

## **ENR 7400 Communicating Environmental Risk**

Spring 2024

Kottman Hall 333, Tuesday/Thursday 12:45-2:05

**Course Instructor:** Dr. Robyn Wilson, 316D Kottman Hall

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***Office hours by appointment***

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**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

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**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. We are meeting in-person but will have a dedicated zoom link for any who need to quarantine but want to participate remotely.

**ENR 7400 Class Link:** <https://go.osu.edu/robynzoom>

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

## Assignments and Exams:

1. **Risk Characterization Paper** – ~10 pages, double-spaced, where you assess the calculated and perceived risk associated with a specific hazard. You should pick a hazard that is of interest to you. Be sure to pick something for which there is a need for improved risk communication (i.e., strategic messaging to a particular group about probability and consequences). Use any available outside research/resources about your hazard. Be sure to include at least 5 sources from outside of class. A full rubric is posted on Carmen. 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 (e.g., naturally occurring, technologically induced, etc)? What is the mechanism by which the hazard does its harm (e.g., direct to humans, through environmental mechanisms, etc)?
  - b. *Exposure*: How are humans exposed to the risk? How do exposures vary over time, by location, or by subpopulations? How much exposure does it take to experience a negative consequence (i.e., dose response)?
  - c. *Consequences*: What negative consequences occur because of exposure to the hazard? To what people? To how many? Is the harm short-term or long-term, fatal or not, etc.? Are the consequences health-based? Economic? Environmental?
  - d. *Susceptibility*: Who is most susceptible? What makes them more susceptible relative to others? Whose perceptions and behavior are most critical to minimizing the harm posed by the hazard? What could those who are susceptible do to reduce their risk?
  - e. *Risk perceptions*: What is the perception of risk/level of outrage toward this hazard? If you can't find data on this, how might people perceive the risk based on what you have learned in class so far? Does perception of the risk vary among the population? If so, how, and why?
2. **Audience Analysis Paper** - ~10 pages, double-spaced, where you identify your target audience and identify their needs (e.g., type of risk information, preferred sources, preferred channels). Hot tip: You may want to choose an audience who is most at-risk and/or most in need of adjusting their risk perception (up or down). Use any available outside research/resources about your hazard or your audience. Be sure to include at least 5 sources from outside of class. A full rubric is posted on Carmen. Specifically, your paper should address the following points:
  - a. *Identify your audience*: What audience do you plan to target with your communication effort? What is their risk (i.e., probability of exposure leading to negative consequences)? What makes them more (or less) susceptible relative to others? What is their perception of risk/level of outrage toward this hazard? Why?

To recap your first paper and focus in on your target audience, create a risk meter (below). Does their perception of risk differ from the expert assessment of the risk? If so, how? Is the risk deemed “acceptable” by your target audience? Why or why not? For example, the risk meter below would summarize a risk where the likelihood of exposure is high and the consequences moderate – whereas the individual or community at risk perceives the risk as less (both in terms of exposure and consequences) – suggesting that risk perceptions need to be heightened through risk communication.

Risk Meter	Low	Medium	High
Likelihood of exposure to hazardous levels (exposure + susceptibility)	Perceived		
	Objective		
Severity of the consequences (consequences + severity)	Perceived		
	Objective		

- a. *Know your audience*: What is critical to know about your audience? What is their level of knowledge about the hazard/risk? How are they likely to process information? What are their relevant beliefs and misperceptions? What are the critical barriers preventing appropriate action? Would you engage individuals in your target audience differently based on characteristics that could be identified (e.g., think age or ways of processing information)? If so, what are those defining characteristics? How might risk information needs or necessary approaches vary across your target audience (if at all)? How might their trusted sources or channels for receiving information vary (if at all)?
  - b. *Recommendations for risk communication*: How might one increase the alignment (if needed) between expert assessments and the perceptions of this audience? What key beliefs/perceptions need to change to promote appropriate action? Does your audience need exposure information? Susceptibility? Severity of consequences? All three? Where are they in the protective action decision process? How do the communication or behavioral theories we discussed in class lend insight into what is necessary to better communicate risk to this audience? Wrap up with at least 3 takeaways to inform your next paper on designing a risk communication strategy – one content takeaway, one source takeaway, and one channel or method takeaway.
3. **Risk Communication Paper** – ~10 pages double-spaced, where you take your risk characterization and audience analysis papers and use those insights to develop a risk communication campaign. Be sure to address not just what you would say and do (or what you would tell the appropriate source to say or do), but how you would present information and engage your audience given their unique needs. Identify 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, 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. If you are developing a set of guidelines for park rangers to better engage visitors face-to-face around recreational risk, you will need to outline the messaging and identify how rangers could tailor the message to different types of visitors. You will need to use at least 5 references from the course, additional outside references and resources are encouraged. A full rubric is posted on Carmen. Specifically, your paper should examine the following aspects:
  - a. *Background*: Briefly recap the first two papers - how does expert versus target audience perception differ (revisit your risk meters)? Who is the target audience of the effort? What are the critical beliefs and other audience characteristics that you will address?
  - b. *Goals*: What are the objectives and goals of your risk communication effort? To inform? To change behavior? Etc.

- c. *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?
- d. *Ethics and Constraints*: Are there ethical issues or other potential constraints that need to be addressed? If so, how are you addressing them?
- e. *Messaging*: What is your message? What type of risk information are you providing? 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 to heighten or dampen risk perception? What are they?
- f. *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 your final paper. Your presentation should highlight the hazard context, the similarity or differences between the calculated risk and the perceived risk of your target audience, and your advice for improved risk communication in this context. Specifically, answer the five key questions – what is the risk? Who is your target audience? Do they perceive the risk “accurately”? Why or why not? How would you engage them in future risk communication? Why do you expect this to increase the accuracy of their risk perception? You can be building this presentation throughout the semester as you complete your papers, this will make it easier to meet end of term deadlines.

This will be a “modified” Pecha Kucha presentation. You may choose to have 15 slides/20 seconds each, or 20 slides/15 seconds each. Either way, this is 5 minutes total, but you pick if you want less slides and more time on each, or more slides with less time on each. Your slides *must* be timed to advance automatically, so this will need to be well thought-out and concise. You are welcome to use a script if you prefer to keep on time. Use simple 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 (while not boring us all to death). 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 is posted on Carmen. Powerpoints *must* be loaded to Carmen before the final exam to ensure that we can manage smooth and efficient transitions between speakers in class.

5. **Attendance** - I will take attendance every day and you will receive a grade based on the proportion of classes attended (out of 28). Planned absences that you tell me about the first week of class will be excused (e.g., work commitments, traveling for a wedding, doctor’s appointments). Beyond that, there will be no excused absences, you can miss class up to 2 times and still get an A- for the attendance portion of this grade. If you think you will miss more than 2 days due to an unexpected and extended illness, please let me know.
6. **Participation** – Your participation grade will be based on two sets of assignments. One, *posting to the discussion board before each class*, either a short summary of a paper application, an example of risk communication or a worksheet to inform your risk communication paper

depending on the day. Details on each of these are below. Two, facilitating discussion with a partner during 2 *pre-assigned class meetings*. Details are also below.

For the pre-class submissions, most of the time you will be asked to find and read a recent paper that applies the ideas from the day's reading to a hazard of interest. For example, if we read a paper on Protection Motivation Theory, you might find a recent study using this theory to communication as it relates to hurricanes. You will then post on the discussion board prior to class that day about your chosen paper. You should post *no more than 2 to 3 sentences on each of the following four points (so 8 to 12 sentences total)*: 1) how the theory / concept / topic was used to study human perception / communication / behavior, 2) what the authors found, 3) the implications of this study for improved risk communication, and 4) how you might use something from this paper for your future paper assignment. Please include the full citation and a hyperlink to the paper (or an attached PDF). On the days that we have guest speakers, you will be asked to find an example of risk communication from that agency or on that hazard, and again, post a summary of that risk communication effort on the discussion board. Your summary should include a link to the effort, and *no more than 2 to 3 sentences on each of the following four points (so 8 to 12 sentences total)*: 1) what was the goal of the communication and who was the audience, 2) what aspects of risk were communicated, 3) what did they do well from a strategic standpoint (why?), and 4) what did they do poorly from a strategic standpoint (why?). On just two of the days during the final section of the class, you will be asked to complete and post a worksheet that will help inform your risk communication paper. You will receive a point each time you submit the required post by the deadline (8 AM the day of class).

For the discussion facilitation, on 15 pre-identified days, two students will sign up to be the discussion facilitators. Your role will be to provide a quick 5-10 minute overview of the key takeaways from the reading, prepare up to 10 discussion questions for the day, and facilitate the discussion in class. In class each day, I will also task one student with being the recorder to take notes and capture the takeaways from the discussion. When you are serving as the facilitator, you will receive a "quality" grade out of 10 points for that day's discussion. I will lead the first two sessions and model the facilitation approach, see the guidelines below for your role in class whether you are the facilitator, the assigned recorder, or a discussant.

#### **Guidelines for Student-Facilitated Discussions:<sup>1</sup>**

1. **Expectations of everyone prior to the discussion period.** All students should do the following:
  - a. Thoroughly read the articles (most likely more than once), and have a solid understanding of the big-picture of the article as well as the details.
  - b. Because no one should know substantially more than others about the topic, each individual should do any supplemental reading/searching for background on the reading that they do not understand to share with the group.
2. **Expectations for discussion participants during class.** All participants should do the following:
  - a. Provide insights, questions, answers to posed questions from the facilitator or recorder.

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<sup>1</sup> *adapted from Sorano (2010) Improving Student Discussions in Graduate and Undergraduate Courses: Transforming the Discussion Leader. J. Natural Resources & Life Sciences Education. 39: 84 – 91.*

- b. Actively listen to fellow group participants and respond to each other's comments rather than just bringing their own comments to the table.
  - c. Engage each other directly – not just the facilitator or the instructor.
- 3. **Expectations for the student facilitators during class.** The facilitator is a “servant to the group” (Rees, 1998). Facilitation is about seeing what the group needs to move forward and providing guidance and empowering the group; to do so, the facilitator can use any of the following strategies to facilitate the discussion (modified from Rees, 1998):
  - a. Ask questions: To inspire a response is perhaps the most important strategy of the facilitator. Questions should be open-ended questions, such as “what, how, who, why” type questions that encourages brainstorming and creativity.
  - b. Probe in-depth into a comment/idea: Encourages more in-depth analysis, such as: “Why did you say that?” or “Could you be more specific?”
  - c. Paraphrase: Only for clarification of a comment made by a student, not to evaluate or improve it.
  - d. Refer back to earlier comments: Which ties the discussion to previous student's contributions.
  - e. Be comfortable with silence: The facilitator must be willing to wait once a question is posed as people need time to think and frame a response. Thus, a facilitator should not step in and answer one's own question
  - f. Give positive reinforcement: This is a way to encourage participation, especially to students who are quieter.
  - g. Include quieter members: Some ways to draw people out are to ask students directly for their opinion on something that has been brought up, to refer back to comments that quieter people make to draw them out further, or to break the class into smaller groups or pairs that then report to the larger group.
  - h. Shift perspective of the discussion: If all students seem to agree, it may be less likely that a single or few students who feel differently would speak up. To get these students to speak up, the facilitator can ask if there “might be another viewpoint that could be missing from the discussion.” In addition, the facilitator can ask for the implications of the topic or a big-picture question; or the facilitator can ask for a specific example or for details to enrich the discussion that may be at too broad of a level.
  - i. Summarize: Occasional summary is helpful to keep the group focused. The facilitator can briefly summarize what has been said before moving on. Or, better yet, the facilitator can ask for someone else to summarize, but it is important that enough time is provided for students to think before answering.
  - j. With approximately 5 to 10 minutes remaining in class, the facilitator should ask the participants to summarize the discussion so that the recorder can capture the key takeaways.
- 4. **Expectations for the student recorder during class.** The recorder is a “servant to the group” and is responsible for being the memory of the discussion group and record participants contributions (Rees, 1998). The recorder should do the following:
  - a. Keep notes during the discussion for distribution to the group via the discussion board within 48 hours of the class discussion.

- b. Although anyone can suggest that a summary of the discussion or a synthesis of ideas is needed, the recorder can propose such a summary for the group.
- c. At the end of the discussion, the recorder will compile/share a list of “take home messages” that the group participants create. They will post this to the designated discussion board.
- d. The recorder is encouraged to participate as a participant as well; however, they have the added job of keeping some record of the discussion. In addition, because the reporter often has a good overview of the discussion, he/she should also feel like they can help the facilitator move the discussion along.

**Grading:**

<b>Risk Characterization Paper</b>	<b>20%</b>
<b>Audience Analysis Paper</b>	<b>20%</b>
<b>Risk Communication Paper</b>	<b>20%</b>
<b>Paper Presentations</b>	<b>10%</b>
<b>Attendance</b>	<b>10%</b>
<b><u>Participation</u></b>	<b><u>20%</u></b>
<b>TOTAL</b>	<b>100%</b>

**Class Readings:** All required readings will be available through CARMEN. We will draw heavily on one particular source:

- Lundgren, R, McMakin, A (2018) *Risk communication: A handbook for communicating environmental, safety, and health risks*. Sixth Edition. John Wiley & Sons, Inc.: Hoboken, NJ

Additional useful resources include the following:

- National Academies of Sciences, Engineering, and Medicine. 2022. Engaging Socially Vulnerable Communities and Communicating About Climate Change Related Risks and Hazards. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26734>
- Fischhoff, B. (2012) Communicating Risks and Benefits: An Evidence Based User's Guide. Government Printing Office. <https://www.fda.gov/media/81597/download>
- J. Arvai and L. Rivers III, eds. 2013. Effective Risk Communication. Routledge: New York, NY.
- Markowitz, E., Hodge, C., Harp, G., St John, C., Marx, S. M., Speiser, M., ... & Perkowitz, R. (2014). Connecting on climate: a guide to effective climate change communication. <https://doi.org/10.7916/d8-pjjm-vb57>

**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. If COAM 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
  - o <http://oaa.osu.edu/coam.html>
- *Ten Suggestions for Preserving Academic Integrity*
  - o <http://oaa.osu.edu/coamtensuggestions.html>
- *Eight Cardinal Rules of Academic Integrity:*
  - o <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 (Dr. Wilson facilitates)
  - o Lundgren and McMakin – Ch. 1 (Intro) pp. 1-7 & Ch. 5 (Ethics), pp. 57-70
  - o *Example extra reading that you might select:* Gregg, E. A., Kidd, L. R., Bekessy, S. A., Martin, J. K., Robinson, J. A., & Garrard, G. E. (2022). Ethical considerations for conservation messaging research and practice. *People and Nature*.
- Session 2 (1/11) – Calculated Risk (Dr. Wilson facilitates)
  - 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)
  - o *Example extra reading that you might select:* Otto, F. E. (2023). Attribution of Extreme Events to Climate Change. *Annual Review of Environment and Resources*, 48, 813-828.
- Session 3 (1/16) – Perceived Risk (Dr. Wilson facilitates)
  - o Siegrist, M., & Árvai, J. (2020). Risk perception: Reflections on 40 years of research. *Risk Analysis*, 40(S1), 2191-2206.
  - o Find, read and post a summary of a paper examining risk perception in your area of interest.
- Session 4 (1/18) – Affect and Emotion (Brooke and Stephanie facilitate)
  - o Visschers, V. H. M., Wiedemann, P. M., Gutscher, H., Kurzenhäuser, S., Seidl, R., Jardine, C. G., & Timmermans, D. R. M. (2012). Affect-inducing risk communication: current knowledge and future directions. *Journal of Risk Research*, 15(3), 257-271.
  - o Find, read and post a summary of a paper examining affect or emotion as they relate to risk perception or communication in your area of interest
- Session 5 (1/23) – Psychological Distance and Construal Level Theory (Erin and Tatiana facilitate)
  - o Lee, S. J. (2019). The role of construal level in message effects research: A review and future directions. *Communication Theory*, 29(3), 319-338.
  - o Find, read and post a summary of a paper examining psychological distance or construal as they relate to risk perception or communication in your area of interest.
- Session 6 (1/25) – Hurricane Risk Communication (Dr. Julie Demuth, Guest Speaker)
  - o Demuth, J. L., R. E. Morss, G. Wong-Parodi, A. Schumacher, H. Walpole, and N. Herbert (in press): Longitudinal Studies of Risk Perceptions and Behavioral Responses for Natural Hazards. In *Handbook of Risk, Crisis & Disaster Communication* (Eds, B. Fisher-Liu, A. Mehta), Routledge.

- Siegrist, M. (2014). Longitudinal studies on risk research. *Risk Analysis*, 34(8), 1376-1377. <https://doi.org/10.1111/risa.12249>
- Find and post a summary of an example of hurricane risk communication
- Session 7 (1/30) – Social Amplification of Risk (René and Egondou facilitate)
  - Kasperson, R. E., Webler, T., Ram, B., & Sutton, J. (2022). The social amplification of risk framework: New perspectives. *Risk Analysis*, 42(7), 1367-1380.
  - Find, read and post a summary of a paper examining the social amplification of risk as it relates to risk perception or risk communication in your area of interest.

## **SECTION II: Understanding Information Processing and Determinants of Protected Behavior**

- Session 8 (2/1) – Information Processing and Persuasion (Theories: Elaboration Likelihood Model, Heuristic Systematic Model) (Tatiana and Stephanie facilitate)
  - Trumbo, C. W. (2002). Information processing and risk perception: An adaptation of the Heuristic-Systematic model. *Journal of Communication*, 52(2), 367-382.
  - Find, read and post a summary of a paper examining information processing and/or persuasion as it relates to risk perception or risk communication in your area of interest.
- Session 9 (2/6) – Vaccine Risk Communication (Guest Speaker, Dr. Stacey Wood)
  - Wood, S., & Schulman, K. (2021). Beyond politics—promoting Covid-19 vaccination in the United States. *New England Journal of Medicine*, 384(7), e23.
  - Find and post a summary of an example of vaccine risk communication

### **RISK CHARACTERIZATION PAPER DUE – Midnight, Tuesday February 6<sup>th</sup>!!!**

- Session 10 (2/8) - Risk Information Seeking and Processing Behaviors (Theories: RISP; Dounia and Margaux facilitate)
  - Yang, Z. J., Aloe, A. M., & Feeley, T. H. (2014). Risk Information Seeking and Processing Model: A Meta-Analysis. *Journal of Communication*, 64(1), 20-41.
  - Find, read and post a summary of a paper examining the Risk Information Seeking and Processing Model in your area of interest.
- Session 11 (2/13) - Risk, Efficacy and Promoting Protective Behavior (Theories: Health Belief Model, Extended Parallel Process Model, The Stage Model; Emma and Rachel Facilitate)
  - Pick one:
  - Tannenbaum, M. B., Hepler, J., Zimmerman, R. S., Saul, L., Jacobs, S., Wilson, K., & Albarracín, D. (2015). Appealing to fear: A meta-analysis of fear appeal effectiveness and theories. *Psychological bulletin*, 141(6), 1178.
  - Bigsby, E., & Albarracín, D. (2022). Self-and response efficacy information in fear appeals: A meta-analysis. *Journal of Communication*, 72(2), 241-263.
  - Find, read and post a summary of a paper examining fear appeals or related message effect theories in your area of interest.
- Session 12 (2/15) - Risk, Decision Cues, and Environmental Hazards (Theories: PADM; Colleen and Delaney facilitate)

- Lindell, M. K., & Perry, R. W. (2012). The protective action decision model: theoretical modifications and additional evidence. *Risk Analysis*, 32(4), 616-632.
- Find, read and post a summary of a paper examining the Protective Action Decision Model or similar theories (e.g., Model of Private Proactive Adaptation to Climate Change) in your area of interest.
- Session 13 (2/20) – Cultural Cognition and Motivated Reasoning (Katie and Carissa facilitate)
  - Kahan, D. M. (2015). What is the "science of science communication"? *JCOM: Journal Of Science Communication*, 14(3): 1-12.
  - Find, read and post a summary of a paper examining the cultural cognition hypothesis or other motivated reasoning approaches for risk perception or risk communication in your area of interest.
- Session 14 (2/22) – Social Trust and Confidence (Rachel and Delaney facilitate)
  - Siegrist, M. (2021). Trust and risk perception: A critical review of the literature. *Risk analysis*, 41(3), 480-490.
  - Find, read and post a summary of a paper examining social trust and/or confidence as it relates to risk perception or risk communication in your area of interest.
- Session 15 (2/27) – Public Participation and Perceived Fairness (Erin and Joseph facilitate)
  - Besley, J.C. and K.A. McComas. 2014. Fairness, public engagement and risk communication. In "Effective Risk Communication", eds. J. Arvai and L. Rivers III. Routledge: New York, NY.
  - Find, read and post a summary of a paper examining public participation/engagement or procedural justice as it relates to risk perception or communication in your area of interest.
- Session 16 (2/29) – Science Communication (Dr. Graham Dixon, Guest Speaker)
  - Read: TBD
  - Find and post a summary of an example of science communication

### **SECTION III: Planning Your Risk Communication Effort**

- Session 17 (3/5) – Principles of Risk Communication (Dr. Wilson facilitates)
  - Lundgren and McMakin Ch. 6 (Principles of Risk Comm)
  - Sellnow, T. L., Ulmer, R. R., Seeger, M. W., & Littlefield, R. (2008). "Best Practices for Risk Communication (CH 2)" in *Effective risk communication: A message-centered approach*. Springer Science & Business Media.
  - Balog-Way, D., McComas, K., & Besley, J. (2020). The evolving field of risk communication. *Risk Analysis*, 40(S1), 2240-2262.
  - No extra reading and post required
- Session 18 (3/7) – Environmental Justice and Ways of Knowing (Dounia and Carissa facilitate)
  - Burger, J. (2022). Trust and consequences: Role of community science, perceptions, values, and environmental justice in risk communication. *Risk Analysis*, 42(11), 2362-2375.
  - Find and post a summary of a paper focused on risk communication and social/environmental justice

**AUDIENCE ANALYSIS PAPER DUE – Midnight, Sunday March 10th**

**SPRING BREAK – 3/11-3/15**

- Session 19 (3/19) – Risk Communication at the US EPA (Guest Speaker, Madeline Beal)
  - US EPA SALT Framework and two case studies
    - Find and post a summary of an example of risk communication from USEPA
- Session 20 (3/21) – Setting Goals and Knowing your Audience (Dr. Wilson facilitates)
  - FDA Guide Ch 2 (Setting Goals), Ch 3 (Evaluation), Ch 4 (Duty to Inform)
  - Lundgren and McMakin Ch. 8 (Analyze your Audience)
  - *Optional:* Lundgren and McMakin Ch. 7 (Purpose)
  - Complete and submit the “Goal Setting and Audience Analysis” worksheet
- Session 21 (3/26) – Develop your Message (Dr. Wilson facilitates)
  - Lundgren and McMakin - Ch. 9 (Develop your Message)
  - Complete and submit the “Message Mapping Exercise” worksheet
- Session 22 (3/28) – Risk Communication at FEMA (Guest Speaker, Peter Herrick Jr)
  - Reading TBD
  - Find and post a summary of an example of risk communication from FEMA
- Session 23 (4/2) – Choose your Method (Dr. Wilson facilitates)
  - Ch 10 (Determine the Appropriate Methods)
  - *Optional:* Ch 13 (Information Materials), Ch 15 (Face-to-Face Communication), Ch 16 (News Media), Ch 18 (Technology Assisted Communication), CH 19 (Social Media)
  - Find and post a summary of a paper testing the effectiveness of a particular risk communication method in your area of interest
- Session 24 (4/4) - Communicating Quantitative Information & Numeracy (Brook and Margaux facilitate)
  - FDA Guide Ch. 7 (Quantitative Information)
  - Find and post a summary of a paper testing different numerical formats on risk communication outcomes, or testing different levels of numeracy on risk communication outcomes
- Session 25 (4/9) – Risk Communication at NOAA (Guest Speaker, Dr. Gina Eosco)
  - Reading TBD
  - Find and post a summary of an example of risk communication from NOAA
- Session 26 (4/11) – Visual Representations of Risk (Colleen and Emma facilitate)
  - Lundgren and McMakin Ch. 14 (Visual Representations of Risk)
  - Find and post a summary of a paper testing the effectiveness of different visual representations on risk communication outcomes in your area of interest
- Session 27 (4/16) – Communicating Uncertainty (Joseph and Katie facilitate)
  - Kause, A, Bruine de Bruin, W, Domingos, S et al. (3 more authors) (2021) Communications about uncertainty in scientific climate-related findings: a qualitative systematic review. Environmental Research Letters, 16 (5). 053005. ISSN 1748-9326
  - Find and post a summary of a paper testing the effectiveness of different uncertainty representations on risk communication outcomes in your area of interest.
- Session 28 (4/18) – Avoiding Unintended Consequences (René and Egondou facilitate)
  - Salmon, C.T., S. Byrne, and L. Fernandez. 2014. Exploring unintended consequences of risk communication messages. In “Effective Risk Communication”, eds. J. Arvai and L. Rivers III. Routledge: New York, NY.
  - Find and post a summary of a paper examining unintended consequences or boomerang effects in risk communication in your area of interest

**Final Exam Slot – Thursday, April 25<sup>th</sup> 2 to 3:45 – Paper Presentations**  
**RISK COMMUNICATION PAPER DUE – Midnight, Sunday, April 28th**