ENR 7400 Communicating Environmental Risk

Spring 2018
Kottman Hall 460, Tuesday/Thursday 12:45-2:05

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Office hours by appointment only

Course Description: Introduction to the design and implementation of public-focused risk communication as it relates to environmental, agricultural and public health contexts.

Prerequisites: Graduate standing or permission of instructor

Course Objectives:
This course is designed to help students...

1. Understand the psychological and socio-cultural factors that influence the success of risk communication messaging.
2. Know how to design, implement, and evaluate a successful, public-focused risk communication effort.

Course Format: Class time will largely be based on discussion and small group activities. An interactive approach such as this makes your attendance and participation a crucial component of achieving success in this course.

Assignments and Exams:

1. Risk Assessment Paper – 5-8 pages, double-spaced, where you assess the calculated risk associated with a specific hazard. You should pick a risk that is of interest to you – health hazards for health communication, environmental hazards for environmental communication. Use any available outside research/resources about your hazard (including personal interviews). Be sure to include at least 5 sources from outside of class. Specifically, your paper should examine the following aspects:
   a. Hazard: What is the hazard? How does it come to be in the world around us? What is the mechanism by which the hazard does its supposed harm?
   b. Exposure: How are humans exposed to the risk? Where? When? What are the key risk factors? Specifically, how do exposures vary over time, by location, or by subpopulations? How much exposure does it take to experience a negative consequence?
   c. Consequences: What negative consequences occur as a result of exposure to the hazard? How does the hazard pose harm? To what people? To how many people? Who is most at risk/vulnerable? Is the harm short-term or long-term, fatal or not, etc.? Are the consequences health-based? Economic? Environmental?
d. Probability: What is the probability of harm? What is the likelihood of the negative consequences identified above to the general population? To specific sub-groups or populations?

2. Risk Perception Paper – 5-8 pages, double-spaced, where you assess the perceived risk associated with the hazard you focused on for the assessment paper (i.e., identify the “mental model” for the particular audience you will target in your risk communication paper). Use any available outside research/resources about public perception and your target audience (related to this hazard and otherwise, and including personal interviews). Be sure to incorporate at least 5 sources from outside of class. Specifically, your paper should examine the following aspects:

a. Risk perceptions: What is the perception of risk/level of outrage toward this hazard? How do people perceive the risk in terms of its critical characteristics (e.g., voluntary nature, level of control, catastrophic nature of consequences)? How does this perception vary by different sub-groups or populations at risk? Why do the different groups perceive the risk this way? Does the public perception of risk differ from the expert assessment of the risk? If so, how? Is the risk deemed “acceptable”? Why or why not? Whose perceptions and behavior are most critical to managing the risk or minimizing the harm posed by the hazard?

b. Target audience: What audience do you plan to target with your communication effort? What is critical to know about this audience? What is their level of knowledge about the hazard/risk? What are their relevant beliefs and misperceptions? What are the critical barriers preventing appropriate action?

c. Recommendations for risk communication content: How might one increase the alignment between expert assessments and the perceptions of this particular audience? What key beliefs/perceptions need to change to promote appropriate action? Are there any communication or behavioral theories that lend some insight into what is necessary? What other factors might you need to take into consideration in designing your risk communication effort? Identify at least 3 key lessons learned about this audience and the risk that you will use to build your risk communication effort.

3. Risk Communication Paper – 5-8 pages, double-spaced, where you take your analysis of the risk and your target audience, and develop a risk communication campaign. Be sure to address not just what you would say and do, but how you would present information and engage your audience. Address how your approach addresses relevant socio-psychological processes and incorporates the specific knowledge you gained about your audience. Specifically, make sure to explain why you chose this approach or strategy based on the best available science. While the project is theoretical, your proposal for the campaign should be realistic and implementable. In other words, if you want to run television advertisements about your hazard, you should be able to supply me with a storyboard for the advertising campaign. If you want to use brochures, you will need to turn in sample brochure ideas. You will need to use at least 5 references from the course, additional outside references and resources are encouraged. Specifically, your paper should examine the following aspects:

1. Background: Briefly recap the first two papers - how does expert versus public perception differ? Who is the target audience of the effort? What are the critical beliefs and other audience characteristics that you will address?

2. Goals: What are the objectives and goals of your risk communication effort? To inform?
To change behavior? Etc.

3. **Approach**: What is your approach or method? Will you use a social media campaign? Create brochures? Develop a public service announcement? One-on-one interactions? How will you carry it out? Why is this approach appropriate based on knowledge gained from the class?

4. **Ethics and Constraints**: Are there ethical issues or other potential constraints that need to be addressed? If so, how are you addressing them?

5. **Messaging**: What is your message? Provide an example to be used in the campaign. How are you framing the information? Why? How are you presenting any relevant data about the hazard/risk? Why? How does this message account for relevant psychological processes and motivations? What are they?

6. **Evaluation**: Why do you expect your approach and specific messaging to be successful? How will you evaluate your effort?

4. **Paper Presentations** – During our final exam slot, you will present a brief overview of your final paper. Highlighting the hazard context, the similarity or differences between the calculated and perceived risk of your target audience, and your strategy for improved risk communication in this context. You will have approximately 10 minutes, so this will need to be well thought out and concise. Use visuals appropriately to support your key points, this is meant to be a learning opportunity for your classmates, and a chance for you to share your hard work from throughout the semester. You will be graded on the organization of your presentation, your understanding of the material, and your presentation style, in addition to the content (understanding of concepts from class, connections drawn between theory and application, etc.). A full rubric will be posted on Carmen. Powerpoints must be loaded to Carmen the morning of the final exam to ensure that we can manage smooth and efficient transitions between speakers in class.

5. **Attendance and Participation** – Your attendance and participation grade will be 1/3 based on attendance, 1/3 based on in-class discussion, and 1/3 based on discussion posts.

   - I will take attendance every day and you will receive a grade based on the proportion of classes attended (our of 28).
   - Your in-class discussion will be based on a grade I assign at the end of the semester reflecting on your participation throughout the semester. This grade will not be based on the *quantity* of your engagement, but the *quality*. Your participation grade is meant give you credit for doing the readings, coming to class prepared, and thoughtfully engaging throughout the semester.
   - Your discussion post grade will also be assessed out of 28 points and I will assign up to 1 point daily based on the quality of your discussion posts (0 for no post, .5 for a low quality post, 1 for a high quality post). Specifically, prior to each class you must submit at least 1 question you would like to discuss that day, as well as an application or insight you gained from the readings (examples are on Carmen). This should be submitted to the daily discussion boards set up on Carmen, and it is due by midnight the day before each class. If you cannot attend class on a particular day, you can still receive partial credit for that day by submitting your questions and application on Carmen.
6. **Discussion Leader** - You must sign up to be the discussion leader for one of the day’s topics as identified on the sign-up sheet. For this day you will be responsible for leading class discussion, using the insights posted by your fellow classmates and your own ideas about thoughtful engagement on the topic for the day. I would suggest coming prepared with a summary of key points or lessons learned from the readings, and up to 10 discussion questions or topics that you will use to guide the conversation that day. This document summarizing key points and discussion questions must be submitted to Carmen prior to the start of class.

**Grading:**
- Risk Assessment Paper 20%
- Risk Perception Paper 20%
- Risk Communication Paper 20%
- Paper Presentations 10%
- Attendance and Participation 20%
- Discussion Leader 10%
**TOTAL** 100%

The course syllabus, schedule, and assigned readings are subject to change. The syllabus can be made available in alternative formats upon request; students with disabilities are responsible for making their needs known to the instructor and for seeking available assistance in a timely manner.

**Class Readings:** All required readings will be available through CARMEN.

We will draw heavily on three particular sources:

**Make-up and Late Assignments:** In-class assignments or points cannot be made up. Late papers will be accepted, but will be docked 5 points for each day that they are late.

**Academic Misconduct:** It is expected that all students have read and understand the University’s *Code of Student Conduct*, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University’s *Code of Student Conduct* and this syllabus may constitute “Academic Misconduct.”

The Ohio State University’s *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: “Any activity that tends to compromise the academic integrity of the University, or subvert the educational process.” Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University’s *Code of Student Conduct* is never considered an “excuse” for academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct.
determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University. If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- **The Committee on Academic Misconduct web pages**
  - [http://oaa.osu.edu/coam.html](http://oaa.osu.edu/coam.html)
- **Ten Suggestions for Preserving Academic Integrity**
  - [http://oaa.osu.edu/coamtensuggestions.html](http://oaa.osu.edu/coamtensuggestions.html)
- **Eight Cardinal Rules of Academic Integrity**:
  - [http://www.northwestern.edu/provost/students/integrity/rules.html](http://www.northwestern.edu/provost/students/integrity/rules.html)
Class Schedule and Readings

SECTION I: Understanding Risk Perception

- Session 1 (1/9) - Introduction to Course Concepts
  o Lundgren and McMakin – Ch. 1 (Intro) pp. 1-7 & Ch. 5 (Ethics), pp. 57-70

- Session 2 (1/11) – Calculated Risk
  o Ropeik and Gray – Ch. 1 (Intro) pp. 1-20 (and skim Ch.19/20 (Air Pollution) pp. 151-180 for a detailed example of risk assessment)

- Session 3 (1/16) – Perceived Risk
  o Cox – Ch. 6 (Environmental Dangers and the Public), pp. 189-222

- Session 4 (1/18) – Affect and Emotion
  o FDA Guide – Ch. 10 (Affect and Emotion)

- Session 5 (1/23) – Psychological Distance and Construal Level Theory

- Session 6 (1/25) – Social Amplification of Risk

- Session 7 (1/30) – E. coli and Public Health Case Study (Dr. Michelle Driedger)
  o TBD
SECTION II: Understanding Information Processing and Determinants of Mitigation Behavior

- Session 8 (2/1) – Information Processing and Persuasion (Theories: HSM, ELM)

RISK ASSESSMENT PAPER DUE – Midnight, Sunday February 4th

- Session 9 (2/6) – Risk, Efficacy and Promoting Protective Behavior (Theories: PMT, EPPM)

- Session 10 (2/8) – Nutrient Loss and Water Quality Case Study (Dr. Robyn Wilson)
  o Wilson, R.S. In review. Using models of farmer behavior to inform eutrophication policy in the Great Lakes.

- Session 11 (2/13) – Risk, Decision Cues, and Environmental Hazards (Theories: PADM)

- Session 12 (2/15) – Risk Information Seeking and Processing Behaviors (Theories: RISP)

- Session 13 (2/20) – Cultural Cognition and Motivated Reasoning
- Session 14 (2/22) – Climate Change Case Study (Dr. Robyn Wilson or Dr. Teresa Myers)

- Session 15 (2/27) – Social Trust and Confidence

- Session 16 (3/1) – Public Participation and Perceived Fairness (Dr. Wilson out of town)

- Session 17 (3/6) – Nuclear Waste Storage Case Study (Dr. Bob O’Connor)

SECTION III: Planning Your Risk Communication Effort

- Session 18 (3/8) – Setting Goals and a Making a Plan
  o FDA Guide Ch 2-4 (Goals and Evaluation), Lundgren and McMakin Ch. 7 (Purpose)

  **RISK PERCEPTION PAPER DUE – Midnight, Sunday March 11th**

  **SPRING BREAK – 3/12-3/16**

- Session 19 (3/20) - Principles of Risk Communication
  o Lundgren and McMakin Ch. 6 (Principles of Risk Comm)

- Session 20 (3/22) – Know your Audience
  o Lundgren and McMakin Ch. 8 (Audience Analysis); FDA Ch. 12 (Across the Life Span)
- Session 21 (3/27) - Choosing your Channel
  - Lundgren and McMakin - Ch. 9 (Developing the Message), Ch 10 (Determining Methods), Ch 13 (Information Materials)
  - Optional: *Lundgren and McMakin, Ch. 15 (Face to Face Communication), Ch. 16 (Working with the Media), Ch. 17 (Stakeholder Participation), Ch. 18 (Technology Assisted Communication)*

- Session 22 (3/29) – Extreme Weather Case Study (Dr. Julie Demuth)
  - TBD

- Session 23 (4/3) - Communicating Qualitative Information & Framing
  - FDA Guide Ch. 8 (Qualitative Information)

- Session 24 (4/5) - Communicating Quantitative Information & Numeracy
  - FDA Guide Ch. 7 (Quantitative Information)

- Session 25 (4/10) – Visual Representations of Risk (*Dr. Wilson out of town*)
  - Lundgren and McMakin Ch. 14 (Visual Representations)
  - FDA Guide Ch. 6 (Definitions)

- Session 26 (4/12) – Fracking Case Study (Drs. Darrick Evensen and Chris Clarke)

- Session 27 (4/17) –Communicating Uncertainty
Session 28 (4/19) – Avoiding Unintended Consequences in Risk Messages


RISK COMMUNICATION PAPER DUE – Midnight, Sunday, April 22nd

Final Exam Slot – Thursday, 4/26 2-4 pm – Paper Presentations