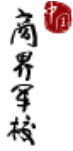




PHBS
北京大学汇丰商学院



Science, Media and the Public Module 4, 2022-2023

Course Information

Instructor: Luye Bao

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Office Hour: Monday & Thursday 12:30-14:00 (or email by appointment)

Teaching Assistant:

Phone:

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Classes:

Lectures: Monday & Thursday 15:30-17:20

Venue: PHBS Building, Room 415

Course Website:

<https://cms.phbs.pku.edu.cn/claroline/course/index.php?cid=SCIENCE>

Enrolment key: science

1. Course Description

1.1 Context

Course overview: In the era of post-normal science, scientific developments have prominent ethical, legal, and social implications on society. COVID-19 is a recent example of how effective science communication is critical to easing the tension between rapidly moving science, uncertainty, and divergent interests of public stakeholders.

This master-level course explores communication theories and their applications at the intersection of science, media, and the public. Starting with the historical development of social psychology and communication theories, we will examine how non-expert publics form opinions and policy preferences regarding scientific issues that are unfamiliar to them. We will then explore how the evolving media environment – including mass media and social media – (re)shapes opinion formation and expression on scientific issues. Based on these concepts and theories, we will assess science communication strategies for different stakeholders and conclude by discussing effective approaches to engage the public with science.

Prerequisites: No prerequisites are required.

1.2 Textbooks and Reading Materials

Reading materials are listed in the weekly schedule. All readings are available on the course website.

2. Learning Outcomes

2.1 Intended Learning Outcomes

Learning Goals	Objectives	Assessment (YES with details or NO)
1. Our graduates will be effective communicators.	1.1. Our students will produce quality business and research-oriented documents.	Yes – evaluated by their final paper and presentation.
	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	Yes – evaluated by their participation in class activities and discussions.
2. Our graduates will be skilled in team work and leadership.	2.1. Students will be able to lead and participate in group for projects, discussion, and presentation.	Yes – evaluated by their performance in leading class discussions.
	2.2. Students will be able to apply leadership theories and related skills.	Yes – evaluated by their performance in leading discussions.
3. Our graduates will be trained in ethics.	3.1. In a case setting, students will use appropriate techniques to analyze business problems and identify the ethical aspects, provide a solution and defend it.	Yes
	3.2. Our students will practice ethics in the duration of the program.	Yes
4. Our graduates will have a global perspective.	4.1. Students will have an international exposure.	Yes
5. Our graduates will be skilled in problem-solving and critical thinking.	5.1. Our students will have a good understanding of fundamental theories in their fields.	Yes
	5.2. Our students will be prepared to face problems in various business settings and find solutions.	Yes
	5.3. Our students will demonstrate competency in critical thinking.	Yes

2.2 Course specific objectives

At the completion of this course, students will be able to:

- Summarize the importance of effective science communication to society
- Demonstrate knowledge of psychological, social, cultural, and political factors that explain the complexity of public opinion formation and public debate on scientific issues
- Assess the strengths and weaknesses of different strategies to communicate science with various public stakeholders

2.3 Assessment/Grading Details

In-class participation (20%)

This course provides the opportunity to engage with course materials and discuss interesting topics with your peers and the instructor. Students are expected to attend class on a regular basis and make contributions to discussion that are informed by readings and other materials as well as and personal experience, but not based merely on personal opinions.

Discussant presentation (20%)

Students will form a group of up to three students to prepare a presentation (10-15 minutes) that summarizes one of readings. In your presentation, you might (a) summarize the reading's main research questions, (b) explain the discussed theories/concepts/theoretical frameworks, (c) present the main findings and results, (d) discuss the methodological strengths and/or weakness, (e) raise questions about the generality of the results or conclusions, and (f) elaborate how the study could be improved methodologically or theoretically. In addition, each group is expected to submit an annotated bibliography of their assigned readings and share it with the class.

Final paper and poster (60%)

Students will form a group of up to four students to write and present a complete research paper. The paper should be relevant to one of the themes covered in this class.

- a. Idea pitch: By Week 4 (May 26th), students are required to submit a ONE-PAGE paper idea pitch. The primary goal of this pitch is to present a clear research question and outline the theories and methods that will be used to investigate it. The instructor will schedule individual meetings with each group to provide feedback.
- b. Final poster presentation (20%): In the final week of the class, each group will be given 20 minutes to deliver a poster presentation and answer questions from the class. Instructions on how to create a poster can be found at <https://www.aejmc.com/home/2013/01/about-poster-sessions/>.
- c. Final paper (40%): Students are expected to submit their full paper one week after the poster session (July 7th). At the very least, the paper should contain the following sections: (1) brief introduction, (2) literature review, (3) hypotheses or research questions, (4) methodology and results sections (for empirical papers) or concept explication and new theoretical models (for theory papers), (5) concluding summary, acknowledgement of limitations, and discussion of relevance for broader area of research. Do not exceed 20 double-spaced pages (references excluded).

2.4 Academic Honesty and Plagiarism

It is important for a student's effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

For more information of plagiarism, please refer to *PHBS Student Handbook*.

3. Topics, Teaching and Assessment Schedule

Instructional Mode

This class meets for two 100-minute class periods each week over the module. During the in-depth lecture, the instructor will be reviewing theories and/or empirical research that serve as the foundational information. Additionally, the instructor will be leading discussions of readings and/or activities that apply the concepts or recognize them in the real world.

General Topic Schedule

Week 1 The nature of science communication

- Scheufele, D. A. (2014). Science communication as political communication. *Proceedings of the National Academy of Sciences*, 111, 13585-13592.
- Lupia, A. (2013). Communicating science in politicized environments. *Proceedings of the National Academy of Sciences*, 110, 14048-14054.

Week 2 Formation of attitudes toward science: Knowledge, heuristics, and values

- Brossard, D., & Shanahan, J. (2006). Do they know what they read? Building a scientific literacy measurement instrument based on science media coverage. *Science Communication*, 28(1), 47-63.
- Anderson, A. A., Brossard, D., Scheufele, D. A., Xenos, M. A., & Ladwig, P. (2014). The "nasty effect." Online incivility and risk perceptions of emerging technologies. *Journal of Computer-Mediated Communication*, 19(3), 373-387.

Week 3 Formation of attitudes toward science: Selective exposure and motivated reasoning

- Yeo, S. K., Xenos, M. A., Brossard, D., & Scheufele, D. A. (2015). Selecting our own science: How communication contexts and individual traits shape information seeking. *Annals of the American Academy of Political and Social Science*, 658(1), 172-191.
- Druckman, J. N., & Bolsen, T. (2011). Framing, motivated reasoning, and opinions about emergent technologies. *Journal of Communication*, 61(4), 659-688.

Week 4 Science in the media

- Cave, S., Dihal, K., Drage, E., & McInerney, K. (2023). Who makes AI? Gender and portrayals of AI scientists in popular film, 1920–2020. *Public Understanding of Science*, 09636625231153985.
- Wirz, C. D., Shao, A., Bao, L., Howell, E. L., Monroe, H. L., & Chen, K. (2021). Media systems and attention cycles: Trends and topics in news coverage of COVID-19 in the U.S. and China. *Journalism and Mass Communication Quarterly*.

Week 5 Science on the social networks

- Chinn, S., Hiaeshutter-Rice, D., & Chen, K. (2023). How science influencers polarize supportive and skeptical communities around politicized science: A cross-platform and over-time comparison. *Political Communication*, 1-22.
- Yuan, S., Chen, Y., Vojta, S., & Chen, Y. (2022). More aggressive, more retweets? Exploring the effects of aggressive climate change messages on Twitter. *New Media & Society*.

Week 6 Strategies for communicating science

- Cacciatore, M. A., Becker, A. B., Anderson, A. A., & Yeo, S. K. (2020). Laughing with

science: The influence of audience approval on engagement. *Science Communication*, 1075547020910749.

- Ophir, Y., & Jamieson, K. H. (2021). The effects of media narratives about failures and discoveries in science on beliefs about and support for science. *Public Understanding of Science*, 30(8), 1008–1023. <https://doi.org/10.1177/096366252111012630>

Week 7 Misinformation and disinformation of science

- Bode, L., Vraga, E. K., & Tully, M. (2021). Correcting Misperceptions About Genetically Modified Food on Social Media: Examining the Impact of Experts, Social Media Heuristics, and the Gateway Belief Model. *Science Communication*, 43(2), 225-251.
- van Stekelenburg, A., Schaap, G., Veling, H., & Buijzen, M. (2020). Correcting misperceptions: The causal role of motivation in corrective science communication about vaccine and food safety. *Science Communication*, 42(1), 31-60.

Week 8 Public engagement with science

- Chen, A., Zhang, X., & Jin, J. (2023). The Sagan Effect and Scientists' Public Outreach Participation in China: Multilayered Roles of Social Norms and Rewards. *Science Communication*, 45(1), 12-38.
- Schäfer, M. S., Füchslin, T., Metag, J., Kristiansen, S., & Rauchfleisch, A. (2018). The different audiences of science communication: A segmentation analysis of the Swiss population's perceptions of science and their information and media use patterns. *Public Understanding of Science*, 27(7), 836-856.

Week 9: Final paper workshops

4. Miscellaneous