Science in Environmental Policy

ENVST-UA 422 | Tu/Th 2PM–3:15PM | Meeting on zoom
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INTRODUCTION
Science is increasingly at the center of environmental policy debates. There is a widening belief that science is elitist, reductionist, and out of touch with real world issues, yet there is a growing momentum for more science and expertise in environmental policy and a distrust of democratic leadership. This tension – a weakening trust in science on one hand and need for more evidence-based policies on the other – underscores the urgency for a more nuanced understanding of the science–policy interface. The ongoing pandemic brings many of these issues to the forefront.

Over the semester, we will develop a set of analytical tools to explore the role of science in environmental policy and the specific ways science features (or not) in designing and implementing environmental solutions. We will derive our analysis from theory and apply it across a range of environmental policy issues such as banning plastics, managing fisheries, climate change, and endangered species. The course draws on range of academic fields: Environmental Sociology, Science and Technology Studies (STS), Political Science, and Ecological Economics. Invited speakers – lawyers, scientists, NGO leaders, and industry experts – will speak from their professional experience on contemporary issues.

LEARNING OUTCOMES
1. Students will use case studies to specify different theoretical positions related to science in environmental policy.
2. Students will learn to write clear and concise policy memos pertaining to a contemporary environmental policy issue.
3. Through formally organized in-class debates, students will build extemporaneous speaking skills.
4. Students will read and synthesize large volumes of critical social scientific text and learn to apply readings in class discussion.

Photo Credit: April 22, 2017 Science March, NYTimes
COURSE OUTLINE

The course presents a broad overview of environmental policy issues. We will balance a deep theoretical understanding with many real-world cases.

- **Theoretically**, the class builds on contributions from Science and Technology Studies (STS), Policy Studies, Geography, Sociology, and Political Science. Readings comprise mainly of peer-reviewed journal articles but we also read book chapters, think tank reports, editorials, blogs, and videos. Readings have been carefully selected to advance critical thinking.

- **Empirically**, we will discuss controversial environmental debates across domains of environmental regulation, environmental impact assessments, environmental certification, citizen science, and digital technologies. Through the cases, we will examine principal stakeholders, key arguments, and the institutional mechanisms through which expertise is incorporated into the design and implementation of environmental policies.

THIS COURSE HAS NO REQUIRED TEXTS

COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>Grading Components and Weights</th>
<th>Weights</th>
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<tr>
<td>Class Participation (includes 5 points for debate)</td>
<td>20%</td>
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<tr>
<td>Reading Reflections (5*5 points each)</td>
<td>25%</td>
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<tr>
<td>Policy Memo</td>
<td>25%</td>
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<tr>
<td>Prelim + Final (2*15 points each)</td>
<td>30%</td>
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1. ATTENDANCE (20%)

Attendance for all classes is compulsory. Expectations for participation go far beyond responding to questions when asked. When unclear about the material, please actively solicit responses from both the instructor and your classmates. You are required to read course materials in advance and come to class prepared to ask and respond to questions. This course has a lot of reading and this will help you improve reading comprehension. Some readings may require more close attention while others can be scanned quickly. Reading volume will vary from week to week, but something around 60 pages of academic writing per week will be the norm. Please complete the readings BEFORE arriving at class on the day they are listed in the syllabus. Failing to do so, you will find it hard to follow what is going on in class, and may find yourself unprepared for in-class activities. Sometimes, you may be asked to come to class with a written note responding to a pre-circulated prompt. Our weekly meetings will be far more valuable if everyone participates actively.

As part of the participation grade (5%), students will partake in a series of debates on contested environmental policy issues. All debates will be during class time. Debaters will be assigned topics and teammates. In the first two weeks, students will rank their preference for debate topics. Depending on final class size, we will have either three or four debates. Teams must
work together prior to the meeting to develop their argument strategy and be prepared to refute arguments made by opposing teams during the meeting.

*Given the online format, we need to double down on our commitment to attendance and participation. If for a reason, say time zone or internet access, you are not able to attend class on a particular occasion, meeting recordings will be made available. However, non-attendance is permitted through permission only.

2. READING REFLECTIONS (20%)
You will write five 500–750 word reflections on the readings. In your essays, you must summarize key arguments in the relevant texts and offer 2–3 key questions related to the topic. This writing exercise serves three objectives. First, this is a way to have you read specific materials more deeply. Second, putting your ideas down on paper will force you to articulate your ideas in a clear way. Lastly, this is a way for me to hear your reactions to the readings and calibrate my teaching. In your response, you are expected to build on the following:

1. Summarize the main points (concepts and ideas) made in this reading?
2. Describe how the author/s make their argument? What kinds of analytical resources: case studies, logical reasoning, historical accounting etc. is used to make the argument?
3. Describe how you think the readings are connected to other readings or class discussions?
4. What in your view is the value of the paper?
5. What parts of the paper are unclear to you and what parts would you like to explore further?

In order to encourage you to write freely, a submission will guarantee you the full five points for the assignment. You will not be evaluated on “correctness” of the argument. Having said that, I expect you to write clearly and carefully. Organizing your thoughts before penning them will help me understand where you are coming from. Six prompts will be provided and you need only write on five. This is meant to offer you flexibility.

3. POLICY MEMO (25%)
Students will complete one substantial writing assignment on a self–chosen policy theme (~2,500 words). The policy memo is a tightly argued piece of writing directed at a specific stakeholder or policy–maker. Memos are widely circulated within governments, international NGOs, and large companies as the way to share information in a clear, concise, and actionable manner. The focus is not on generating new research but on synthesis and offering policy recommendations. The memo assumes that the reader has limited knowledge of the topic or little time to conduct research, but is positioned to act on the information. For students encountering policy memos for the first time, I assure you the training is rigorous but useful. It is particularly so for students interested in careers in law and policy.
This will be a staggered exercise with submissions required throughout the semester. Students will be assessed on their ability to review, analyze, propose, and defend a particular course of action. Effective writing and analysis is a core skill set you will develop through this course. Students must identify the topic of the memo themselves and sharpen the focus as the term progresses. More guidance and detail on the format and expectations will be provided closer to the first assignment. Please meet me at least once during the semester to discuss the memo.

4. PRELIM AND FINAL (15*2%)
The course has one online prelim and one final. The purpose of a formal exam is to force a review function, i.e. the exams are not meant to trick you. For the most part, exams will comprise a combination of 4–5 short essay-styled (4–6 sentences) questions and a medium-length (750 word) reflective essay. Questions will draw directly from readings, lectures, and discussions but independent critical thinking will be needed. Prior to the prelim, we will organize a review session where you can pose questions to me about the exam, course themes, and specific materials.

*Both exams will be conducted online. Exams will be one hour long and you will have a 48 hour window where you can take the exams at your own time of convenience.

III. COURSE POLICIES
This is a ‘living document’, which means I will regularly update the document and upload the most recent version on NYU Classes. You will also find additional documents on NYU Classes laying out specifics of all the assignments and the discussion sessions. Assignments are to be submitted directly through NYU Classes.

COMMUNICATION
This syllabus contains most of the information you will need about class logistics, readings, deliverables, deadlines etc. As a general policy, first look to the syllabus for answers to your question. If not in the syllabus, check NYU Classes. If you do not find an answer to your question here or online, you should definitely write to me. I will be available during office hours, by appointment, and on–email. It would be most productive for you and me to ensure that our interactions are toward substantive themes rather than about logistics.

SUBMISSION AND DEADLINE POLICY
All assignments must be submitted electronically (MS–word compatible formats only) through NYU Classes. More information about the actual submission process will be outlined closer to the deadlines.

Assignments turned in after the deadline will face late penalties at my discretion. It is important to respect the deadline for our own self–discipline and in fairness to the trade–offs made by others to submit on time. Under limited conditions, a deadline extension may be granted.
Conditions include documented emergencies (illness, family emergencies etc.) or circumstances cleared with the instructor (e.g. religious holidays). Extension requests will not be considered if the request is based on poor preparation or negligence.

**LAPTOP AND SCREEN POLICIES**

The nature of online teaching means we are all on our computers during the entire class. I want us all to be mindful of the potential adverse impact of laptops and phones on the quality of the learning experience for you and your peers. The distractions of the internet are real but we must stay focused and nurture our individual techniques for focusing. I encourage students to exercise common sense and respect for your peers. For example: please do not shop or check social media during meetings. You are encouraged to check terms and words online as long as it does not significantly distract you from the meeting. Zoom offers an attention score, which may be utilized for accountability.

**ACADEMIC INTEGRITY**

Students are encouraged to work and study together within the bounds of NYU’s academic integrity policy. Sharing questions, ideas, and consulting with other students is important for learning. However, this permissible cooperation should never involve a student possessing a copy of all or part of work done by another student, in the form of an e-mail, an e-mail attachment file, a flash drive, diskette, cloud storage, or a hard copy. Should copying occur, both the student who copied work and the student who gave material to be copied would 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.

Every student in the course must abide by New York University’s Policy of Academic Integrity ([https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html](https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html)). As the policy states, “NYU expects and requires its students to adhere to the highest standards of scholarship, research and academic conduct. Essential to the process of teaching and learning is the periodic assessment of students’ academic progress through measures such as papers, examinations, presentations, and other projects. Academic dishonesty compromises the validity of these assessments as well as the relationship of trust within the community. Students who engage in such behavior will be subject to review and the possible imposition of penalties in accordance with the standards, practices, and procedures of NYU and its colleges and schools. Violations may result in failure on a particular assignment, failure in a course, suspension or expulsion from the University, or other penalties.”

Please be mindful of the different kinds of academic integrity violations as detailed on the website. Always make sure in this class and elsewhere that the work you submit or present is entirely your own and any references to the work of others is clearly reported.

**STUDENT DISABILITY SERVICES**
If you find yourself facing some personal challenge, I am available to discuss modifications to course expectations. If you have a disability, I encourage you to consult the Henry and Lucy Moses Center for Students with Disabilities. In general, accommodations to students who have a documented disability (e.g., physical, learning, psychiatric, vision, hearing, or systemic) will follow university protocol.

*The current pandemic underscores the importance of open communication and sharing. Your challenges are likely shared and others can help. Personal difficulties can be easier to overcome through consultation with peers, family members, and experts. If facing personal challenges, reach out to as many people as you can, including me.*

IV. SCHEDULE

We build on the following tension: On one hand, there is growing demand for more science and more evidence-based policies but on the other, there is a weakening trust in scientific institutions, a characterization of experts as elites, and undemocratic. We discuss how the notion of an “expert” comes from and what it means to claim expertise. We then discuss some of the criticism of expanding the role of experts in environmental governance.

Thur 3–Sep: Introductions
- Please read the syllabus carefully and check the reading lists.
- We will devote time to setting some ground rules related to the zoom format.

Tue 8–Sep: What is Science?
  Chapter 2 (The Route to Normal Science) and Chapter 3 (The Nature of Normal Science)

Thu 10–Sep: Science as an Institution

**SUN 13th Sep: READING REFLECTION 1:** Merton argues: "The institutional goal of science is the extension of certified knowledge." In your own words, reflect on the importance of the stated goal, and how Mertonian norms help think about the role of science in society.

Tue 15th Sep: Contested boundaries in policy–relevant science
- **Watch "Merchants of Doubt".** See trailer here. Please watch the movie on their own time and money.
o The movie is available on multiple online streaming platforms including NYU Library. It can also be found via: YouTube and Amazon Prime. Depending on the platform, you may need to pay to watch the movie. A DVD is also available at the NYU library for free.
o When watching the movie, observe how science is presented as pure and politics as corrupted. Identify 2–3 examples where you see the boundaries between science and politics play out. Please come prepared for a discussion next class.

Thu 17th Sep: Contested boundaries in policy–relevant science + Debrief Merchants of Doubt

SUN 20th Sep: READING REFLECTION 2: What do Gieryn and Jasanoff mean by the term “boundary work?” Use examples provided in Jasanoff’s text to explore how “science” is mobilized as a strategic reference in legitimizing public policy.

Tue 22nd Sep: Problematizing Science: When experts know less

Thu 24th Sep: Problematizing Science: Science as power
- Scott, James C. Seeing like a state: How certain schemes to improve the human condition have failed. Yale University Press, 1998 (Intro and Chapter 1)

SUN 27th Sep: READING REFLECTION 3: Compare and contrast the “deficit model of science-policy” with Wynne’s view of the role of expertise and ignorance. How does Wynne problematize the expertise in the Cumbrian sheepfarming case? What policy lessons can we draw from the study?

Tue 29th Sep: Looking ahead: Democratize science
- Discussion on Policy Memos

Thur 1st Oct: Looking ahead: Alternatives to technocracy
- Discussion on Policy Memos
**SUN 4th Oct: POLICY MEMO TOPIC BRIEF DUE**

**Tue 6th Oct: Tame v Wicked Problems**

**Thu 8th Oct: Debate 1: This house believes we need more science, less democracy**
*SUGGESTED READINGS (Assigned Debaters are expected to go beyond readings):*

**SUN 11th OCT: READING REFLECTION 4: The dominant environmental policy narrative is that the world came together to build on ozone science with scaled, urgent, and coordinated policy responses. Why has similar coordination failed to materialize in relation to climate change? Draw on Grundmann’s essay to explore the contrasting narratives of science–policy applied to ozone depletion and climate change. What does the contrast tell us about the broader conditions in which science shapes policy outcomes? (Previous week’s debaters will receive an extension, if requested)**

**Tue 13th Oct: Looking ahead: Post-Normal Science + Covid 19 Discussion**

**Thu 15th Oct: Introduction to policy processes**

**FRI 16th – SUN 18th OCT: ONLINE MIDTERM: DETAILS TO FOLLOW**

**Tue 20th Oct: Science in Policy Process + Exam debrief**

**Thu 22nd Oct: Science and Agenda Setting**
- Setup for Debate 2
SUN 25th Oct: READING REFLECTION 5: Summarize the three stages of the policy process according to Keller, and explain how Keller defines distinct positions for science and boundary work across these stages.

Tue 27th Oct: Debate 2: “The doomsday narrative of climate change hurts constructive policy making”
Suggested readings:
- Editorial, “The Guardian view on climate policy failures: don’t give up”. Sun 30 Sep 2018; Guardian

Thu 29th Nov: Science in the judiciary: Legal Case Study: Mass V EPA 2007
- Read:
  - Mass v EPA: Justice Steven’s statement
  - Mass v EPA: Justice Scalia’s dissent
  - (OPTIONAL) 2009 Endangerment Finding

SUN 1ST NOV: POLICY MEMO: Preliminary synthesis of stakeholders, key positions, core debates, and annotated bibliography.
*(Previous week’s debaters will receive an extension, if requested)*

Tue 3rd Nov: Boundary Organizations

Thu 5th Nov: GUEST SPEAKER: SARAH YACKELL, BFJ Planning
- Discuss Environmental Assessments
- Readings TBD

SUN 8th NOV: READING REFLECTION 6 (OPTIONAL):

Tue 10th Nov: Data-driven Governance?
- Readings TBD

Thur 12th Nov: GUEST LECTURE: Cormac Driver and Vaugh Shinall, TEMBOO
Tue 17th Nov: Who funds science?

Pre-class assignment: Identify an environmental or climate scientist. Do some desk research and come to class with a response to the following: How do they fund their research? Potential sources:
  1. Websites
  2. Project documents/reports
  3. Potential collaborators
  4. Peer-reviewed articles – disclaimer statements

Thu 19th Nov: Debate 3: This house believes we need to privatize scientific research
- TBD

SUN 22nd NOV: POLICY MEMO DRAFT. Draft will be shared with your peers. Everyone will be expected to comment on two of their peer’s draft memos. Instructions on the peer review process will be provided.
(Previous week’s debaters will receive an extension, if requested)

Tue 24th Nov: Globalizing Science – IPCC
- Beck, Silke, “What does ‘Climategate’ tell us about Public Knowledge Controversies”.
- Discuss how IPCC organizes “peer-review”

Thu 26th Nov: THANKSGIVING BREAK

SUN 29th NOV: PEER REVIEW COMMENTS ON POLICY MEMO

Tue 1st Dec: Discuss Policy Memos. Geo-engineering discussion
- TBD

Thu 3rd Dec: Debate 4: This house believes geo-engineering is the answer to climate change
- TBD

Tue 8th Dec: Closing Thoughts + Prelim Review
TBD

THU 10th Dec: FINAL EXAM
SUN 13th NOV: FINAL POLICY MEMOS DUE
ALL DEADLINES

Sun 13th Sep : Reading Reflection 1
Sun 20th Sep : Reading Reflection 2

Sun 27th Sep : Reading Reflection 3

Sun 4th Oct : Policy Memo Topic Brief Due

Thu 8th Oct : Debate 1

Sun 11th Oct : Reading Reflection 4

Fri 16th – Sun 18th Oct: Online Midterm: Details To Follow

Sun 25th Oct : Reading Reflection 5

Tue 27th Oct : Debate 2

Sun 1st Nov : Policy Memo Update

Sun 8th Nov : Reading Reflection 6 (Optional)

Thu 19th Nov : Debate 3

Sun 22nd Nov : Policy Memo Draft

Sun 29th Nov : Peer Review Comments on Policy Memo

Thu 3rd Dec : Debate 4

Thu 10th Dec : Online Final Exam

Sun 13th Nov : Final Policy Memos Due