs/threats and Earth Science as part of their preparation of oral presentations.
4. practice integrating ethically- and scientifically-valid frameworks for responding to ethical dilemmas through reasoned deliberation.

**Reading:** Course reading and resources will be posted on the Laulima site. There is no required textbook.

**Prerequisites:** An introductory geology course (GG101 or comparable) and an introductory geology lab (GG101L or comparable) are required. Experience has shown that this course is best suited to more advanced students because they have the opportunity to draw upon prior course knowledge in their oral presentations.

### **Overview of how focus designations will be addressed:**

**E focus:** Contemporary ethical issues are fully integrated into the main course material

through the design of required oral presentation assignments. Assessment of the understanding of ethics content and the quality of ethical deliberation will constitute approximately 35% of the course grade. Through participation in lectures, discussions, quizzes and oral presentations, students will develop basic competency in ethical deliberation using an applied ethics framework, supplemented by readings on environmental ethics.

**O focus:** This course also has an Oral Communication (O) Focus designation. Each student will participate in three oral communications assignments as well as class discussions. Students will receive explicit training in oral communication to develop speaking skills and to become proficient in the basics of preparing and oral presentation. Students will receive guidance and feedback (verbal and written), mainly from the instructor, associated with preparation and grading of oral communication assignments. Approximately 65% of the final grade will be determined by the student's oral communication activities.

**Course content & relationship to programmatic student learning objectives (SLOs) in the Earth Sciences:**

The purpose of this course is to give Earth Sciences undergraduate majors experience in giving oral presentations on topics concerning contemporary ethical issues in geoscience. In the beginning of the semester, the course covers the basic aspects of preparing and presenting a talk (good speaking style, effective slide layout, how to introduce a speaker, etc.) Student effort and class time is directed toward presenting talks they have prepared themselves on Earth Science topics that are related to contemporary ethics issues.

The major theme will be the intersection of society and geoscience, including the impact of uncertainty about natural phenomena, limits to available resources, etc. on ethical deliberation. Students select topics or case studies for oral presentation assignments and develop ethical arguments to support a particular course of action, or critique the actions of others. While students are given the opportunity to identify topics they will speak about, all topics require instructor approval. Presenters will receive feedback from the instructor as well as their peers. At the end of the term, one class session will be devoted to discussion of hypothetical situations that are likely to be relevant to individual STEM students and professionals, including best practices, scientific fraud, plagiarism, conflicts of interests, abuse of power, intellectual property, role of institutional policy, and interpersonal conflicts will be touched upon.

The primary programmatic student learning objective (SLO) this course satisfies is SLO #4 (Students can reconstruct, clearly and ethically, geological knowledge in both oral presentations and written reports), particularly SLO #4c pertaining to scientific ethics. Other SLOs are addressed as students prepare their talks. Almost without exception each student prepares and presents presentations that are related to SLO #1 (Students can explain the relevance of geology and geophysics to human needs, including those appropriate to Hawaii, and be able to discuss issues related to geology and its impact on society and planet Earth.) and SLO #5 (Students can evaluate, interpret, and summarize the basic principles of geology and geophysics, including the fundamental tenets of the

sub-disciplines, and their context in relationship to other core sciences, to explain complex phenomena in geology and geophysics.)

**Schedule:** There are currently 10 students enrolled – as opposed to 20, that maximum allowed. This is good because it means that we are under less time pressure to fit in all required student presentations. This year is also unprecedented because we will be mostly (& perhaps entirely) working via zoom. We will discuss how to deal with this during the first class meeting.

**Assignments, Descriptions of oral assignments are below.** (NOTE: We can adjust the assignments as described below slightly. For example, I have relaxed the ethics content requirement for this assignment to accommodate students who wish to present their own research. However, ethical content must be more heavily emphasized in other assignments.) In addition, to these assignments 15% of the course grade will be determined based upon quizzes given in class on ethical frameworks (8%), and class participation (7%), such as giving feedback to classmates on their presentations.

**Presentation 1:** Students present content drawn from introductory geoscience course work that has ethical dimensions/implications in a style suitable for a non-expert audience. The presentation time is 10 minutes and the format/style is a lecture type presentation. (15% of course grade, of which 80% counts toward the O-focus & 20% to the E-focus).

*Preparative work in advance of presentation:* For this assignment there are multiple elements of prior preparation: (1) instructor lecture on public speaking; (2) in class discussion of presentation content with an emphasis aimed on developing effective visual aids to convey conceptual content, and strategies for making effective oral presentations (3) overview of ethical deliberation using the JMU “8 key questions” and the 8 Key Questions Handbook.

*Student Feedback:* For this assignment feedback on individual presentations will emphasize individual delivery style. These comments will be given to each student via Lulima posting. Assessment will take the form of a tally of strengths and weaknesses of each student’s presentation style and ethical deliberation, identifying areas where the students should work to improve, primarily their speaking ability and, secondarily, their ethical deliberation. In this assignment and all subsequent assignments, student presentations and ethics content will be evaluated using the Oral Communication VALUE rubric (from American Association of Colleges and Universities) and the JMU Ethical Reasoning rubric, respectively. Both of these rubrics are posted in the “Important Docs” folder on the Lulima course site. The expectation for this initial assignment is that if students participate, and demonstrate strong effort they will receive full credit.

**Presentation 2 (Debate):** Students are required to participate in a debate, typically with two students on each team. The format of the debate involves multiple brief presentations that alternate between teams: an opening statement (5 minutes per team), a rebuttal (3 minutes per team member), audience questions (10 minutes total) and a concluding statement (4 minutes). Students will work in groups during class to formulate debate

propositions and establish teams. Here students are expected to draw from class discussions, assigned reading, and/or current events to develop a debate proposition. Ideally topics will combine ethical & environmental/Earth science issues and involve defending an ethical judgement. (30% of course grade, of which 60% counts toward the O-focus and 40% counts toward the E-focus)

*Preparative work in advance of presentation:* For this assignment, all debate propositions must be approved by the instructor well in advance of a pre-debate meeting with the instructor. All teams will meet separately with the instructor to discuss their debate propositions and the basis of the ethical judgement they will defend. The purpose of providing feedback during preparation for the debate is to help the students refine their arguments, and assess the quality of their ethical analysis prior to the in-class presentation.

*Student Feedback:* For this assignment feedback after the oral debate will come in two forms. First, students will receive written evaluation from the instructor with individual sub-scores for: (1) Delivery of presentation (30% of assignment). (2) Quality and accuracy of content, breadth of ethical analysis (30% of assignment). (3) Organization and quality of visual aids (10% of assignment). (4) Response to questions (which requires impromptu speaking) and depth of knowledge and quality of ethical deliberation (30% of assignment). Second, students will receive a written summary evaluation of their presentation from their peers, which will include content (ethics) and presentation (oral) critiques.

**Presentation 3:** Students are required to prepare a 10-12 minute presentation on a topic at the intersection of society and geoscience, which could include conveying degrees of confidence and uncertainty to the public, policy makers, and resource managers about the frequency, magnitude, duration, recurrence interval of natural phenomena; limits to available resources, or other ways in which data collected by geoscientists is used to shape public policy. Students will choose a specific topic or case study (e.g., man-made earthquakes associated with hydraulic fracturing (fracking), potential climate change impacts on, the Fukushima crisis that developed following an earthquake and tsunami) and develop their presentation within an ethics framework. The class will be split into two groups of nearly equal size in which the students will listen to one another's practice talks along with the instructor in a meeting outside of the regular class period. The final versions of presentation 3 will be given to the entire class. (40% of course grade, of which 80% counts toward the O-focus and 20% counts toward the E-focus).

*Preparative work in advance of presentation:* Students will draw upon preparative work for presentation 1 and, as a supplement to their practice oral presentation and power point file, students will provide a written outline of their ethical analysis in which each of the 8 key questions is considered explicitly. Students are expected to work to improve their presentation based upon feedback on their practice presentation (see below).

*Student Feedback:* Following the practice talk, student audience members will provide verbal feedback to the presenters in the small group meetings, and also submit a written summary of the feedback to the instructor. These student peer groups will evaluate both

the quality of the oral presentation and the strength/quality of the ethical arguments. In addition, student presenters will receive a written list of suggestions and a preliminary assessment from the instructor aimed at helping the presenters to improve their final presentation. After the final presentation, students will receive written evaluation from the instructor with individual sub-scores for: (1) Delivery of presentation (30% of assignment). (2) Quality and accuracy of content, breadth of ethical analysis (30% of assignment). (3) Organization and quality of visual aids (30% of assignment). (4) Response to questions (which requires impromptu speaking) and depth of knowledge and quality of ethical deliberation (10% of assignment).

**Attendance:**

- It matters & is required.
- An excused absence requires a note from a Dr. or similar.
- If non-attendance becomes a persistent problem you will be contacted directly. You can be failed for excessive non-attendance.
- I use this policy b/c it is unfair to your peers to skip out on their talks because you are busy with other things. Also, if you miss ethics discussions in class you are not meeting the E hallmark requirement. Arrangements must be made with the instructor to make up the missed material.
- Active participation in discussions counts 5% of the course grade, which is evenly distributed between the O and E aspects of the course.

**Title IX:** The University of Hawai‘i is committed to providing a learning, working and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. If you or someone you know is experiencing any of these, the University has staff and resources on your campus to support and assist you. Staff can also direct you to resources that are in the community. For more information, including where to seek assistance, please see:

<https://manoa.hawaii.edu/titleix/pdf/Sample-Title-IX-Syllabus-UHM.pdf>

**KOKUA:** Any student who feels s/he may need an accommodation based on the impact of a disability is invited to contact me privately. I would be happy to work with you, and the KOKUA Program (Office for Students with Disabilities) to ensure reasonable accommodations in my course. KOKUA can be reached at (808) 956-7511 or (808) 956-7612 (voice/text) in room 013 of the Queen Lili'uokalani Center for Student Services.

**Basic Needs:** UH also has resource that aim to help students who are struggling to meet basic needs - "Basic needs include food and housing, childcare, mental health, financial resources and transportation, among others. Student basic needs security is critical for ensuring strong academic performance, persistence and graduation and overall student well being. If you or someone you know are experiencing basic needs insecurity, please see the following resources: [UH System Basic Needs.](#)"