

## **Autumn 2022**

### **Communication 2596: An Introduction to Health, Environment, Risk & Science Communication**

Wednesday & Friday 12:45pm– 2:05pm, Dreese Lab, 305  
Instructor: Dr. Graham Dixon  
Derby Hall 3045A  
Email: [dixon.716@osu.edu](mailto:dixon.716@osu.edu)  
Office Hours: Wednesdays 2:00pm – 3:30pm

Format of Instruction: In-Person Lecture; 3 hours/week

#### **Course Description**

This course provides a general introduction to the fields of science, risk, environmental and health communication from multiple perspectives including psychological, social, cultural, and behavioral sciences. Students will apply theories and research covered in class to address real-world challenges of communicating science, health, environment, and risk to wide audiences.

As a GE sustainability-themed course, instruction will focus on the fundamental dependence of humans on earth and environmental systems and address aspects of the interdependence of human and natural systems. This includes exploring the role of communication in the formation of people's attitudes and beliefs toward several dimensions of sustainability, including environmental and earth systems; economy and governance; society and culture; engineering, technology and design; and health and well-being. As such, this course examines the continually evolving information environment and how it impacts our conceptualization of and approach toward sustainability within the context of the environment, scientific technology, health, and risk.

More specifically, this course involves deep engagement-with issues central to sustainability dimensions such as climate change (e.g., environmental and earth systems), vaccination (e.g., health and wellbeing), genetically modified foods (e.g., society and culture), and transportation technology (e.g., engineering, technology, and design). While many of the topics we discuss are controversial and polarizing, the purpose of the course is to understand the communication processes and effects behind these topics. For example, we address why so many sustainability topics become controversial; what role do cultural and political values play in polarizing people's views?; and how do communication interventions impact people's views on various dimensions of sustainability?

Rather than advocate for a particular position, our goal is to explore these topics through an objective lens as academic observers.

Content from this course benefits students with an interest in a variety of careers, including public policy, public health, communication research, advertising, science education, and public relations, to name a few.

**GE category:** Sustainability Theme

### **Sustainability Theme Goals**

1. Successful students will analyze an important topic or idea at a more advanced and in-depth level than the foundations.
2. Successful students will integrate approaches to sustainability by making connections to out-of-classroom experiences with academic knowledge or across disciplines and/or to work they have done in previous classes and that they anticipate doing in the future.
3. Students will analyze and explain how social and natural systems function, interact, and evolve over time; how human wellbeing depends on these interactions; how actions have impacts on subsequent generations and societies globally; and how human values, behaviors, and institutions impact multi-faceted, potential solutions across time.

### **Sustainability Theme Expected Learning Outcomes**

1. Students will engage in critical and logical thinking about sustainability.
  - a. Readings, lectures, and in-class activities provide opportunities for critical thinking towards sustainability dimensions.
2. Students will engage in an advanced, in-depth, scholarly exploration of sustainability.
  - a. In-class discussion and activities provide opportunity for in-depth, scholarly exploration of sustainability dimensions.
3. Students will identify, describe, and synthesize approaches or experiences as they apply to sustainability.
  - a. In-class discussion with an emphasis on real-world application will be used to identify, describe, and synthesize approaches/experiences to sustainability.
4. Students will demonstrate a developing sense of self as a learner through reflection, self-assessment, and creative work, building on prior experiences to respond to new and challenging contexts.
  - a. In-class discussion and activities provide opportunities for students to demonstrate their creative work and generating a sense of self as a learner.
5. Students will describe elements of the fundamental dependence of humans on Earth and environmental systems and on the resilience of these systems.
  - a. In-class discussion and paper assignments will provide opportunities for students to assess elements of fundamental dependence of humans on environmental systems.
6. Students will describe, analyze and critique the roles and impacts of human activity and technology on both human society and the natural world, in the past, currently, and in the future.
  - a. Instruction includes assessing the communication of topics related to human activity and technology on society and the natural world, including climate change, GMO foods, autonomous vehicles, and vaccination.

7. Students will devise informed and meaningful responses to problems and arguments in the area of sustainability based on the interpretation of appropriate evidence and an explicit statement of values.
- Assignments and in-class discussion regarding problems and arguments around the communication of sustainability dimensions are used heavily in this course.

### Grading

Assignments	Points	% of Final Grade
Movie Review	25	25%
In-Class/Online Assignments	25	25%
Exam I	25	25%
Exam II	25	25%
Final Exam	25	25%

\*lowest exam score is dropped\*

**A** = 93-100; **A-** = 90-92; **B+** = 87-89; **B** = 83-86; **B-** = 80-82; **C+** = 77-79; **C** = 73-76; **C-** = 70-72; **D+** = 67-69; **D** = 60-66; **E** = Below 60

### Assignments and Exams

**Required Readings.** There is no textbook for this course. Instead, PDFs of selected chapters and articles will be posted on Carmen for each class – refer to the course schedule on Carmen for each day’s assigned readings. Students are expected to complete all readings prior to class so that they will be prepared to discuss the material in class. If any student is interested in additional readings on the assigned or related topics, please feel free to contact me and I can suggest additional resources.

**In-class activity assignments.** Throughout the semester, I will stop lecturing and pass out in class assignments. Some assignments will involve solo work with class discussion; other times I will break the class up into groups. You will be graded on your participation and completion of the assignment. There will be ten in-class assignments in total and they will occur without prior announcement. I will excuse one missed in-class assignment. Because of this, no make-ups are allowed.

**Movie Review.** Students will conduct an academic review of a science-based film from a list of approved films. Specifically, students will apply theories and concepts learned in class when assessing their chosen film. Importantly, this is a fun assignment that gets students thinking more deeply about how popular films/entertainment might impact public understanding of science, perceptions of sustainability, and policy stances. The paper will be between 10-12 pages double spaced, not including references. You will turn in your paper digitally through Carmen.

**Exams.** You have three online exams in this course. However, I drop your lowest score. This means that if you do well on the first two exams, you can skip the final exam. Also, if you miss one exam, then that will be treated as your dropped exam. Because of this policy, I do not allow

makeup exams. All exams will be assessed with multiple choice, fill in the blank, and short answer questions. Access to exams will be for a 9 hour period on a specific date (see course schedule). The first exam covers our science and environmental sections; the second exam covers our health and risk sections. The final is cumulative, covering all material taught in class. Students are given 80 minutes to complete the exam. All exams are open book and are administered on the course's Carmen site.

All exams cover in-class material as well as content from your readings. To do well in this course means you will need to read every assigned reading.

### **Course Policies**

**Mutual Respect.** Students in this class come from a variety of personal, political, and academic backgrounds, so realize that there will be different perspectives. Your responsibility is to be civil to others and to opinions that differ from yours.

**Technology use and General Politeness.** Technology (phones, laptops, etc) use for non-class related reasons can be very distracting for the professor and for classmates. You're paying a lot of money for this course, so don't waste it on Facebook and texting with friends that you'll see later in the day. The professor reserves the right to take off grade points for repeat offenders.

**Professor and Teaching Assistant's Use of Electronic Mail and Messaging.** There may be occasions where I will need to get in touch with you outside of regular class hours. Email will usually be the first means by which contact will be initiated. It is important that you check your OSU email account regularly, and make sure you purge your account of unneeded email so that new email can get through. If you do not use your OSU email address as your primary email account, please arrange through OIT to have your OSU email forwarded to your preferred account. For instructions on how to have your email forwarded, see [http://8help.osu.edu/forms/mail\\_forwarding.html](http://8help.osu.edu/forms/mail_forwarding.html).

**Academic Misconduct.** It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct <http://studentlife.osu.edu/csc/>."

All instances of cheating and plagiarism will be reported to COAM for a formal hearing. Please do not cheat or plagiarize. Maximum grade penalty is failing the entire course.

**Statement about disability services.** The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you

register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12<sup>th</sup> Avenue.

**Diversity.** The Ohio State University affirms the importance and value of diversity in the student body. Our programs and curricula reflect our multicultural society and global economy and seek to provide opportunities for students to learn more about persons who are different from them. We are committed to maintaining a community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among each member of our community; and encourages each individual to strive to reach his or her own potential. Discrimination against any individual based upon protected status, which is defined as age, color, disability, gender identity or expression, national origin, race, religion, sex, sexual orientation, or veteran status, is prohibited.

**Mental Health Statement:** As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting [ccs.osu.edu](http://ccs.osu.edu) or calling [614-292-5766](tel:614-292-5766). CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at [614-292-5766](tel:614-292-5766) and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org).

**Title IX.** Title IX makes it clear that violence and harassment based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories (e.g., race). If you or someone you know has been sexually harassed or assaulted, you may find the appropriate resources at <http://titleix.osu.edu> or by contacting the Ohio State Title IX Coordinator, Kellie Brennan, at [titleix@osu.edu](mailto:titleix@osu.edu)

**COVID-19 Accommodations.** The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's [request process](#), managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so

that they may be implemented in a timely fashion. **SLDS contact information:** [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12<sup>th</sup> Avenue.

### Course Schedule (Tentative)

Week	Week Overview	Readings/Major Assignments
1	Introduction to the course (8/24)	Burns et al. (2003)
	What is Science Communication? (8/26)	Brossard & Scheufele (2013)
2	The (counter)norms of scientists (8/31)	Mitroff (1974)
	Public perception of scientists (9/2)	Suldovsky et al. (2019) Pew Research Report (2019)
3	Public understanding of science (9/7)	Bullock et al. (2019) Funk & Goo (2015) Landrum et al. (2021)
	Entertainment media and science (9/9)	Leiserowitz (2004)
4	News reporting on science: (9/14)	Boykoff & Boykoff (2004)
	Framing, agenda setting, and cultivation theory (9/16)	Hart et al. (2020)
5	Science “denialism” :Exploring climate change skepticism, flat earth movement, anti-vaccination, and others (9/21)	Pennycook et al. (2020)
	Science communication persuasion (9/23)	Hart & Nisbet (2012) Nisbet et al., (2015) Basol et al., (2020)
6	Environmental communication introduction (9/28)	Feinberg & Willer (2013)
	Environmental values (9/30)	McCright et al. (2013)
7	Environmental organizations (10/5)	
	Green marketing (10/7)	Schuldt (2013)
8	Environmental campaigns (10/12)	Dixon et al. (2015)
	Autumn Break, No Class (10/14)	

<b>9</b>	Risk perception (10/19)  Risk and the environment (10/21)	<b>Exam 1 link available on 10/19 from 8am to 10pm EST</b>  McComas (2006) Slovic (1987)
<b>10</b>	Risk and Rationality part 1 (10/26)  Risk and Rationality part 2 (10/28)	Kahneman (2011)  <b>Movie Review Due by 10/28, 11:59PM Eastern time, on Carmen</b>
<b>11</b>	Risk perception of emerging technology (11/2)  Communicating risks (11/4)	
<b>12</b>	Health communication: why is it necessary? (11/9)  Public health campaigns (11/11)	Drope & Chapman (2001)  Byrne et al. (2019)
<b>13</b>	Digital health, Virtual reality (11/16)  Digital health, Social Media (11/18)	Nowak et al. (2020)
<b>14</b>	Thanksgiving (11/23)  Indigenous Peoples Day (11/25)	
<b>15</b>	Health controversies, vaccines (11/30)  Health controversies, Covid-19 (12/2)	Islam et al. (2020)  Nyhan et al. (2014)
<b>16</b>	Health controversies, Covid-19 (12/7)	<b>Exam 2 link available on 12/7 from 8am to 10pm EST</b>
<b>Final Exam</b>	Monday December 12th	<b>Final exam link available on December 12 from 8am to 10pm EST.</b>