Debating Politics and Science
Communication Studies 467
Josh Pasek, Ph.D.
Fall, 2018

Course Meetings:
TTh – 11:30AM-1:00PM
3265 USB
jpasek@umich.edu

Office Hours:
Tues – 2:00-3:00PM
5413 North Quad
and by appointment

In 1931, Wilbur Glenn Voliva offered a $5,000 prize for anyone who could prove that the earth was round. Many tried, all of them failed. Without the ability to launch into space, no one had really observed the shape of the globe. It was simply assumed from a series of scientific results.

Fifty years later, Stephen Hawking (1988) recounted a story in which the philosopher Bertrand Russell was giving a speech about astronomy:

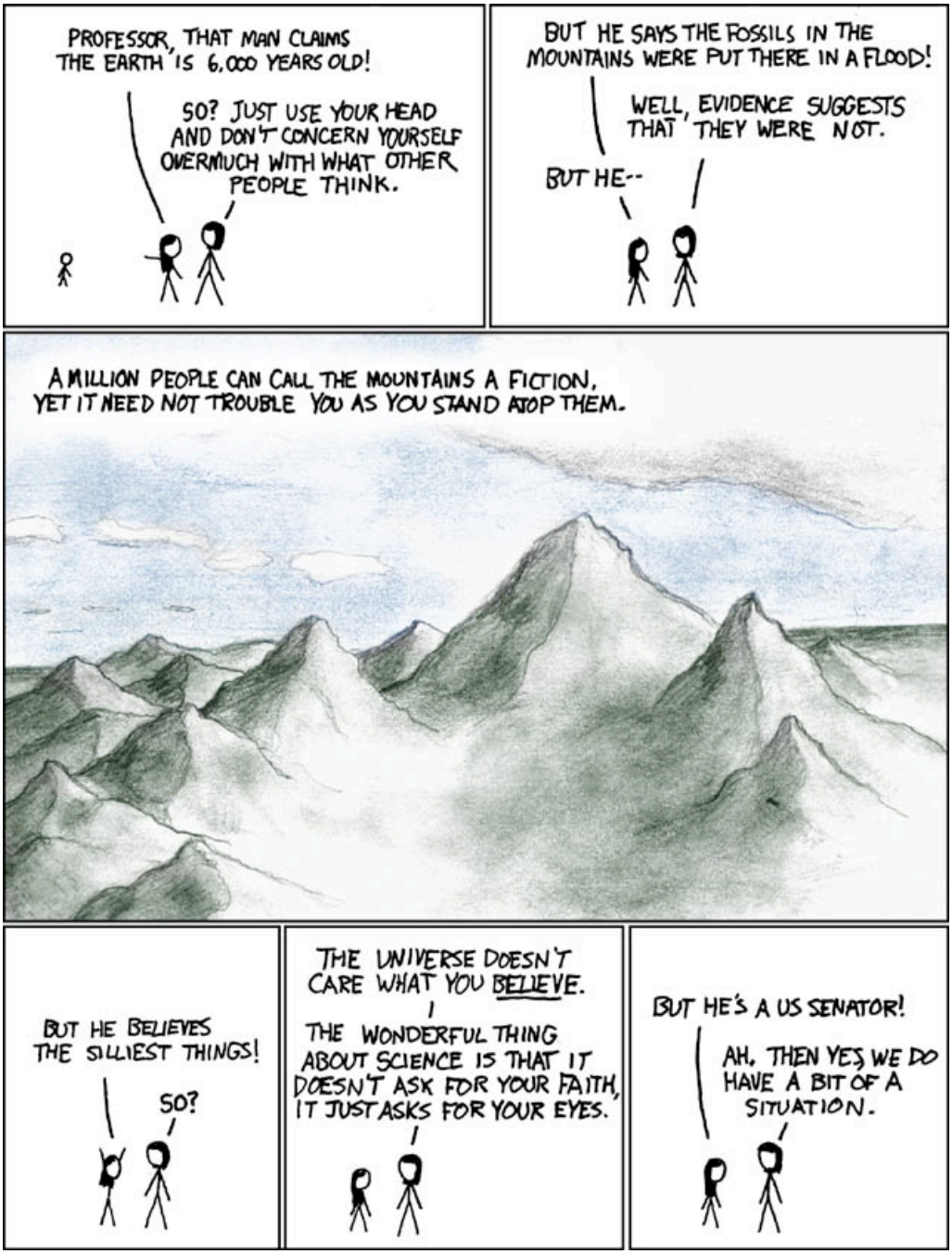
> *'He described how the earth orbits around the sun and how the sun, in turn, orbits around the center of a vast collection of stars called our galaxy. At the end of the lecture, a little old lady at the back of the room got up and said: "What you have told us is rubbish. The world is really a flat plate supported on the back of a giant tortoise." The scientist gave a superior smile before replying, "What is the tortoise standing on?" "You're very clever, young man, very clever," said the old lady. "But it's turtles all the way down!"'*

What makes you believe that the earth is round and that we are not all living on the back of an infinite stack of turtles? Have you ever seen a chromosome or a quark? How about electricity? Most of what we "know" about science comes from textbooks and second-hand reports. These reports can shape the way we think about the world we live in and the way we act within in.

How safe is genetically engineered broccoli? Can you really be addicted to the Internet? Will cell phones give you brain cancer? And if so, is there anything the government should do about it?

In this class, we explore how the public consumes science and how scientific findings translate into public policy. Three contemporary topics – Intelligent Design, Climate Change, and Autism – illustrate where science and public policy collide. With these topics as a foundation, we not only evaluate what counts as science, but see how the impact of scientific findings are shaped by the media, by public opinion, and by political debates. What we know does not come directly from the laboratory, but rather from carefully crafted journalistic standards. These standards can convince us (or at least sway

our opinion) toward the contemporary notion that the world is round, or perhaps – under other circumstances – toward the view that turtles are indeed in play.



http://xkcd.com/154/

Requirements:

Class Meetings:

The class meets on Tuesday and Thursday from 11:30AM to 1:00PM in the Undergraduate Science Building, Room 3265. Students are expected to attend all classes and complete all assignments in advance of the class listed on the syllabus.

Class Skills:

This class is designed to help you do more than simply learn a set of facts you can repeat to others that may be interested in the topic (though much of what we will talk about can encourage a fun, if not always civil, dinner conversation). Instead, the assignments, readings and discussions in this class are designed to help you master a number of critical learning and life skills that you will continue to use wherever you go after you have completed your degree. These skills have been termed the "six Cs," they include:

1. *Collaboration* – The ability to work well with others and be part of a larger social environment
2. *Communication* – The ability to speak and write in ways that clearly express your ideas
3. *Content* – Core knowledge of the subject area
4. *Critical thinking* – The ability to scrutinize and connect the things you are learning together, both within and across areas
5. *Creative innovation* – The ability to build on what you have learned to generate new ideas that push the bounds of current knowledge and capacities.
6. *Confidence* – The willingness to take risks (intellectual or otherwise)

Each aspect of this course has been designed to build on at least one and typically many of these skills. I will try to talk about some of the pedagogical benefits of the class structure and of major assignments on the first day. You should also feel free to ask me about how the things we are doing build on these skills.

Discussion Leadership:

At the end of each of the three major topics in the class, a group of students will lead a discussion on the policy implications of the science, communication, and public opinions that we have considered. On the first day of class, students will sign up as part of a group to lead one of these discussions. Prior to leading each discussion, students should meet as a group and send me an outline of their proposed discussion. **This should be provided no less than 48 hours in advance of the discussion.** I will send back comments on this outline **no less than 24 hours in advance of the discussion** to help the group improve the discussion.

Opinion Papers:

Throughout the term, you will be asked to write two opinion pieces that draw on topics we have been discussing. These opinion pieces should be written as arguments for a particular claim you wish to make, backed up by evidence. They should be between 4 and 6 pages in length (double-spaced, 12 pt font, 1-inch margins). These opinion pieces should (1) begin with either a general introduction or anecdote to provide to context, (2) make an overarching claim, that is backed up by a couple of clearly identified and articulated reasons (which directly support your claim), (3) leverage evidence to support each of your reasons, and (4) make it clear why the evidence supports the argument. These papers will be graded on how well they present an organized argument and the quality of the evidence and reasoning that are used. The use of subsections demarcated with headers to illustrate the main points of the argument is strongly encouraged for the ease of the reader. You may turn these in at any time, but the first draft of the first piece will be due no later than **October 2nd** and the second will be by **November 6th**.

After you complete each opinion piece, we will schedule an opportunity to meet one-on-one for 10 minutes to talk about the piece and to discuss potential improvements to the writing. You will then have an additional week (from the date of our meeting) to make changes to that paper before I give it a final grade.

Final Project:

In addition to the opinion papers, students will be expected to complete a final project. The final project will consist of two parts: a 10-minute presentation to the class and an extended slide deck (PowerPoint, Keynote, or pdf). This project will explore the science, news, public opinion, and policy framework surrounding an issue *that we did not focus on in class*. The project will need to demonstrate 1) why the scientific issue you choose has substantive policy implications, 2) what the state of the science actually is, 3) how that science is being reported in the media, 4) what the public thinks about the science, and 5) how that relates to policy considerations on the issue. Also, be sure to touch on the core points of contention for the issue and your argued and informed opinion on whether the messages being conveyed at each step in this process are appropriate.

The final presentations to the class will be on either Thursday, December 6th or Tuesday, December 11th. After the presentations, the rest of the class will have an opportunity to ask a few questions to each speaker about his or her talk. For the presentation part of the final project, the ability to respond effectively to these questions will constitute part of the grade. We will talk about how to design a slide deck to communicate most effectively in this forum. **The extended slide deck will be due on Friday, December 14th.** This will include additional information on some parts of the literature and your argument. We will also talk about how to produce these. Both parts of the project should use APA style references (American Psychological Association, 2009). Late projects will be penalized ½ grade point per 6 hours.

Some possible topics for the final project:

- Is Fracking Safe?
- How Risky are Genetically Modified Foods?
- Should Taxpayers Pay for Universal Preeschool?
- How Safe is Tuna Consumption?
- Does Gun Ownership Prevent Crimes?
- (I am open to other topics if you check with me in advance)

Reading Responsibility:

This course includes a fair amount of reading, some of which is fairly dense. I do not expect any of you to perfectly recall all the evidence that each author uses to make his or her points. Doing so would pose an unreasonable burden. That said, skipping reading assignments hurts the entire class and diminishes our ability to grapple with the material and to understand the issues at hand. For every reading that is assigned, it is your responsibility to understand 1) what the author is arguing, and 2) what basic evidence is leveraged in support of the author's claim. **For each class, please use the discussion forum on the website to raise at least one question or discussion point (clarifying is fine) that you had from the day's readings for the the class, I may call on you to present these questions.**

Grading:

15% - First Opinion Paper (Due any time before Oct 2nd)
15% - Second Opinion Paper (Due any time before Nov 6th)
20% - Group Discussion
20% - Final Project Slide Deck (Due December 14th)
15% - Final Project Presentation (On Dec 6th or 11th)
15% - Attendance and Participation (including comments/questions)

Required Text:

There is one required book for this class. The first reading assignment from the book will be due in early March. Please plan to acquire a copy in advance.

Offit, P. A. (2010) *Autism's False Prophets: Bad Science, Risky Medicine, and the Search for a Cure*, Columbia University Press: New York.

Because of the focus on writing quality in this class, I also recommend that students who have not already done so obtain a copy of:

Strunk Jr., W., & White, E. B. (2000). *The Elements of Style (4th Ed.)*. Longman: New York.

Course Policies:

Special Accommodations:

Any student who has a need for accommodation based on the impact of a disability, religious practice, physical requirement, or medical need should contact me privately to discuss the specific situation as soon as possible.

Absences:

Sickness. If you are sick, please send me an email as soon as you are aware that you may miss class. If you are sick for an extended period of time, your absence will only be excused if you provide a doctor's note in addition to emailing me.

Religious holidays. Within the first two weeks of the semester, please notify me of any religious holidays for which you will be absent. If a holiday is sufficiently important that you will miss class, you should know the dates in advance.

Athletic and other university-related absences. If you are travelling to represent the University of Michigan, someone on your team will provide you with the appropriate paperwork to distribute to your instructors.

Other excusable absences. For family emergencies, funerals, and other such absences, please send me an email as soon as you are aware of the potential for missing class.

A Note on Academic Freedom and Controversial Subjects:

Many of the subjects we will be discussing in this class are highly controversial and sometimes touch on matters of strongly held beliefs. It is both my responsibility as an instructor and your responsibility as students to respect the range of opinions held in the classroom and to recognize that aspects of every topic we will be discussing are open to debate. In particular, some of the debates we will be discussing pit current scientific understandings against religious viewpoints and personal experiences. The questions we will be asking are **not** questions of what is true, but instead serve as an exploration of the processes by which scientists address questions and reach conclusions, the news media disseminate those conclusions to the public, and both policymakers and members of the public interpret those messages. Although the scientific method represents one means for understanding what is or is not true in the world, it is not the only method through which people reach an understanding of truth. As such, this classroom is **not** a forum for discussing the veracity of any religious beliefs (except perhaps Pastafarianism – see: http://www.venganza.org/), though we may be discussing the *scientific* standing thereof. I will do what I can to keep the discussion within these bounds – please try to do your part to keep conversation both civil and germane to the topics at hand.

A second point on this general note concerns the readings we will be encountering. In part, this course was designed to showcase aspects of contemporary scientific and political debates. Because this is the case, many of the readings that we will encounter are coupled with strongly held viewpoints. It is impossible that the viewpoints in all of these readings are correct – indeed, you will see that they regularly contradict one-another. A reading's inclusion in the syllabus thus does not represent an endorsement of its content.

Academic Honesty:

A good student-teacher relationship operates on the basis of trust. From that basis, I trust that you will do your utmost to complete course assignments and to be honest with me if for any reason you are unable to fully meet a commitment to the class. I also trust your judgment that any collaboration with your peers or additional online research that you do is academically honest. That said, if I encounter evidence that you have in any way shape or form copied material without attribution or collaborated to the point that the work you present is not your own, you will fail the course and I will immediately report the incident to the Dean of Student Affairs.

Additional Resources to Know:

Michigan Association of Communication Studies (MACS)

The Michigan Association of Communication Studies (MACS) is a student organization at the University of Michigan for people who — are communication studies majors, want to be communication studies majors, or are even the slightest bit interested in communication studies and all that it entails. For more information, see macsuofm.com.

Communication Studies Advising

The Communication Studies department offers advising for students who are interested in joining the major or understanding its requirements. Learn more by going to a meeting or visiting their website at www.lsa.umich.edu/comm/undergraduate/.

Counseling and Psychological Services (CAPS)

Counseling and Psychological Services offers counseling services, educational and preventive initiatives, training programs, outreach and consultation activities, and provide guidance on how to "do something" to fully contribute to a caring healthy community. CAPS can be contacted on their 24-hour crisis line, 734-996-4747 and online at caps.umich.edu.

Sweetland Center for Writing

The Sweetland Center for Writing is a comprehensive center for improving student writing at all levels. They offer one-to-one tutoring for undergraduate students. Find them at www.lsa.umich.edu/sweetland/.

MiTalk

MiTalk offers mental health resources including online screenings for depression and anxiety, skill-building tools to help you manage stress and academic life, and digitally recorded workshops, lectures, and some relaxation exercises. The site is completely free of charge to U-M Students. Find them at mitalk.umich.edu.

Sexual Assault Prevention and Awareness Center (SAPAC)

If you or someone you know has been harassed, assaulted, or stalked, you can receive confidential support and academic advocacy at the Sexual Assault Prevention and Awareness Center (SAPAC). SAPAC can be contacted on their 24-hour crisis line, 734-936-3333 and online at sapac.umich.edu. Alleged violations can be non-confidentially reported to the Office for Institutional Equity (OIE) at institutional.equity@umich.edu. Reports to law enforcement can be made to University of Michigan Police Department at 734-763-3434.

Course Outline:

(Please note that dates may change as I attempt to confirm times for guest speakers)

PART I - Evolution vs. Intelligent Design

Sept 4	1	Intro
Sept 6	2	What is Science?
Sept 11	3	ID and Evolution as Science?
Sept 13	4	Communicating Evolution / ID [Guest: Jared Wadley]
Sept 18	5	Public Opinion of Evolution
Sept 20	6	When Religion and Science Conflict
Sept 25	7	What Constitutes Science Education?
Sept 27	8	Law as a Policy Implementation [DISCUSSION]

PART II - Climate Change

Oct 2	9	Science of Climate Change [Guest: Eric Kort]
Oct 4	10	The Challenge of Uncertainty
Oct 9	11	Communicating Climate Science
Oct 11	12	Journalistic Norms and Frames
Oct 16	-	NO CLASS - Fall Break
Oct 18	13	A Partisan Gap
Oct 23	14	Motivated Reasoning
Oct 25	15	The Psychology of Acceptance / Backfire [Guest: Sol Hart]
Oct 30	16	Legitimate Political Debates? [DISCUSSION]

PART III - Vaccinations and Autism

Nov 1	17	The Vaccine Scare
Nov 6	18	Refuted Science
Nov 8	19	The Problem of Indexing
Nov 13	20	Overcoming false causal attributions
Nov 15	21	Special interest politics and social movements [Likely Guest: John Pitney]
Nov 20	22	Is First Cut Science Doomed to Live Forever? [DISCUSSION]
Nov 22	-	NO CLASS

PART IV - A Bigger Picture

Nov 27	23	When not to trust the science 1 - Neutrinos faster than light
Nov 29	24	When not to trust the science 2 - Feeling the future
Dec 4	25	Unsettled science - Universal preschool?
Dec 6	26	Presentations
Dec 11	27	Presentations / A Conclusion

Please check Canvas for all assignments and any changes.