

ESM 440: Strategic Environmental Communication

Fall 2025 | Wednesdays 5:00-6:15pm | BH 1424

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Course Overview

Environmental solutions are only as effective as your ability to communicate them and achieve buy-in. But successful environmental communication is not just about getting the facts right. Before tackling an issue, it's critical to consider the intended audiences and their values and attitudes—and to use storytelling to reach them. In this class you will study communication theory, including how logic, emotion, persuasion, and social influence work. You will also learn about strategic messaging and how to develop compelling stories using conflict, drama, and character. To build skills, you will also practice messaging for different audiences, and will gain an understanding of the complex media environment in which your messages compete for attention.

Course Objectives

- To learn to decomplexify science and present it in a concise and compelling way.
- To understand the environment in which your messages compete for attention.
- To apply concepts from communication theory to improve message effectiveness.
- To build skill and confidence in message framing for diverse audiences.
- To understand and apply the basics of communication strategy.
- To learn and apply the elements of story in your own storytelling and outreach.
- To develop a comprehensive communication intervention, applying course concepts.

Format

In-person classes will include a combination of short lectures, discussion sections, group activities, and/or peer review workshops. If for some reason you cannot attend class, please inform us ASAP and we will find a way for you to make-up any missed material.

Participation

Since this is a communication course, regular participation is expected. However, the quality of contributions is more important than quantity; if you're a comfortable contributor or extrovert, remember to make space for those who haven't shared yet.

Topic Outline

Week	Date	Lecture
Week 1	Oct 1	Course Overview & Creating Digestible Science
Week 2	Oct 8	The Art of Framing
Week 3	Oct 15	The Message Environment
Week 4	Oct 22	Public Distrust of Media & Science
Week 5	Oct 29	Theory 1: Deficit Model & Power of Persuasion
Week 6	Nov 5	Theory 2: Social Networks & Influence
Week 7	Nov 12	Story, Conflict, & Drama
Week 8	Nov 19	Strategy 1: Comm Strategy Basics
Week 9	Nov 26	Strategy 2: Applied Comm Strategy
Week 10	Dec 3	Strategy 3: Audience Research and Impact
Week 11	TBD	Final Presentations

Assignments

To build communication skills, you must practice writing and communicating! This course therefore has five short assignments (some with draft and final formats) and one final project. Assignments should be uploaded to Canvas as a Word document. Please be mindful of the time each assignment is due. Assignments should be saved as:

Lastname_Firstname_AssignmentName_MMDDYY.docx.

#	Assignment	Due	Points
1a	90 Second Science DRAFT	Oct 8 edited draft on Canvas	5
1b	90 Second Science FINAL	Oct 11 on Canvas (Saturday)	10
2a	Message Frame Grid DRAFT	Oct 22 in class	5
2b	Message Frame Grid FINAL	Oct 29 on Canvas	10
3	Theory Assignment	Nov 5 on Canvas	5
4	Six Word Stories	Nov 19 on Canvas @ 9AM	5
5	Strategy Assignment	Nov 26 on Canvas	10
6a	Final Project Presentation	Dec TBD on Canvas & in class	15
6b	Final Project Report	Dec 10 on Canvas	25

Grading

Six Weekly Assignments: 50% + Final project: 40% + Attendance: 10%

While this course is graded, we will be removing the stress of grades in favor of you spending more time communicating creatively, worry-free. Therefore, we will not be grading your weekly assignments, only providing feedback. This means that you will receive full credit if you turn in your assignment on time. We will be grading your final story, however, which counts for 35% of your grade. I recommend starting work on it early, seeking feedback, and attending office hours.

Late Policy

If your assignment is late, we will deduct 50% of the points. If it is more than 24 hours late, you will lose 75% of the points. If you have trouble meeting deadlines, please let us know.

Lectures & Readings

Please note that readings and class prep materials are subject to change; always check Canvas!

- **Week 1, Oct 1: Overview + Creating Digestible Science.** Course overview, storytelling intro, basic science communication tips, best practices in decomplexifying science
 - Bearzi, M. (2013) 5 Simple Tips for Communicating Science, *National Geographic, Ocean Views*.
 - Zimmer, C. (2009) The Index of Banned Words (The Continually Updated Edition) | The Loom, *Discover Magazine*.
 - YouTube tutorial: [How to explain scientific ideas: 6 SIMPLE tips from a communication expert](#) | *FameLab*
 - Podcast story: Science VS (May 2023) "[I'll Be Dammed: Beavers Fighting Climate Change](#)" (16 min)
 - (optional) [Does Using AI Dumb You Down?](#) WBUR.
- **Week 2, Oct 8: The Art of Framing.** Frames, schemas, developing multiple issue frames, how and when to use different frames while storytelling
 - Lakoff, G. (2010) Why it matters how we frame the environment. *Environmental Communication*, 4(1), DOI: 10.1080/17524030903529749
 - Podcast story: Rigged (Oct 2021) "[Fake Experts and Real Bacon](#)," *Drilled Media* (31 min)
- **Week 3, Oct 15: The Message Environment.** Audience considerations, the science media landscape, US public perceptions of science, anti-science, pop science

- Lazer et al. (2018) The science of fake news. *Science*, 359, p. 1094-1096
- Oreskes & Conway (2010) Defeating the merchants of doubt, *Nature*, 465(7299), 686-687.
- (optional) NAS (2017). The Complexities of Communicating Science, Ch. 2 in *Communicating Science Effectively: A Research Agenda*. Washington, DC: The National Academies Press. P. 23-29.
- **Week 4, Oct 22: Public Distrust of Media & Science**
 - Losing Faith Why We Distrust the Media (20 mins).
 - The mistrust of science by Atul Gawande. June 10, 2016.
 - [The science behind why people think they're right when they're actually wrong](#). NBC News. October 9, 2024.
 - [Fired CDC Director Describes Clashes with Kennedy and Turmoil and the Agency](#). New York Times. September 17, 2025.
 - (optional) Cologna, V., Mede, N.G., Berger, S. et al. [Trust in scientists and their role in society across 68 countries](#). *Nat Hum Behav* 9, 713–730 (2025). <https://doi.org/10.1038/s41562-024-02090-5>
- **Week 5, Oct 29: Theory 1, Deficit Model & Persuasion Theory.** Deficit model, persuasion, dual-process theories, fear appeals
 - van Valkengoed, A.M., Abrahamse, W. & Steg, L. To select effective interventions for pro-environmental behaviour change, we need to consider determinants of behaviour. (2022) *Nat Hum Behav* 6, 1482–1492.
 - Nisbet, M.C. & Scheufele, D.A. (2009) What's next for science communication? Promising directions and lingering distractions. *American Journal of Botany*, 96(10), p. 1767-1778.
 - (optional) On the Media, Podcast series: History of Persuasion: [Part 1](#), [Part 2](#), [Part 3](#).
 - (optional) Chess, C., & Johnson, B. B. (2007). Information is not enough. In S. C. Moser & L. Dilling (Eds.), *Creating a climate for change: Communicating climate change and facilitating social change*. Cambridge, UK: Cambridge University Press. (p. 223–233)
- **Week 6, November 5: Theory 2, Social Networks & Influence.** Group identity, social influence, psychology of climate denial, leveraging group cues
 - Cialdini, R. B., & Jacobson, R. P. (2021). Influences of social norms on climate change-related behaviors. *Current Opinion in Behavioral Sciences*, 42, 1-8.
 - De Groot, J. I., Bondy, K., & Schuitema, G. (2021). Listen to others or yourself? The role of personal norms on the effectiveness of social norm interventions to change pro-environmental behavior. *Journal of Environmental Psychology*, 78, 101688.

- Stoknes, P. E. (2015) Chapter 9: The Power of Social Networks, In *What We Think About When We Try Not To Think About Global Warming*, White River Junction, VT: Chelsea Green. (p. 95-109)
- (optional) Stoknes, P. E. (2015) Ch 6: The Roots of Denial and Ch: 7 The Five Psychological Barriers to Climate Action, In *What We Think About When We Try Not To Think About Global Warming*, Chelsea Green, White River Junction, VT. p. 70-84.
- (optional) Kiehl, J. I. (2016) Ch 9: Why Meaning is Important to Being in the World and Ch 10: How Our Worlds Are Entwined, in *Facing Climate Change: An Integrated Path to the Future*, Columbia University Press, New York, NY. p. 105-128.
- (optional) Leombruni, L.V. (2014) How you talk about climate change matters: A communication network perspective on epistemic skepticism and belief strength. *Global Environmental Change*, 35. p. 148-161.
- **Week 7, Nov 12: Story, Conflict, & Drama.** Storytelling basics, conflict, consuming/producing media, spectrum of drama, use of emotion
 - Audio lecture by Richard Hutton, former Disney Imagineer & Oscar winning documentary producer, "Storytelling"
 - Gottschall, J. (2012) *The Storytelling Animal: How Stories Make Us Human*, Houghton Mifflin, Preface and Chapter 1; pp. xi-xvii; 1-20.
 - (optional) Moezzi, M., Janda, K.B., & Rotmann, S. (2017) Using stories, narratives, and storytelling in energy and climate change research, *Energy Research & Social Science*, 31, p. 1-10.
- **Week 8, Nov 19: Communication Strategy Basics.** Developing goals & objectives, campaign design, theories of change, community-based social marketing
 - McKenzie-Mohr et al. (2012). Chapter 1: Fostering sustainable behavior, In: *Social Marketing to Protect the Environment: What Works*, Sage, Thousand Oaks, p. 3-20.
 - McKenzie-Mohr et al. (2012). Chapter 7: Protecting Fish and Wildlife Habitats, In: *Social Marketing to Protect the Environment: What Works*, Sage, Thousand Oaks, p. 109-132.
 - (skim) Grant Craft (n.d.) Mapping change: Using a theory of change to guide planning
 - (optional) Fries, S., Cook, J., & Lynes J.K. (2020) Community-based social marketing in theory & practice: Five case studies of water efficiency programs in Canada. *Social Marketing Quarterly*, 26(4), p. 325-344.
- **Week 9, Nov 26: Applied Communication Strategy.** Guest Speaker: Deb Berlin, former Director of Strategic Communication for the EPA under the Obama Administration to discuss campaign design

- Cox, R. (2009) Ch 7: Environmental Advocacy Campaigns, In. *Environmental Communication and the Public Sphere* (2nd ed.). Thousand Oaks, CA: Sage Publications. (p. 225 – 252)
- **Week 10, Dec 3: Strategy 3: Audience Research and Impact.** Understand when audience research is appropriate, identify appropriate times to use different research methodologies.
 - Lee & Kotler (2011) Segmenting, Evaluating & Selecting Target Audiences
- **Week 11, Dec TBD: Final Presentations** Presentation of draft final projects with feedback.

Final Projects Due: Wednesday Dec 10, 2025

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