

UGS 302: Science, Technology, and Politics (59650)

Signature Course (Spring 2020)

Meeting time: Tuesday/Thursday 9:30-10:45

Professor:

Dr. Rachel Wellhausen

(Canvas message; or email: rwellhausen@utexas.edu; or Skype: rwellhausen)

MOVING ONLINE: POST-SPRING BREAK SYLLABUS REVISIONS:

- **Dedicated class office hours:** 10:00 – 11:00 AM, T/Th (Zoom)
 - This is a twice-a-week dedicated "group" office hour with Prof Wellhausen, and for any students in this course who wish to participate - there is no obligation to do so, and you can come and go as you please. Participants will interact with audio and video (barring technological limitations). The default will be to record these discussions and to post as supplementary materials to the whole course, unless participants prefer otherwise.
- **One-on-one office hours by appointment:** 11:15 AM – 12:15 PM T/Th (Zoom)
 - Send a Canvas message or email (rwellhausen@utexas.edu) at least 1 hour in advance of your desired appointment time to schedule a slot.
 - If you require an alternative date/time, get in touch offering 3 possibilities; Prof Wellhausen will choose and confirm with you.

Summary of changes to course content and structure:

- Class instruction is asynchronous (i.e., not conducted in real time).
 - Materials for each class session will be available on Canvas by the beginning of the relevant class period.
- Assignments, assessments, and their relevant weights have been revised.
 - Due dates continue to be structured around our assigned meeting time (i.e., unless otherwise instructed, assignments continue to be due at the beginning of the relevant class period).
 - Grading scales and standards are unchanged.
 - Assessment for the course is based on the expectation that all students will have engaged with all the class content.

Logistics – Class Content:

- Recall the time of our regularly scheduled class. The content to view/read/learn for each class session will be available on Canvas by the beginning of the relevant class session. (You are no longer expected to do readings before the relevant class.)

- UT Austin recommends that we provide “asynchronous” content for our classes where possible, so you can choose when to access class content.
- For each class session, you will find the following materials on Canvas available by the beginning of the session:
 - A short video and/or text introduction from Professor Wellhausen with an overview/lecture to guide you through the day’s materials.
 - Readings tied to the content of the class session.
 - Note that the class is no longer organized with the expectation that you do the reading first, before accessing the other content. (That said, do know that best practices in higher education suggest that is a pedagogically sound approach.)
 - Additional recordings, readings, and materials to facilitate your learning.
- When applicable, Professor Wellhausen will also post additional recordings and/or text, including but not limited to:
 - Announcing assignments and deadlines
 - Explaining expectations for assignments
 - Giving general feedback to the whole course on assignments
 - Changes to the logistical arrangements

Logistics – Revised Assessment and Grading:

- Short assignments
 - Assignments (Post-Spring Break) (30%)
 - Opportunity to earn extra credit in this category: see Canvas
 - Assignments (Pre-Spring Break) (10%)
- Longer written work
 - Reflection paper (10%)
 - Reaction to colleagues’ reflection papers (5%)
- Research training and UT resources
 - UT Gem assignment (5%)
 - Information literacy assignment (5%)
- Oral presentation
 - Video presentation (and related assignments) (15%)
 - Lecture Series assignment (5%)
 - In-class participation (pre-Spring Break) (5%)
- Take-home Final Exam (10%)

Revised Grading Policy: Given the circumstances, students are welcome to ask for flexibility with regard to the timelines and procedures for the online portion of the course. The professor reserves the right to not grant a student’s request. That said, the professor will endeavor to do whatever possible to work with the student to ensure the conditions are in place for success. When in doubt, ask.

Grade scale (unchanged): (final grades rounded to the nearest whole number)

94 and above	A
90-93	A-
87-89	B+
84-86	B
80-83	B-
77-79	C+
74-76	C
70-73	C-
67-69	D+
64-66	D
60-63	D-
59 and below	F

Tips for success in the course now that we have moved online:

- ***Reach out to me:*** I (like all of your professors) want to be extremely supportive and flexible. For me to do that, *you have to take responsibility to reach out to me if and when I can be helpful.* Please do not hesitate for a moment to join office hours on Zoom, to use a Canvas message to me, to email me (rwellhausen@utexas.edu), to text/call me (617-820-6110). Please know that there is no “out of bounds” or “inappropriate” question or request.
- ***Keep up with the course:*** That said, *you will not be successful in this course if you do not keep up with the work.* The course materials, assignments, and deadlines require you to put in consistent effort, just as you would if we were meeting in person.
 - o Please know that it is not fair to anyone – nor is it good for your learning or your career – if I were to be so flexible as to have no standards at all (nor would UT Austin allow me to conduct class in this way even if I wanted to).
 - o Never in life does everyone earn an “A.” You should not expect to receive an excellent grade in the course without putting in the work and demonstrating your learning.
- ***Reach out to me if you have trouble keeping up with the course:*** If circumstances are such that you are finding it difficult to keep up with the course, *tell me.* We will work together to figure out how to give you all the resources and flexibility you need to be successful. *Everyone has the right to be successful in this course – COVID-19 can’t take that away from you!*
 - o When possible, ***tell me in advance*** if/when you will have difficulty keeping up with the course. Contrary to the saying, *it is best for all of us if you ask for “permission” and not “forgiveness.”*
 - o That said, I understand, especially at this moment, that sometimes it might not be possible for you to reach out to me in advance. Please be in touch as soon as is possible to let me know how we can set you up for success again.
 - I can’t help you if you ghost me, and I especially can’t help if you ghost me until the end of the course.

- ***Flexibility does not entail bargaining over your grade at the end of the course.***
 - My job is to give you all the resources and flexibility you need to have the conditions in place that allow you to be successful. Doing my job means providing flexibility and support throughout the semester.
 - If and when the best course of action is to give extra credit or the like, then those resources will be made available to all students.
 - If UT Austin changes grading policies, those changes will be adopted and available to all students.
 - It is not my job to give you the grade you would like at the end of the course, crisis or not.
 - Grades are *in no way* a private good. There will be no mathematically unsound grade rounding or any other kind of special treatment when it comes to any single person's final grade.
 - The upshot: *reach out to me* if and when you need flexibility and resources to be successful in the course, at any time. We will find a solution. Do not expect an unfair solution.

- ***Tell me if/when these changes to the course are falling short:*** Please tell me if/when these new plans aren't working, aren't clear, etc. In general, consider all of these plans a "first draft" – which, as you know, always requires editing and revision. I am relying on input from you to improve; under no circumstances do I want you to "suffer in silence."

- ***Use UT Austin's resources – now more than ever:*** UT Austin has produced a massive amount of resources, new technologies, online support, emergency financial aid, etc. to help us all as we finish this semester. Please use these, and please share them with your classmates and me when you think others might benefit as well. I'll do the same.
 - ***Reach out to me*** if you're in need of something (related to the class or not) to create conditions necessary for you to be successful. I can help connect you to the correct resources.
 - Again, don't suffer in silence. A lot of folks have worked and continue to work a lot of hours with the intention of benefitting you. Don't let all of our work go to waste!

Schedule, Assignments, and Readings:

IN-PERSON COURSE CONTENT (PRE-SPRING BREAK):

Introduction

Tues 21 Jan: Introduction; Positive v. normative analysis

No reading

Assignment: ULS Lecture (due by 7 Apr)

Thurs 23 Jan: How does science interact with politics?

On Canvas:

- Pielke, Jr., R.A. 28 March 2002. "Policy, Politics, and Perspective." *Nature* 416: 367-368.
- Belluz, Julia. 17 June 2015. "Why it took the FDA nearly 40 years to ban trans fats." *Vox.com*.
- Gallagher, Kelly Sims. "How Does a US President Settle on Science Policy?" *Scientific American*: 5 Jan 2017.

Online:

- Read through the site of the Office of Science and Technology Policy (<https://www.whitehouse.gov/ostp/>). Be sure to look at the memo on FY2021 budget priorities. (<https://tinyurl.com/y3ogaopv>)

After-class assignment: Canvas discussion submission (due 28 Jan)

Part 1: Theories**Tues 28 Jan: Coase theorem: (When) does the government need to help solve people's problems? (1/2)**

Due: Canvas discussion submission (by 9:30 AM)

On Canvas:

- Coase, Ronald. 1960. "The Problem of Social Cost." *Journal of Law and Economics* 3:1-44.

Thurs 30 Jan: Coase theorem: In politics, it matters who owns what (2/2)

On Canvas:

- Will Wilkinson. 9 November 2017. "Atlas Shrubbed."

Online:

- Familiarize yourself with the Natural Resources Governance Institute (<https://resourcegovernance.org/>).
- Read the NRG Natural Resources Charter. (<https://tinyurl.com/rxptc2f>)
- Familiarize yourself with Resource Contracts, and look through a few actual contracts in the database. (<https://www.resourcecontracts.org/>)

After-class assignment: Canvas discussion submission (due 4 Feb)

Tues 4 Feb: Collective action: (How) can people make things change?

On Canvas:

- Olson, Mancur. 1982. "Chapter 2: The Logic." In *The Rise and Decline of Nations*. New Haven: Yale University Press.

After-class assignment: Canvas discussion submission (due 11 Feb)

Thurs 6 Feb: Free riding: Why don't people help out?

Due: Canvas discussion submission (by 9:30 AM)

Online:

- "What is the Free Rider Problem?" Youtube, Marginal Revolution University. 18 July 2018. 2 minutes. (<https://www.youtube.com/watch?v=Uo51GDk8G1Q>)

On Canvas:

- "The Free Rider Problem." *Stanford Encyclopedia of Philosophy*. 21 May 2003.
- Ferraro, Salvatore. "What limits shareholder activism as a force for good: The free rider problem." *The Conversation*. 11 December 2019.

Tues 11 Feb: Tragedy of the commons: What happens when no one owns it?

Due: Canvas discussion submission (by 9:30 AM)

On Canvas:

- Hardin, Garrett. 1968. "The Tragedy of the Commons." *Science* 162(3859): 1243-1248.
- "Tragedy of the Commons," The New Palgrave Dictionary of Economics Online.
- Ostrom, Elinor. 2009. Nobel Prize for Economics Lecture.

Thurs 13 Feb: Precautionary principle v. Harm minimization: How should policymakers deal with uncertainty?

On Canvas:

- Kriebel, David, et al. "The Precautionary Principle in Environmental Science." *Environmental Health Perspectives* 109(9): 871-876.
- "Late Lessons from Early Warnings: Science, Precaution, Innovation." European Environment Agency: 23 January 2013. Read pp 1-12. Skim pp 13-32. Read pp 33-42.
- Brown, Tracey. "The Precautionary Principle is a Blunt Instrument." *The Guardian*. 9 July 2013.
- "Precautionary Principle." US Chamber of Commerce position. 4 August 2010.

Assignment: Reflection paper (due 20 Feb)

Part 2: Science and Technology Applications:

Tues 18 Feb: Environmental Regulation in California (1/2)

Due: UT Gem (by 9:30 AM)

Reading (in book):

Vogel, David. 2018. *California Greenin': How the Golden State Became an Environmental Leader*. Princeton University Press.

- Chapter 1: Introduction
- Chapter 2: Gold Mining: Wealth Creation and Environmental Diversion
- Chapter 8: California's Regulatory Leadership: Broader Implications

[*ULS Lecture option 1/4: Tuesday, February 25, 7-8pm – Thomas Palaima, Ph.D. (with Michael Lesy, Professor Emeritus, Hampshire College, and Aloysius Martinich, Roy Allison Vaughan Centennial Professor in Philosophy, UT Austin) – Immigration and Imagination*]

Thurs 20 Feb: Environmental Regulation in California (2/2)

Reading (in book):

Vogel, David. 2018. *California Greenin': How the Golden State Became an Environmental Leader*. Princeton University Press.

- Read 2 of the following 4 chapters (your choice):
 - o Chapter 3: Protecting the Land

- Chapter 4: Protecting California's Coast
- Chapter 5: Managing Water Resources
- Chapter 6: Protecting Air Quality

Tues 22 Feb: UT Gem: Texas Memorial Museum

Due: Reflection paper (by 9:30 AM)

****Do not come to the classroom today.**** Instead, sometime before our next class meeting, you need to go to the Texas Memorial Museum and complete the UT Gem assignment (on Canvas).

Assignment: UT Gem short report (due 25 Feb)

Thurs 27 Feb: **SPECIAL COVID-19 CLASS**

Tues 3 Mar: Vaping

On Canvas:

- Weiss, Charles. 2006. "Can There Be 'Science-Based Precaution'?" *Environmental Research Letters* 1: 1-7.
- Britton, John. The BMJ (British Medical Journal) Opinion. "Electronic cigarettes and the precautionary principle." 20 September 2019.
- Karp, Paul. "Vaping debate rages in Australia as critics accuse government of smokescreen." *The Guardian*. 7 September 2019.
- Hotten, Russell. "San Francisco becomes first US city to ban e-cigarettes." *BBC News*. 25 June 2019.

Online:

- "AMA urges public to avoid e-cigarette use amid lung illness outbreak." American Medical Association statements. 9 September 2019. (<https://tinyurl.com/rzzhnhm>)
- Review the website of SHIFT at UT Austin (<https://shift.utexas.edu>). Examine relevant vaping data across universities here (<https://tinyurl.com/vtfbgeq>) and for UT Austin specifically here (<https://tinyurl.com/skvwm27>).

Thurs 5 Mar: Climate Change – Persuading People (1/3)

On Canvas:

- Selections from: Mann, Michael E. and Tom Toles. 2016. *The Madhouse Effect: How Climate Change Denial Is Threatening Our Planet, Destroying Our Politics, and Driving Us Crazy*. Columbia University Press.
- Read several articles that summarize research in political science on persuasion, public opinion, and climate change – from the *Monkey Cage*, at the *Washington Post*

Returned: Your reflection paper

Assignment: Reaction to a colleague's reflection paper (due 10 Mar)

Tues 10 Mar: Climate Change – International Coordination (2/3)

Online:

- Monastersky, Richard and Nick Sousanis. 24 November 2015. "Comic: The Fragile Framework." *Nature*. (<http://tinyurl.com/ph6dpw3>)

On Canvas:

- Read several articles that summarize research in political science on the Paris Agreement, international relations, and climate – from the *Monkey Cage*, at the *Washington Post*.

Thurs 12 Mar: Climate Change – Local Efforts (3/3)

Due: Reaction to a colleague’s reflection paper (by 9:30 AM)

Reading (in book):

- Chapter 7: Energy Efficiency and Climate Change.
Vogel, David. 2018. *California Greenin’: How the Golden State Became an Environmental Leader*. Princeton University Press.

On Canvas:

- Read several articles that summarize research in political science on local and subnational efforts to fight climate change – from the *Monkey Cage*, at the *Washington Post*.

Online:

- Read the series of articles on “Changing Climate, Changing Cities” in the *New York Times* here: (<https://www.nytimes.com/series/changing-climate-changing-cities>)
- Look at C40 Cities here: <https://www.c40.org/> and Carbon Neutral Cities Alliance here: <https://www.usdn.org/cnca.html>

SPRING BREAK: WEEKS OF MAR 16 AND MAR 23

ONLINE COURSE CONTENT (POST-SPRING BREAK):

** Please refer to Canvas for materials and for assignment instructions. We reserve the right to change materials and the content of assignments as the course progresses. Finalized content and assignment instructions will be available on Canvas by the beginning of the relevant course period.**

Tues 31 Mar: Human Subjects

- *Materials on Canvas*
- *Assignment on Canvas: Complete UT Austin’s Human Subjects Training*

Thurs 2 Apr: Policing Science

- *Materials on Canvas*
- *Assignment on Canvas: 1-2 page reflection paper*

Tues 7 Apr: Genetically Modified Organisms (GMOs) and Gene Editing

- *Materials on Canvas*
- *Assignment on Canvas: Contributions to discussion*
- *Explanation of end of semester video presentation assignment (due May 7, by 9:30 AM)*

Thurs 9 Apr: Research training and strategies

- *Information Literacy: Assignment on Canvas*
- *Lecture Series (revised): Assignment on Canvas (due May 7, by 9:30 AM)*

Tues 14 Apr: Intellectual Property – Why? (1/2)

- *Materials on Canvas*
- *Assignment on Canvas: “Study guide” outline*

Thurs 16 Apr: Intellectual Property, Health, and Development (2/2)

- *Materials on Canvas*
- *Assignment on Canvas: Video reaction*

Tues 21 Apr: Science and National Security: Dual-use technology

- *Materials on Canvas*
- *Assignment on Canvas: Data exploration*

Thurs 23 Apr: Scientists as Diplomats? Iran Deal

- *Materials on Canvas*
- *Assignment on Canvas: Reaction to US government science communication*
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Tues 28 Apr: Shutting down the Internet: When Governments Ban Technology

- *Materials on Canvas*
- *Assignment on Canvas: “Worst-case scenario” short story*

Thurs 30 Apr: Incentives, Innovation, and Industrial Policy: Examples from the US

- *Materials on Canvas*
- *Assignment on Canvas: Brainstorming likely and unlikely policies*

Tues 5 May: Lecture Series assignment due (by 9:30 AM)**Thurs 7 May: Video presentation due (by 9:30 AM)**

- *Final Exam distributed at 11:00 AM*

Sat 16 May, 12 noon: Final exam due (by end of our scheduled final exam period)

The following information is unchanged from the original syllabus; it is repasted here for your convenience. You are still expected to understand this information.

Course Description:

Most fights over contemporary science and technology policy are rooted in classic political problems of power, scarcity, and the distribution of resources. We will learn and apply foundational theories from social sciences to explore how voters and politicians understand science and how scientific knowledge is incorporated (or not) into public policy. This course will examine politics in the United States and abroad around a variety of issues such as environmental and health policy, intellectual property rights, security, innovation and

industrial policy, access to technology, and more, including topics selected by the students in the course.

This course relies heavily on several core articles from the social sciences as well as contemporary readings from a variety of academic and journalistic sources. The professor reserves the right to change readings based on our progress during the semester. Please reference the course's Canvas page for the latest updates.

Signature Course Mission and Course Essentials:

The Signature Courses at the University of Texas at Austin will connect students with distinguished faculty members in unique learning environments. By way of this rigorous intellectual experience, students will develop college-level skills in research, writing, speaking, and discussion through an approach that is interdisciplinary, collaborative, experiential, and contemporary.

Writing Flag:

This course carries the Writing Flag. Writing Flag courses are designed to give students experience with writing in an academic discipline. In this class, you can expect to write regularly during the semester, complete substantial writing projects, and receive feedback from your instructor to help you improve your writing. You will also have the opportunity to revise one or more assignments, and you may be asked to read and discuss your peers' work. You should therefore expect a substantial portion of your grade to come from your written work. Writing Flag classes meet the Core Communications objectives of Critical Thinking, Communication, Teamwork, and Personal Responsibility, established by the Texas Higher Education Coordinating Board.

Other Policies Relevant to the Course:

SHIFT Initiative:

This course takes part in UT Austin's SHIFT initiative and incorporates protective factors to promote student wellness and mitigate the risks associated with drug and alcohol misuse, including adverse academic outcomes. Learn more at shift.utexas.edu.

Mandatory Reporting Requirement:

Senate Bill 212 (SB 212) passed during the 2019 legislative session. It is a Texas State Law that requires all employees (both faculty and staff) at a public or private post-secondary institution to promptly report any knowledge of any incidents of sexual assault, sexual harassment, dating violence, or stalking "committed by or against a person who was a student enrolled at or an employee of the institution at the time of the incident." Therefore, should the professor or TAs learn of any such incident, they will file a report with UT Austin's Title IX Coordinator. For more information, consult UT Austin's Title IX office (titleix.utexas.edu).

Plagiarism and Academic Integrity:

All violations of university academic conduct guidelines, including plagiarism, will be referred to the Dean of Students and **will result in a zero on the assignment or exam in question.**

Using someone else's work in your own writing without giving proper credit is considered plagiarism, a serious form of academic dishonesty that can result in severe penalties. Copying someone else's work, buying a paper and submitting it as your own, copying and pasting text (even with changes), or borrowing images from an online source, are some examples of plagiarism. Even if you plagiarize accidentally, you can be held responsible and penalized.

Learning to cite sources appropriately is an important part of becoming a professional. When you are unsure about citation, you are encouraged to **ask your instructor** (who is already an expert in the discipline) what is appropriate in the context of your assignment. Consultants at The [University Writing Center](#) can also help you determine whether you are citing sources correctly—and they have helpful guides online for using [direct quotations](#) and [paraphrasing](#). Reviewing those skills will help you feel confident that you are handling sources professionally in your writing.

You can read the University's definition of plagiarism and other forms of academic dishonesty in Sec. 11-402 of the [Student Conduct Code](#). For more information, visit the [Dean of Students' site](#).

Plagiarism Detection Software:

All assignments in this course may be processed by TurnItIn, a tool that compares submitted material to an archived database of published work to check for potential plagiarism. Other methods may also be used to determine if a paper is the student's original work. Regardless of the results of any TurnItIn submission, the faculty member will make the final determination as to whether or not a paper has been plagiarized.

University 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 towards peers and community. Behavior Concerns Advice Line (BCAL): 512-232-5050.

Emergency Evacuation Policy:

Occupants of buildings at UT Austin are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside. Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building. Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class. In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or

Fire Prevention Services office. Information regarding emergency evacuation routes and emergency procedures can be found at: utexas.edu/emergency.
