

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

Fall 2013

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

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

**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 field of science and health communications and their 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, the role of communication is promoting public health, 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, 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 new media
- 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
- 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
- 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.

# 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 health care systems, how the US pays for health care, etc., at length as these areas alone could be the focus of one entire semester.

**Format:** This course is designed around a lecture/discussion format. 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 most 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 *Journal of Communication*, *Health Communication*, *Journalism & Mass Communication Quarterly* 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.

### **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 for 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.**

### **Final Research Paper**

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 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

You will be making a very short (10 minutes maximum), informal presentation on your final paper on the last day of class. This is just designed to give a short background on your topic and what you found.

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

Each week you must identify at least two important questions or discussion points from **across** (not from one reading) 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.

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

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

The discussion leader should, by synthesizing or listing the questions submitted, facilitate open discussion/debate and further questions. It is up to you as to how you do that – through slides, handouts, etc. Your choice. BUT, to ensure everyone has read 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, I will ask specific people to answer them, so you have 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 on **October 28<sup>th</sup>** 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, and teams will be assembled. Each side of the debate will have two members for each topic. You will be assigned a side to take.
- 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.
- 3-Each side will have 5 minutes to present opening arguments/evidence/background to the class and to the opposing side about your assigned area and side (however you choose to present that information).
- 4-Each side will then be given the opportunity to ask questions to the opposing side for 3 minutes
- 5-The final 4 minutes will be devoted to questions from the class.

Suggested topics (you may pose others as well):

1. Should marijuana be legalized for medicinal purposes?
2. Should embryonic stem cell research be permitted?
3. Should cervical cancer vaccine for school children be compulsory?
4. Do ultrathin models and actresses influence the onset of eating disorders?
5. Is there a link between childhood vaccination and autism?

6. Is it safe to consume genetically engineered foods?
7. Should fracking be allowed to continue and grow?

**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 25<sup>th</sup> please complete your online course evaluations we will be conducting course evaluations in class on that day. It is important that you complete these because course evaluations are taken seriously at the University of Florida, and your opinions matter.

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 26: Introduction, syllabus, assignments

Week 2 - September 2: Labor Day

Week 3 – Sept 9: 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/>

Burns, T.W.; O'Connor, D.J., Stocklmayer, S.M. (2003). Science communication: A contemporary definition. *Public Understanding of Science*, 12, (2), 183-202. [http://sass.caltech.edu/events/BurnsStocklmayerOConner\\_WhatisSciComm\\_PUS.pdf](http://sass.caltech.edu/events/BurnsStocklmayerOConner_WhatisSciComm_PUS.pdf)

Halliday, E. (2009). Knowledge is power: In a world shaped by science, what obligation to 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>

Nisbet, M. (2011). The science journalist online: Shifting roles and emerging practices. *Climate Shift*. <http://climateshiftproject.org/2011/09/28/the-science-journalist-online-shifting-roles-and-emerging-practices/>

Week 4 - Sept 16: Health Communication and Research Paper Sections

Discussion leader

### **Readings:**

Committee on Assuring the Health of the Public in the 21<sup>st</sup> Century (2002). “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/cancertopics/cancerlibrary/pinkbook/page3#4>  
(read introductory page and the information on the link at Appendix B: Selected planning frameworks, social science theories and models of change)

Dentzer, S. (2009). “Communicating medical news: Pitfalls of health care journalism.” *New England Journal of Medicine*, 360(1), 1-3. <http://www.nejm.org/doi/full/10.1056/NEJMp0805753>

Health Quiz in class (not graded just FYI)

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

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**Week 5 - Sept 23: What Makes Science/Health New**

**Discussion leader**

**Readings:**

Fitzpatrick, Susan (2000), "What Makes Science Newsworthy?" *NASW Newsletter*.  
<http://www.jsmf.org/about/s/1999-what-makes-science-newsworthy.pdf>

Kitzinger, Jenny and Jacquie Reilly (1997), "The Rise and Fall of Risk Reporting,"  
*European Journal of Communication*, 12(3), 319-350. (classic study; still relevant)  
<http://ejc.sagepub.com/content/12/3/319.abstract>

Cooper, C. & Roter, D. (2000). "If it bleeds it leads: Attributes of TV health news stories that drive viewer attention," *Public Health Reports*, 115, 331-338. (still relevant)  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1308573/pdf/pubhealthrep00021-0037.pdf>

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)

Stryker, J. (2002). Reporting medical information: Effects of press releases and newsworthiness on medical journal articles' visibility in the news media.  
*Preventive Medicine*, 35, 519-530.  
<http://www.sciencedirect.com/science/article/pii/S0091743502911023>

Wenner, K. News you can't use: Journalists are questioning the longstanding practice of embargoing news. <http://www.ajr.org/Article.asp?id=2597>

Marshall, E. Embargoes: Good, bad or necessary evil?  
<http://www.sciencemag.org/cgi/content/full/282/5390/860>  
*Science and Nature* embargo policies will be emailed to you.

**Week 6 – Sept 30: Framing Discussion leader**

**Readings: All 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.

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

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**Week 7 - Oct 7:**      **Framing Examples** (use these articles to see how the papers are set up, the research questions they ask, etc. **All of the articles come from this class**)

**Discussion leader**

**Readings:**

Rodgers, J. & Zapata Ramos, M.L. (2011). "Mind or body? A qualitative framing analysis of Fibromyalgia in newspapers versus health websites." Paper presented to the 2011 Association for Education and Journalism and Mass Communication conference, St. Louis, MO. (I will supply).

Price, Y. (2007). "Science vs. Sentiment: A comparison of framing in newspaper headlines and the stories they introduce." Paper presented at the 2008 AEJMC national conference, Chicago, IL. (I will supply)

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>

**In-class framing exercise**

**METHODS SECTION AND CODING SHEET DUE BY NOON, FRIDAY, OCTOBER 11**

**Week 8 - Oct 14:**      **INDIVIDUAL MEETINGS (to discuss methods and coding sheet; have draft ready), no group class, **meet in my office****

**Week 9 - Oct 21:**      **Health and Science Literacy, Public Engagement, Media influence on literacy**

**Discussion leader**

**Readings:**

Kitzinger, J. (2006). The Role of Media in Public Engagement

[http://www.wellcome.ac.uk/stellent/groups/corporatesite/@msh\\_publishing\\_group/documents/web\\_document/wtx032695.pdf](http://www.wellcome.ac.uk/stellent/groups/corporatesite/@msh_publishing_group/documents/web_document/wtx032695.pdf)

Vernon, J., Trujillo, A., Rosenbaum, S. and DeBuono, B. (2007). Low health literacy: Implications for national health policy.

[http://sphhs.gwu.edu/departments/healthpolicy/CHPR/downloads/LowhealthLiteracyReport10\\_4\\_07.pdf](http://sphhs.gwu.edu/departments/healthpolicy/CHPR/downloads/LowhealthLiteracyReport10_4_07.pdf)

- Marcus, E. (2006). "The silent epidemic: The health effects of illiteracy." *The New England Journal of Medicine*, 355(4), 339-341  
<http://www.nejm.org/doi/full/10.1056/NEJMp058328>
- Kirby, D. (2008). "Hollywood knowledge: Communication between scientific and entertainment cultures." In *Communicating Science in Social Contexts* D. Cheng (ed). Springer Science and Business Media, 165-180.  
<http://www.springerlink.com/content/978-1-4020-8597-0/#section=213421&page=1>
- 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>

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

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

**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 10 - Oct 28:**

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

**Week 11 – Nov 4: Technology**

**Discussion leader**

**Readings:**

Montgomery, S. (2010). Science and the online world: Realities and issues for discussion. In *Investigating science communication in the information age*, Richard Holliman, Elizabeth Whitelegg, Eileen Scanlong, Sam Smidt and Jeff Thomas, eds. Oxford University Press, p.83-97.



Science and the  
online world- realities

Trench, B. (2010). Science reporting in the electronic embrace of the internet. In *Practicing science communication in the information age*, Richard Holliman, Elizabeth Whitelegg, Eileen Scanlong, Sam Smidt and Jeff Thomas, eds. Oxford University Press, p.166.180.



Science reporting in  
the electronic embrac

(the rest are very short)

Clark, M. (2008). Ethics of science communication on the web. *Ethics in Science and Environmental Politics*, December. <http://www.int-res.com/articles/esep2009/9/journalism/e009pp2.pdf>

Bell, A. (2012). Has blogging changed science writing? *Journal of Science Communication*, 11(1), <http://jcom.sissa.it/archive/11/01/Jcom1101%282012%29C01/Jcom1101%282012%29C02/Jcom1101%282012%29C02.pdf>

Sherry, J and Ratzan, S. Measurement and evaluation outcomes for mHealth communication: Don't we have an app for that? <http://www.tandfonline.com/doi/abs/10.1080/10810730.2012.670563>

Watermeyer, R. (2010). Social network science: Pedagogy, dialogue, deliberation. *Journal of Science Communication*, 9(1). <http://jcom.sissa.it/archive/09/01/Jcom0901%282010%29A04/Jcom0901%282010%29A04.pdf>

### **Week 12 - Nov 11: Veteran's Day**

### **Week 13 – Nov 18: 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>

Lieberman, T. (2008). Unhealthy alliances between hospitals and TV stations [http://www.cjr.org/the\\_observatory/unhealthy\\_alliances\\_between\\_ho.php](http://www.cjr.org/the_observatory/unhealthy_alliances_between_ho.php)

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>

## **RESULTS SECTION DUE IN CLASS**

### **Week 13 - Nov 25: INDIVIDUAL MEETINGS; no group class**

**Week 14 – Dec 2: Presentations/Evaluations/Future of Science Comm/Wrap up**

**FINAL PAPERS DUE DECEMBER 3 (hard copy in my office; must include all previous marked up drafts)**