

**MMC 6409**  
**Seminar in Science/Health Communication**

Fall 2015

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**Class hours:** Monday, 4-6 periods, Weimer 1090

**Office:** 2012 Weimer **Telephone:** 392-6557 (office); (386) 418-8268 (home); (352) 339-1745 (cell)

**Office hours:** Mon 2, 3; Tues 2 period; Wed 2, 3, 4 periods, and by appointment  
(Note: these office hours may change if university or college committees or grant work require my attendance; but you can always schedule some other time)

**Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.**

**Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open during the last 2-3 weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at: <https://evaluations.ufl.edu/results>.**

**Academic Honesty:** Academic honesty is important at the University of Florida. All students are expected to practice the University of Florida Honor Code: "We the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." For all work submitted for credit, including homework, in-class assignments and examinations, the following pledge is implied, "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

Please see the plagiarism document in the Graduate Division, and be sure that you have signed it and it is on file (required, if you are in this college).

**Course Description and Outcomes:** This course is designed as a broad overview of the fields of science and health communication and communication's effect on public understanding. The class will be useful for you if you plan to: do research or teaching in the science, technology or health communication fields; if you are interested in policy development, or the role of communication in promoting public health; prepare for a career working in science communication or consulting to businesses in the science, health or technology fields; public information officer work in a research, health or technology organization, nonprofit, become a better consumer of health and science information, etc. Over the next few weeks we'll be reading the literature in this rather broad and unique field so that you will understand:

- How science and health are communicated through the gamut of traditional and emerging media
- The implications of messages conveyed through traditional, Internet and social media. In other words, how technology and social media have changed the face of science and health communication
- The challenges to communicating the uncertainty of science and health
- The “players” in the field: The nexus among scientists/health researchers, journalists, public information officers (in other words, science communicators) and audiences and the communication among them
- The “problem” of science and health literacy and how to engage audiences
- Risk issues in communicating science and health
- The impact of science/health communication on policy; politics of science
- The issues that make science and health news today
- Controversies/ethical considerations in science/health
- Framing of science and health issues; framing as a method of researching audience meaning of text and framing theory
- How to think strategically about the use of communication
- TV/film/science museums’ influence on health and science
- The future for science/health communication

Many of the issues we will be discussing and debating won’t have clear-cut answers or solutions, so class discussion is very important to raise the issues.

Acknowledging the importance of so many issues that could be included in a class such as this, choices needed to be made to provide an overview of the field. Therefore, topics such as interpersonal communication in healthcare, the health care and insurance system, etc., that could be classes in themselves, will not be addressed in depth.

# THE SCIENCE NEWS CYCLE

JORGE CHAM © 2009



**What this course is not:** It isn't a "how-to" write a science or health story. It's a critical look at the field, the people involved and the impact of science communication efforts. For a how-to, I highly recommend "A Field Guide for Science Writers: The Official Guide of the National Association of Science Writers," by Deborah Blum, Mary Knudson and Robin Marantz Henig as a starting point. Additionally, when looking at health communication we will not be discussing at length the health care systems, how the US pays for health care, etc., as these areas alone could be the focus of one entire semester.

**Format:** This course is designed around a lecture/discussion format – meaning it’s a discussion-intensive class. And, since it’s a graduate seminar, it is expected that you will have done a careful, critical reading of all assigned articles (and any new science or health developments that occur during the semester) for each week and will be ready to participate in class discussion; in other words, class discussions are the core of the course. The design of the course is so that you will explore the issues.

For each week, the most relevant readings have been assigned, and many are pretty intellectually challenging. However, I encourage you to step outside of these readings and acquaint yourself with the rapidly growing body of literature on science and health communication. There are wonderful dedicated journals, such as *Public Understanding of Science* (acronym PUS, lovely, eh?), *Science Communication*, *Social Studies of Science, Technology and Human Values*. Also consult the *Journal of Communication*, *Journal of Health Communication: International Perspectives*, *Health Communication*, *Journalism & Mass Communication Quarterly* which are other sources for science and health communication studies. Another valuable resource is your classmates, and hopefully, you’ll be developing supportive relationships as we work through the issues in the field.

Note: If you see an article, TV show, blog, website, etc. that you think would be of interest to other students in class, I encourage you to share it with us!

### **Class Guidelines**

1-Assignments will be due on the dates indicated in the syllabus. **NO LATE PAPERS OR MAKEUPS WILL BE ACCEPTED – NO EXCEPTIONS.**

2-The goal for the weekly readings is to read the material, digest it, synthesizing it, and then add your own independent thinking about the assigned topic.

3-We will spend some class time discussing your final papers. If necessary, we will suspend class and schedule individual meetings to discuss your concerns and progress on assignments.

4-Class evaluations will be conducted online during the last few weeks of class.

**5-YOUR ATTENDANCE IS EXPECTED EACH WEEK.**

6-Because I have administrative duties, and am doing grant work with faculty in the College of Medicine, from time to time I may need to cancel class.

**7-All cellphones and other electronic devices need to be turned off during class. Unfortunately that goes for laptops too. I want to remove the temptation to check email, post on Facebook or other fun activities not related to this class. Students who text, email, check Twitter, Facebook, LinkedIn, etc. during class will be asked to leave and be considered absent for that day.**

### **Final Research Paper Due December 7 at noon (hard copy with all previously graded marked up sections)**

The final paper will concern the science or health topic of your choice. You will learn the theory and method of framing and framing analysis to complete this study.

Early in the semester you will be asked to choose a science or health topic that has received substantial media coverage (controversial and high profile are your best bets), that has **not** been used previously as the basis of a framing analysis study. You will need

to select an appropriate sampling frame and obtain those articles for analysis. This is a wonderful opportunity to complete a sole- or co-authored study for submission to a conference and subsequent publication (previous semesters' students have been very successful with this). **We will talk about whether you want to use a qualitative or quantitative approach.**

We will have various due dates for parts of the paper so that:

- I can give you feedback along the way
- The research paper won't be so overwhelming
- It will ensure a better end product.

**The paper can be completed either by yourself (i.e., if you want it to be used as a springboard for your thesis or dissertation) or with one or two others in class. This is your choice. But a team of three is the maximum number in a team.**

The paper will consist of five sections:

1. introduction (or rationale for why this is an important topic to study)
2. literature review (all relevant literature that informs your topic)
3. method
4. results
5. discussion, weaknesses and needed future research

We'll discuss each of these as we go along. If you are completely unfamiliar with conducting a research study, then you should probably pair up with someone else in class. But don't forget, we'll be discussing each of the sections at some length. So don't worry!

Examples of framing paper topics conducted in this class:

Shark "finning"

Fracking gas drilling

Synthetic meat

Medical marijuana

Fibromyalgia

Japanese earthquake nuclear accident

Florida springs water debate

You will be making a very short (5 minutes maximum), **informal** presentation on your final paper on the last day of class – more like a conversation with friends. This is just designed to give a short background on your topic and what you found, so focus on the most important, interesting and unexpected findings. **No** formal Powerpoint slides, please.

### **Weekly Readings/Discussion Questions/Discussion Leader**

Each week you must identify at least two important questions or discussion points from **across** (not from just one assigned reading, and not two from each – only two thoughtful questions per week) the readings that will serve as class discussion items. These

questions might be those you wouldn't want your classmates to miss, those that interest you or those about which you would like to hear the thoughts of your classmates. A good discussion question, in other words, might ask if there are common themes across readings, are there differences, those that clarify or add to the discussion, or thoughtful critiques of the readings. Please don't include questions that are not relevant to the readings for the week.

Each week one or two of you will be assigned as the **discussion leaders**. While each of you will be submitting questions each week, only the assigned discussion leaders will be charged with channeling the discussion and making sure that everyone participates. (NOTE: on the week you and your team are the discussion leaders, you do not need to submit questions)

Please email your questions to **the discussion leaders for that week** and **me** by **noon on the Saturday before class** so that the discussion leaders will have enough time to put the questions together and prepare for class.

The discussion leaders should, by synthesizing or listing the questions submitted, facilitate open discussion/debate and further questions. It is up to your team as to how you do that – through slides, handouts, exercises, quizzes, videos. etc. Your choice. BUT, to ensure everyone has done the assigned readings for the day, it is your job as the discussion leader to ask open-ended questions based on the readings. When you throw out a question, you may need to ask specific people to answer them, so everyone has to be ready each week! Be prepared with at least 5-8 questions.

### **Controversies in Science Debates**

**“Public understanding and support of science and technology have never been more important, but also never more tenuous. Today they are embedded in an increasingly politicized environment where ethical, legal, and social implications are emerging at a rate that seems to be outpacing society's capacity to make sense of the science. The science of science communication will be essential to help guide new and more effective efforts at engaging productively across the science/society interface. “ (Science, 2012)**

It is important to learn the relevant theories and assumptions of communicating science and health. But that's not enough. To participate on an intellectual level and engage the public in debates about science/health, science/health communication, technology, policy, and the future, you must be able to understand the issues involved in science, health and technology. You know that science/health and technology are part of modern society, but sometimes values, attitudes and beliefs collide on some issues. So in the **November 9<sup>th</sup>** class you'll be debating a few controversial topics and issues within the broad topic area of science/health communication that you may encounter as a practitioner or researcher. These are important and complex areas about which many of you will be writing, researching and communicating. There are special challenges here for a science/health communicator.

1-First you will select a topic (listed on the next page), and teams will be assembled. Each side of the debate will have a minimum of two members for each topic. You will

decide as a group which side members will take. Your team will also have a moderator who will serve as timekeeper and rule enforcer.

2-Your team will then obtain background information, pro or con (depending on your side). It's important here that even if you disagree with the side you have been assigned, you must argue for that side. This is an important exercise for you to learn the opposing perspectives on some issues that have ideological, ethical and other factors intervening. So be sure to know all of the stakeholders here and their perspectives and concerns.

3-Each side will have a total of 5 minutes to present its opening arguments/evidence/background to the class and to the opposing side about your assigned area and pro or con side (however you choose to present that information). **DO NOT SHARE YOUR INFORMATION WITH THE OPPOSING SIDE AHEAD OF TIME!**

4-Each side will then be given the opportunity to ask questions to the opposing side for 5 minutes. Please be sure that each member has at least 2 questions to ask the opposing side. **DO NOT SHARE THESE QUESTIONS WITH THE OPPOSING SIDE AHEAD OF TIME!.**

5-The final 5 minutes will be devoted to questions from the class.

Suggested topics (you may pose others as well):

1. Should marijuana be legalized nationally for medicinal purposes?
2. Should e-cigarettes be permitted? Regulated more or less?
3. Should cervical cancer vaccine (HPV) for school children be compulsory?
4. Is there a link between childhood vaccination and autism?
5. Is it safe to consume genetically engineered foods?
6. Should fracking be allowed to continue and grow?
7. Fossil fuels and oil use in farming – contributing to climate change?
8. Should geoengineering be pursued?
9. Should the morning after pill be made available to girls at age 12?
10. Should physician assisted suicide be allowed for end of life care?
11. End of life care – should care, medicines, treatment be rationed for those who are elderly?

### **Grading Policies**

Class Attendance/Participation/Presentation/Weekly Questions/Leader	30%
Special Debate presentations	25%
Final paper sections and deadlines	15%
Final Paper	30%

Although we are holding individual meetings on November 23<sup>th</sup> please complete your online course evaluations on or near that day. It is important that you complete these because course evaluations are taken seriously at the University of Florida, and your opinions matter to me to make the class useful and relevant.

The evaluations are confidential. I will only see completed results and will be unable to trace ratings or comments to any student. In addition, I will not have access to the evaluations until after final grades have been recorded.



## **SEMINAR SCHEDULE**

**(don't let this reading list intimidate you, many of the readings are very short)**

**Week 1 - August 24: Introduction, syllabus, assignments**

**Week 2 – August 31: Science Communication: Scientists and Communicators**

**(please send me your questions this week)**

### **Readings:**

Nisbet, M and Scheufele, D. (2012). Opinion: Scientists Intuitive Failures. *The Scientist*, July 23. <http://www.the-scientist.com/?articles.view/articleNo/32384/title/Opinion--Scientists--Intuitive-Failures/>

Halliday, E. (2009). Knowledge is power: In a world shaped by science, what obligation do scientists have to the public? *Ethics in Science and Environmental Politics*, April, 1-4. <http://www.int-res.com/articles/esep2009/9/journalism/e009pp5.pdf>

Fahy, D. and Nisbet, M. (2011). The science journalist online: Shifting roles and emerging practices. *Journalism*, 12(7), 778-793.. <http://jou.sagepub.com/content/12/7/778.full.pdf+html>

Nisbet, M. and Markowitz, E. (2015). Expertise in an age of polarization: Evaluating Scientists' political awareness and communication behaviors. *Annals, AAPSS*, 658 [http://climateshiftproject.org/wp-content/uploads/2015/02/NisbetMarkowitz\\_ExpertiseAgePolarization\\_ANNALS.pdf](http://climateshiftproject.org/wp-content/uploads/2015/02/NisbetMarkowitz_ExpertiseAgePolarization_ANNALS.pdf)

**Week 3 – Sept 7: LABOR DAY - HOLIDAY**

**Week 4 - Sept 14: Health Communication; Research Paper Sections** **Discussion leader**

### **Readings:**

Committee on Assuring the Health of the Public in the 21<sup>st</sup> Century. “The Future of the Public’s Health in the 21<sup>st</sup> Century,” Chapter 7, pages 307-349. (the health side) [http://books.nap.edu/openbook.php?record\\_id=10548&page=307](http://books.nap.edu/openbook.php?record_id=10548&page=307)

National Cancer Institute. Making health communications programs work <http://www.cancer.gov/publications/health-communication/pink-book.pdf> (read introductory page and the information on the link at Appendix B: Selected planning frameworks, social science theories and models of change)

Weberling McKeever, B. (2014). The status of health communication: Education and employment outlook for a growing field. *Journal of Health Communication: International Perspectives*, 19:12, 1408-1423. <http://www.tandfonline.com/doi/full/10.1080/10810730.2014.904024#abstract>

**RESEARCH TOPIC IDEA BE READY TO DISCUSS IN CLASS TODAY**

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## **Week 5 - Sept 21: What Makes Science/Health News**

### **Discussion leader**

#### **Readings:**

Fitzpatrick, Susan (2000), "What Makes Science Newsworthy?" *NASW Newsletter*.

<http://www.jsmf.org/about/s/1999-what-makes-science-newsworthy.pdf>

(old but still very relevant)

Allan, S. (2010). Making science newsworthy: Exploring the conventions of science journalism. In *Investigating science communication in the information age*, Richard Holliman, Elizabeth Whitelegg, Eileen Scanlong, Sam Smidt and Jeff Thomas, eds. Oxford University Press, p.149-165. (I will supply)

Journal embargo policies, considerations and debate on the embargo policy

<http://www.sciencemag.org/site/help/authors/embargo.xhtml>

<http://www.nature.com/nature/authors/policy/embargo.html>

<http://scienceblogs.com/notrocketscience/2009/07/04/does-science-journalism-falter-or-flourish-under-embargo/>

<https://figureoneblog.wordpress.com/2014/02/24/have-your-embargo-and-break-it-too/>

## **Week 6 – Sept 28: Health and Science Literacy, Public Engagement, Media influence on literacy**

### **Discussion leader**

#### **Readings:**

Ley, B., Jankowski, N. & Brewer, P. (2010). "Investigating CSI: Portrayals of DNA testing on a forensic crime show and their potential effects." *Public Understanding of Science*, 1, 1-17.

<http://pus.sagepub.com/content/21/1/51.abstract>

Pleasant, A. (2015). Advancing health literacy measurement: A pathway to better health and system performance. *Journal of Health Communication: International Perspectives*, 19:12, 1481-1496.

<http://www.tandfonline.com/doi/pdf/10.1080/10810730.2014.954083>

Haywood, B. and Besley, J. (2013). Education, outreach and inclusive engagement: Towards integrated indicators of successful program outcomes in participatory science. *Public Understanding of Science*.

<http://pus.sagepub.com/content/23/1/92.long>

**"Gattica"** (will be watching 25 minutes of the movie for discussion)

In class: science and health literacy tests (just for fun)

**Week 7 – Oct 5: Framing Discussion leader**

**Readings: First three readings this week are from an Ebook in Library West**

<http://web.ebscohost.com/ehost/detail?sid=5d2a2f17-b4db-4094-ae81-88214ba5c297%40sessionmgr15&vid=1&hid=12&bdata=JnNpdGU9ZWZWhvc3QtbGl2ZQ%3d%3d#db=nlebk&AN=63058>

Hertog, J., and McLeod, D. (2001). “A Multiperspectival Approach to Framing Analysis: A Field Guide,” in S. Reese, O. Gandy and A. Grant (Eds.), *Framing Public Life: Perspectives on Media and Our Understanding of the Social World*. p. 139-161. New Jersey: Erlbaum.

Miller, M., and Riechert, B. (2001). “The Spiral of Opportunity and Frame Resonance: Mapping the Issue Cycle in News and Public Discourse,” in S. Reese, O. Gandy and A. Grant (Eds.), *Framing Public Life: Perspectives on Media and Our Understanding of the Social World*. p. 107-121. New Jersey: Erlbaum.

Tankard, J. (2001). “The empirical approach to the study of media framing,” in S. Reese, O. Gandy and A. Grant (Eds.), *Framing Public Life: Perspectives on Media and Our Understanding of the Social World*. p. 95-106. New Jersey: Erlbaum.

Bolsen, T., Druckman, J. and Lomax Cook, F. (2014). How frames can undermine support for scientific adaptations: Politicization and status-quo bias. *Public Opinion Quarterly*, 78(1), 1-26.  
<http://poq.oxfordjournals.org/content/early/2014/02/03/poq.nft044.full.pdf+html>

**Week 8 - Oct 12: Framing Examples** (use these articles to see how the papers are set up, the research questions they ask, etc. **All but the last of the articles cited have been written by students enrolled in this class**) **Discussion leader**

**Readings:**

Walsh-Childers, K. & Braddock, J. (2013). Competing with the conventional wisdom: Newspaper framing of medical overtreatment. *Health Communication*  
<http://www.tandfonline.com/doi/abs/10.1080/10410236.2012.730173#.U2J2vk1OXuo>

Goodwin, J. & Shoulders, C. (2013). The future of meat: A qualitative analysis of cultured meat media coverage. *Meat Science*, 95, 445-450.  
<http://www.sciencedirect.com/science/article/pii/S0309174013002210#>

Kim, J. & Bie, B. (2013). A dangerous neighbor: The news frames of the radiation effects from the Fukushima Nuclear Accident, 15(3), 180-198. <http://www.palgrave-journals.com/rm/journal/v15/n3/abs/rm20134a.html>

Km, S., Tanner, A., Foster, C. and Kim, S. (2014). Talking about health care: News framing of who is responsible for rising health care costs in the United States. *Journal of Health Communication: International Perspectives*, 20:2, 123-133.

<http://www.tandfonline.com/doi/full/10.1080/10810730.2014.914604#.VZg3-03bK1s>

Masona, A. and Wright, S. (2011). Framing medical tourism: An examination of appeal, risk, convalescence, accreditation and interactivity in medical tourism websites. *Journal of Health Communication: International Perspectives* 16(2), 163-177.  
[http://www.tandfonline.com/doi/abs/10.1080/10810730.2010.535105?url\\_ver=Z39.88-2003&rft\\_id=ori%3Arid%3Acrossref.org&rft\\_dat=cr\\_pub%3Dpubmed&.VZg6kE3bK1s](http://www.tandfonline.com/doi/abs/10.1080/10810730.2010.535105?url_ver=Z39.88-2003&rft_id=ori%3Arid%3Acrossref.org&rft_dat=cr_pub%3Dpubmed&.VZg6kE3bK1s)

### **In-class framing exercise**

**INTRO AND LITERATURE REVIEW SECTION DUE IN CLASS (includes resulting research questions at end of lit review)**

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**Week 9 - Oct 19:** INDIVIDUAL MEETINGS (to discuss methods and coding sheet; have draft ready), no group class, **meet in my office**

**Week 10 - Oct 26:** Risk Communication  
**Discussion leader**

**Readings:**

Fink, S. (Aug. 27, 2009). The deadly choices at Memorial, *Pro Publica*  
<http://www.propublica.org/article/the-deadly-choices-at-memorial-826>

McKenna, M. (Nov. 30, 2013). Imagining the post-antibiotics future.  
<https://medium.com/@fernnews/imagining-the-post-antibiotics-future-892b57499e77>

Sack, K., Fink, S., Belluck, P. and Nossiter, A. (Dec 29, 2014). How ebola roared back.  
*New York Times*.  
[http://www.nytimes.com/2014/12/30/health/how-ebola-roared-back.html?\\_r=0](http://www.nytimes.com/2014/12/30/health/how-ebola-roared-back.html?_r=0)

**METHODS SECTION AND CODING SHEET DUE BY NOON, FRIDAY, OCTOBER 24**

**Week 11 – Nov 2:** Climate Change  
**Please send question to me this week**

**Readings:**

Sakellari, M. (2014). Cinematic climate change, a promising perspective on climate change communication. *Public Understanding of Science*,  
<http://pus.sagepub.com/content/early/2014/05/30/0963662514537028.full.pdf+html>

Nisbet, E., Cooper, K., Ellithorpe, M. (2014). Ignorance or bias? Evaluating ideological and informational drivers of communication gaps about climate change. *Public Understanding of Science*, 24(3), 285-301.  
<http://pus.sagepub.com/content/24/3/285.full.pdf+html>

Weathers, R., and Kendall (2015, in press). Developments in the framing of climate change as a public health issue in US newspapers. *Environmental Communication*. (I will supply)

Hiles, S., Hinnant, A. (2014). Climate change in the newsroom: Journalists' evolving Standards of objectivity when covering global warming. *Science Communication* <http://scx.sagepub.com/content/early/2014/05/19/1075547014534077.full.pdf>

Bruggemann, M. and Engesser, S. (2014). Between consensus and denial: Climate journalists as interpretive community. *Science Communication*, 36(4), 399-427. <http://scx.sagepub.com/content/early/2014/05/20/1075547014533662.full.pdf+html>

Documentary: *Merchants of Doubt* (2010) – we will be watching in class

**Week 12 – Nov 9:**

**Class presentations/Debates of Controversies in Science**

**ALL ARTICLES COLLECTED FOR ANALYSIS (note: articles are not given to me, they must be collected by this date so you can start your analysis)**

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**Week 13 - Nov 16: Ethics**

**Discussion leader**

**Readings: (all very short)**

Obasogie, (2009). Ten years later: Jesse Gelsigner's death and human subjects protection <http://www.geneticsandsociety.org/article.php?id=4955>

Joelving, F. (2011). Financial transparency skin-deep at medical journals. <http://www.reuters.com/article/2011/06/08/us-financial-transparency-idUSTRE7574ET20110608>

NPR. Dollars for Docs Please listen to *All Things Considered* "How to win doctors and influence prescriptions" on the page <http://www.npr.org/series/130598927/dollars-for-docs-how-pharma-money-influences-physician-prescriptions>

Elliott, C. & Landa, S. (2010). "What's wrong with ghostwriting?" *Bioethics*, 24(6), 284-286. <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8519.2010.01828.x/full>

**Week 14 – Nov 23: INDIVIDUAL MEETINGS; no group class**

**Week 15 – Nov 30: Presentations/Evaluations/Future of Science Comm/Wrap up none**

**RESULTS SECTION DUE IN CLASS**

**Week 16 – Dec 7: no class – get those papers done!**

**FINAL PAPERS DUE DECEMBER 7 (hard copy in my office; must include all previous marked up drafts)**