

PUBLIC COMMUNICATION OF SCIENCE & TECHNOLOGY

ADV/PR 323

Unique #s: 05865, 06370

Fall 2018

Online

Professor: Anthony Dudo, Ph.D.

Office: Belo 4.364

Office hours: 11a-noon T & TH

Teaching Assistant: Jacob Copple

Cubicle: Belo 4.316A

Office hours: M 1pm-3pm and by appointment

TECHNOLOGY REQUIREMENTS AND USE

1. You must have a computer that can play videos.
2. You must have access to reliable Internet access. You must check the class web site regularly. Inability to get online is not an acceptable excuse for missing an important announcement, assignment, test or update. If your home-based Internet connection is down, then visit a library, coffee shop, or friend's house.
3. Pay attention to Announcements in Canvas. We rely primarily on announcements sent through Canvas to communicate course information, updates, clarifications, etc. with you.
4. Use canvas for all e-mail communication about class.

REQUIRED MATERIALS

The majority of the materials will be posted to our class Canvas website (<http://courses.utexas.edu>). Required materials will be labelled as such; optional materials will also be provided for students who want to delve deeper.

COURSE DESCRIPTION

Science has always played an essential role in the development of the human condition. Presently, however, the growth of technological and scientific innovation is increasing at what feels like an exponential rate. Emerging fields like genetic engineering, artificial intelligence, and nanotechnology are poised to alter the very definition of what it means to be "human." Concurrently, issues like climate change are changing the condition of our planet and how our species relates to it. Media have traditionally provided the information link between the public and the experts working on the cutting edge of science and technology. But scientists themselves are key communication sources for information about their research, and their efforts to communicate shape how non-scientists (for example, average citizens, policy makers, business leaders, etc.) think about and behave relative to science and its role in society.

This course will introduce students to the complicated intersection of science, media, and society. Our exploration will be driven by three overarching questions and the interplay among them: (1) How do individuals come to understand and perceive science? (2) How do media and communication tools influence the spread of information about science? and (3) How do scientists themselves contribute to the process of communicating science? We will consider the foundations of the field of "science communication" and how communication and media influence debates and science and technology. We will also spend time grappling with the scientist communicators themselves; reflecting on how they

communicate and what drives them to do so. Along the way we'll consider some examples of science in popular culture (including television, films, podcasts, etc.) as well as some specific scientist celebrities. We'll also explore a handful of case studies to connect our work to current scientific issues.

LEARNING OBJECTIVES

Overall, this course strives to provide students with a foundational understanding of modern science communication and seeks **one core learning objective**:

- ❖ students will acquire the integrated knowledge, attitudes, and skills necessary to critically assess the complicated interplay between science, media, and society including the implications for strategic communication, public engagement, personal decisions, and career choices.

As related **knowledge objectives**, students will understand that:

- ❖ the traditional ecosystem for science communication is changing rapidly
- ❖ experts play a growing role in the communication of their research and scientific issues, which presents benefits and risks
- ❖ individuals' understanding, perceptions, and actions relative to science are complex functions of background, circumstances, values, interests, needs, and experiences

As related **attitude objectives**, student will understand the value of:

- ❖ connecting concepts/theories from social science to the topic of communicating science
- ❖ applying insights from communication research and public relations to science communication opportunities and challenges
- ❖ monitoring developments in STEM to inform and empower their personal decision making

As related **skill-based objectives**, students will improve their ability to:

- ❖ think effectively about complex situations and choices associated with scientific issues
- ❖ critically assess their own core values, cultural assumptions, and biases related to science; understand diverse philosophical and cultural viewpoints related to science
- ❖ weigh the complex ethical implications associated with scientific innovation and policy-making

Students will also improve these **core competencies**:

- ❖ understand and synthesize content that cuts across different media
- ❖ write evidence-based responses on exams
- ❖ communicate clearly, concisely, and effectively in online environments
- ❖ improve time and deadline management
- ❖ work in teams

MY EXPECTATIONS OF YOU

- ❖ **Speak up:** If you have a question or need something explained, then let me or a TA know. We are both available via e-mail and Skype (if scheduled).
- ❖ **Be prepared:** Do the readings and work through the modules at a steady pace. Don't leave things until the last minute.
- ❖ **Check the course Web site regularly:** You must log on to the class web site regularly to participate in class.
- ❖ **Check your e-mail regularly:** Failure to do so is not an acceptable excuse for missing an important announcement, assignment or update. If your home-based Internet connection is down, then check your e-mail at the library or at a friend's house.

- ❖ **Please let me or a TA know** immediately if you have any problem that is preventing you from performing satisfactorily in this class. If you approach us at the end of the semester, it will likely be too late to do anything.
- ❖ **Be aware that all times are Central Daylight Time (CDT).** If you are in another time zone, you are responsible for adjusting the time so that you adhere to the correct CDT time. Missing a meeting or deadline as a result of confusion about time zones does not count as an acceptable excuse.

ASSESSMENT

Your assessment breakdown is as follows:

ASSIGNMENT	POINTS
Quizzes (11, on assigned weeks)	25 pts (2.5 pts each; lowest score dropped)
Midterm Exam (1, week 7)	20 pts
Inquiry Paper (1, due week 12)	10 pts
Team Project (1, due week 15)	20 pts
Team Member Evaluations (1, due week 16)	5 pts
Final Exam (1, week 16)	20 pts
TOTAL	100 pts

- ❖ **Quizzes:** This assignment is designed to test your acquisition of factual knowledge contained within the course content (assigned readings, podcasts, videos, etc.).
 - Each quiz will consist of 5 multiple choice and T/F questions worth ½ point each.
 - There is a quiz associated with 11 weeks of the course. Each quiz is based on that week's assigned content. Your lowest quiz grade will be dropped. Weeks with quizzes are labelled in the course schedule included in this syllabus.
 - Each quiz will unlock after you have interacted with all the content in that week's modules.
 - Each quiz will be timed and you will only have 7 minutes to complete it once it is launched. You must finish it in one sitting, meaning you cannot start the quiz, log off for a while and come back to resume taking the quiz.
 - Access to each quiz will be locked at **5p each Friday night**. You will not be able to take the quiz after that time and will automatically earn a zero.
- ❖ **Team Project:** The details of these assignments will be posted to Canvas by early October 2018.
- ❖ **Inquiry Paper:** The details of this assignment will be posted to Canvas by early October 2018.
- ❖ **Team Member Evaluations:** The details of this assignment will be posted to Canvas by early October 2018.
- ❖ **Midterm and Final Exams:** These assignments are designed to let you demonstrate your expertise that cuts across all of the course's learning goals.

- Each exam will consist of 8 multiple choice and T/F questions worth 1 point each, and 3 short-answer questions worth 4 points each.
- Each exam will be timed and you will only have 50 minutes to complete it. You must finish it in one sitting, meaning you cannot start the test, log off for a while and come back to resume taking the test.
- Each exam will only be available for you to take during a 12-hour window of time: the mid-term exam will be available **from 8a-8p Friday, October 12**; the final exam will be available from **8a-8p Friday, December 10**. You will not be allowed to take either test outside of these 12-hour time windows. You must start and finish both exams within their corresponding time windows.
- Exam scores will not be adjusted in any way.
- Exams are not cumulative. The midterm exam will cover content from weeks 2 through 7. The final exam will cover content from weeks 8 through 16.

GRADING

This class will be graded using the plus/minus grading system, as outlined by the university's provost office (<http://www.utexas.edu/provost/planning/plus-minus/>) and described below:

To earn an:	You must earn:
A	93-100 pts
A-	90-92.9 pts
B+	87-.89.9 pts
B	83-86.9 pts
B-	80-82.9 pts
C+	77-79.9 pts
C	73-76.9 pts
C-	70-72.9 pts
D+	66-69.9 pts
D	63-66.9 pts
D-	60-62.9 pts
D-	0-59.9 pts

What the letter grades mean:

A, A–	Earned by work of <i>excellent quality</i> indicating <i>full mastery</i> of the subject; in the case of an A, it indicates <i>extraordinary distinction</i> .
B+, B, B–	Earned by work that indicates <i>commendable comprehension</i> of the course material and the <i>student's full engagement</i> with the course requirements and activities.
C+, C, C–	Earned by work that indicates <i>average and satisfactory comprehension</i> of the course material and the student has met the <i>basic requirements</i> for completing assigned work and participating in class activities.
D+, D, D–	Earned by work that is <i>unsatisfactory</i> but that indicates some <i>minimal command</i> of the course materials and some <i>minimal participation</i> in class activities that is worthy of course credit toward the degree.
F	Earned by work that is <i>unsatisfactory</i> and indicates a <i>failure to do minimal passing</i> work.

Other key information about grading:

- ❖ Because your lowest quiz score is dropped, there will be no make-ups or opportunities to re-do (or hand in late) any assignments. Upload assignments early if you have a conflict with a deadline.
- ❖ No extra credit is offered and no research participation credits will be offered.
- ❖ There are no excused “absences” or missed assignments/tests. I do not differentiate between excused and unexcused absences or justified and unjustified reasons for not meeting deadlines. It’s not my place to decide which excuses are more legitimate or more worthy than others.
- ❖ I will not “round up” grades. So, if you earn an 89.6% that translates into a B+ and will not be rounded up to 90% (an A-). Note that Canvas often rounds up so your grade on Canvas might not be accurate. Always add up your total points to determine your grade.
- ❖ Any questions or concerns about a grade must be presented in writing (i.e. via email) within two days (i.e., 48 hours) after the grade is announced or posted. Grades will not be discussed after this two-day period.
- ❖ When we grade your work, you start with zero points. You earn points based on the quality of the work and the accuracy, appropriateness, and detail of your answers. You do not start with 100 points and then lose them based on mistakes you might make. Your final points represent the total points earned for that assignment, not the number of points “taken away” for errors or omissions.
- ❖ Grades will be posted to the Canvas grade book continually throughout class. The TAs and I will attempt to upload grades within a reasonable time after their submission. Assignment feedback (where appropriate) will be returned via Canvas.

COURSE PROGRESSION

This course is entirely web-based and consists of weekly topic modules that contain a combination of online mini-lectures, content (required readings, podcasts, videos, etc.), assignments, and quizzes/tests. Most of the class is asynchronous, meaning that you have some flexibility within each week as to when you do your readings and when you work on your assignments. During the course, you will proceed through a series of weekly topic modules. The modules are structured sequentially, meaning you must finish one before moving on to the next. Keep in mind, however, that the assignment deadlines are set—you can complete assignments early (e.g., take your weekly quiz on a Wednesday), but you cannot complete an assignment after the deadline. You also cannot progress to the next week’s modules unless you’ve completed the current week’s modules.

Again, it is essential that you understand that **you can only progress through the weekly topic modules sequentially**. Canvas will lock a module (it will be invisible to you in Canvas) until the previous modules have been viewed. For example, you will not be able to access the week 4 module until you have gone through all the components from the week 3 module. To complete a module, you will have to view all the videos, download all the files, and click on any included links.

Here's my suggestion for how you should manage your progression through the course each week:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Engage with content	Engage with content	Engage with content	Take quiz		
			Work on team project		

Here's the course schedule:

Week 1	Aug 29-31	<i>"Get to know your syllabus."</i> Ready. Set. Go!		Required content is posted within each week on Canvas
Week 2	Sept 3-7	<i>"Welcome to science communication."</i> Context and Definitions	Quiz	
Week 3	Sept 10-14	<i>"Duh ... of course the sun revolves around the Earth!"</i> Science Literacy and Public Understanding of Science	Quiz	
Week 4	Sept 17-21	<i>"I love science ... as long as it's consistent with my worldviews."</i> Public Attitudes and Trust Toward Science	Quiz	
Week 5	Sept 24-28	<i>"Trust me. I'm a science journalist."</i> Traditional Sources of Information about Science	Quiz	
Week 6	Oct 1-5	<i>#science</i> Science Information in the Digital Age	Quiz	
Week 7	Oct 8-12	<i>"We are all star stuff!"</i> Science and Scientists in Entertainment Media	Midterm Exam	
Week 8	Oct 15-19	<i>"More Neil deGrasse Tyson memes? ... Yes, please."</i> Popularizers and Scientist Celebrities	Quiz	
Week 9	Oct 22-26	<i>"Get out of your lab and communicate!"</i> The Growth of Public Engagement with Science	Quiz	
Week 10	Oct 29-Nov 2	<i>"Because I like it, I'm good at it, and it's the right thing to do."</i> Why Scientists Communicate	Quiz	
Week 11	Nov 5-9	<i>"OK, but what's your goal?!"</i> Scientists as Public Relations Practitioners	Quiz	
Week 12	Nov 12-16	<i>"Have fun but be nice."</i> Communication Styles for Scientists	Quiz	
Week 13	Nov 19-23	Case Study: Communicating Climate Change	Quiz	
Week 14	Nov 26-30	Case Study: Communicating CRISPR		
Week 15	Dec 3-7	Case Study: Communication and Childhood Vaccines		
Week 16	Dec 10		Final Exam	

A NOTE ON WORKLOAD

To help you figure out how much time you can expect to spend on this class, consider the following.

For each 1 credit hour, the university estimates workload to include one hour in class and an additional two to three hours studying outside of class for a total of 3 to 4 hours per week (per credit hour).

For a single, 3-credit course, workload would look like this:

3 hours in class + 6 to 9 hours studying outside class per week = 9 to 12 hours per week

Over a 15-week semester, the total hours would be:

9 to 12 hours per week X 15 weeks = 135-180 hours per semester

Keep this time commitment in mind as you balance your other obligations, including work, internships, and other classes.

SOME TECHNICAL LOGISTICS

You can access our directly through Canvas (<https://utexas.instructure.com/>). To log into Canvas and the class website, you will need your UTEID and password. Once you reach the class website, you can navigate your way to other areas. Some of the most important include:

- ❖ **Homepage** – The homepage will have links to the Course Syllabus, the technical requirements and test stream webpage, information regarding technical questions, as well as contact information for the instructors and teaching assistants. On the left-hand side of each page of the Canvas course site are navigation tabs to all parts of the website, including the Syllabus.
- ❖ **Modules** – Most of your activity in Canvas will take place here. The Modules page includes links to all assigned and optional course content, including readings, video clips, podcasts, mini-lectures, assignments, and other documents.

E-MAIL POLICY

The TA and I will be readily available through Canvas e-mail during the course, meaning that we will try to return your Canvas email within 24 hours of receiving it on Monday through Friday (or by Monday evening if we receive it on the weekend). Keep your emails formal and concise—we will not respond to unprofessional emails. The TA and I can also communicate with you via the Canvas conference function during our virtual office hours. **The TA is your first point of contact—email the TA first and they will get me involved when appropriate.**

TECHNICAL QUESTIONS

If you have any technical troubles at all using our Canvas website, you can view tutorials and contact live support via this webpage: <http://canvas.utexas.edu>

You can also receive technical support by emailing: gatewaytechsupport@austin.utexas.edu

The TAs and I will do our best to help you with your technical questions, but we are not Canvas experts and ask that you try to use the resources available to you on their website before asking for our help. Having “technical problems” will not excuse you from late or missing assignments, so do not wait until the last minute to upload assignments; be pro-active and ensure that you understand how to use the system well before your assignments are due.

ACADEMIC INTEGRITY

University of Texas Honor Code: The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

Each student in this course is expected to abide by the University of Texas Honor Code. Any work submitted by a student in this course for academic credit must be the student's own work. I encourage you to collaborate with your fellow students by studying together and discussing information and concepts covered in lecture, but all tests, quizzes and assignments must be done independently.

Should copying occur, both the student who copied work from another student and the student who gave material to be copied will both automatically receive a zero for the assignment. Penalty for violation of this Code can also be extended to include failure of the course and University disciplinary action.

During examinations, you must do your own work. Talking or discussion is not permitted during the examinations, nor may you compare papers, copy from others, or collaborate in any way. Any collaborative behavior during the examinations will result in failure of the exam, and may lead to failure of the course and University disciplinary action.

Understand that the online course format allows for multiple methods of identity verification, collusion, collaboration and plagiarism monitoring and detection. A violation of the course policy may include (but is not limited to) the following:

- ❖ Providing your UT EID to any other person
- ❖ Collaborating or sharing information with another person regarding the material on any activity, assessment or assignment, before, during and/or after any activity, assessment or assignment
- ❖ Recording any quiz, assessment or assignment material in any format
- ❖ The public (such that it can be viewed by more than one person) posting of any form of a test bank or group of questions from any assignment

OTHER UNIVERSITY POLICIES

1. Use of E-mail for Official Correspondence to Students

All students should become familiar with the University's official e-mail student notification policy. It is the student's responsibility to keep the University informed as to changes in his or her e-mail address. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. It is recommended that e-mail be checked daily, but at a minimum, twice per week. The complete text of this policy and instructions for updating your email address are available at: <http://www.utexas.edu/its/policies/emailnotify.html>.

2. Documented Disability Statement

Any student with a documented disability who requires academic accommodations should contact Services for Students with Disabilities (SSD) at (512) 471-6259 (voice) or 1-866-329-3986 (video phone). Faculty are not required to provide accommodations without an official accommodation letter from SSD.

- ❖ Please notify me as quickly as possible if the material being presented in class is not accessible (e.g., instructional videos need captioning, course packets are not readable for proper alternative text conversion, etc.).

- ❖ Contact Services for Students with Disabilities at 471-6259 (voice) or 1-866-329-3986 (video phone) or reference SSD's website for more disability-related information.

3. Religious Holy Days

By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day.

4. Behavior Concerns Advice Line (BCAL)

If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit <http://www.utexas.edu/safety/bcal>.

5. Q drop Policy

The State of Texas has enacted a law that limits the number of course drops for academic reasons to six (6). As stated in Senate Bill 1231:

"Beginning with the fall 2007 academic term, an institution of higher education may not permit an undergraduate student a total of more than six dropped courses, including any course a transfer student has dropped at another institution of higher education, unless the student shows good cause for dropping more than that number."

6. Emergency Evacuation Policy

Occupants of buildings on the UT Austin campus are required to evacuate and assemble outside when a fire alarm is activated or an announcement is made. Please be aware of the following policies regarding evacuation:

- ❖ Familiarize yourself with all exit doors of the classroom and the building. Remember that the nearest exit door may not be the one you used when you entered the building.
- ❖ If you require assistance to evacuate, inform me in writing during the first week of class.
- ❖ In the event of an evacuation, follow my instructions or those of class instructors.

Do not re-enter a building unless the Austin Fire Department, the UT Austin Police Department, or the Fire Prevention Services office gives you instructions to do so.

7. Counseling and Mental Health Services

Taking care of your general well-being is an important step in being a successful student. If stress, test anxiety, racing thoughts, feeling unmotivated or anything else is getting in your way, there are options available for support.

For immediate support:

- Visit/Call the Counseling and Mental Health Center (CMHC): M-F 8-5p | SSB, 5th floor | [512-471-3515](tel:5124713515) | cmhc.utexas.edu
- CMHC Crisis Line: 24/7 | [512.471.2255](tel:5124712255) | cmhc.utexas.edu/24hourcounseling.html

CARE Counselor in the Moody College of Communication

- Abby Simpson, LCSW | M-F 8-5p | CMA 4.134 | [512-471-7642](tel:5124717642) (Please *leave a message* if she is unavailable)

FREE Services at CMHC

- Brief assessments and referral services
- Mental health & wellness articles - cmhc.utexas.edu/commonconcerns.html
- MindBody Lab - cmhc.utexas.edu/mindbodylab.html
- Classes, workshops, & groups - cmhc.utexas.edu/groups.html