

Course Information	<p style="text-align: center;">90-798: Systems Analysis: Environmental Policy, Section A Fall 2021 (Mini 1) H. John Heinz III School of Public Policy and Management Carnegie Mellon University</p>
	<p>Location: HBH 1007 (Section A), Pittsburgh Campus</p>
	<p>Meeting Day: Wednesday (Section A) Meeting Time: 6:20 – 9:10 PM (Section A)</p>
	<p>Faculty Instructor: Matthew M. Mehalik, Ph.D. Adjunct Professor of Environmental Policy (412) 445-0411 Email: mmehalik@andrew.cmu.edu Office Hours: by appointment</p>
Prerequisites	<p>Graduate Level Enrollment or Permission of Instructor</p>
Description	<p>90-798: Systems Analysis: Environmental Policy provides an introduction to how environmental policies have been and can be designed/created, implemented, and evaluated amidst complex information-based, social, political, and cultural processes. The course emphasizes a systems-based methodological approach for addressing the complexities involved in framing, analyzing, and designing an implementation plan for policy construction.</p> <p>The course also explores through landmark and contemporary case studies several dimensions of environmental policymaking:</p> <ul style="list-style-type: none"> • Contextual, historical, and structural aspects of environmental policymaking at the local, state, federal, and international levels • Use of quantitative and qualitative analytical tools (from core program + new tools) • The process of how policies derive their meanings. • Contemporary challenges and opportunities in environmental policymaking. • Strategies for successful policymaking in the contemporary landscape. <p>The course includes experiential, hands-on learning (case studies, analyses, presentations, and guest lectures) as well as reflective components (readings, discussion, and papers). Students in this course work on a final end-of-mini policy case to demonstrate mastery of the knowledge and skill-based exercises explored during the mini period.</p> <p>By the end of the course, each student will be able to:</p> <ul style="list-style-type: none"> • Learn and deploy a systems-based approach towards structuring and analyzing an environmental policy decision situation; • Connect several analytical tools to policymaking processes, such as rate and weight decision methods, optimization, decision analysis and decision trees, economic modeling, and decisions under uncertainty;

	<ul style="list-style-type: none">Evaluate and design potential alternative policy solutions; andPropose strategic ways of engaging with social and political processes in order to advance policy solution goals.																		
Required Course Materials	<p>Vig, Norman J. and Kraft, Michael E. (2021). <i>Environmental Policy: New Directions for the Twenty-First Century</i>. 11th Edition. Washington, DC: CQ Press.</p> <p>Layzer, Judith A. and Rinfret, Sara R. (2019). <i>The Environmental Case: Translating Values into Policy</i>. 5th Edition. Washington, DC: CQ Press.</p> <p>Other Readings will be available online</p>																		
Evaluation Method	<p>Your final grade will be based on:</p> <ul style="list-style-type: none">Case Assignments/Homework: 60%End of Mini Case Report 25%Final Reflection 15% <p>In addition, your final grade will incorporate a multiplier (from 0.7 to 1.1) based upon a team peer evaluation rubric and from instructor observations.</p>																		
Learning/Course Objectives	<p>Skills and knowledge students should gain and how they will be assessed</p> <table><tr><th>Learning Objective</th><th>How Assessed</th></tr><tr><td>Learn and deploy a systems-based approach towards structuring and analyzing an environmental policy decision situation</td><td>Group Cases, Homework, End of Mini Case Report/Presentation</td></tr><tr><td>Connect several analytical tools to policymaking processes, such as rate and weight decision methods, optimization, decision analysis and decision trees, economic modeling, risk analysis, and GIS</td><td>Cases, Homework, End of Mini Case Report/Presentation</td></tr><tr><td>Evaluate and design potential alternative policy solutions</td><td>Cases, Homework, End of Mini Case Report/Presentation</td></tr><tr><td>Propose strategic ways of engaging with social and political processes in order to advance policy solution goals</td><td>Cases, Homework, End of Mini Case Report/Presentation</td></tr><tr><td>Assess how the courses tools relate to career goals and objectives</td><td>Final Reflection</td></tr></table>	Learning Objective	How Assessed	Learn and deploy a systems-based approach towards structuring and analyzing an environmental policy decision situation	Group Cases, Homework, End of Mini Case Report/Presentation	Connect several analytical tools to policymaking processes, such as rate and weight decision methods, optimization, decision analysis and decision trees, economic modeling, risk analysis, and GIS	Cases, Homework, End of Mini Case Report/Presentation	Evaluate and design potential alternative policy solutions	Cases, Homework, End of Mini Case Report/Presentation	Propose strategic ways of engaging with social and political processes in order to advance policy solution goals	Cases, Homework, End of Mini Case Report/Presentation	Assess how the courses tools relate to career goals and objectives	Final Reflection						
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Grading Scale	<table><tr><td>A+</td><td>99.0-100%</td><td>B+</td><td>88.0-90.9%</td><td>C+</td><td>78.0-80.9%</td></tr><tr><td>A</td><td>94.0-98.9%</td><td>B</td><td>84.0-87.9%</td><td>C</td><td>74.0-77.9%</td></tr><tr><td>A-</td><td>91.0-93.9%</td><td>B-</td><td>81.0-83.9%</td><td>C-</td><td>71.0-73.9%</td></tr></table>	A+	99.0-100%	B+	88.0-90.9%	C+	78.0-80.9%	A	94.0-98.9%	B	84.0-87.9%	C	74.0-77.9%	A-	91.0-93.9%	B-	81.0-83.9%	C-	71.0-73.9%
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Grading Rubrics	Case, Presentation, End of Mini Case Report/Presentation, Peer Assessment, and Final Reflection Rubrics will be provided throughout the semester.																		
Plagiarism and cheating notice	<ul style="list-style-type: none">Plagiarism: All work in this class must be your own. It is unprofessional to copy or use another person’s materials or ideas without proper attribution to that person. Plagiarism ruins the careers of professionals, and also is in violation of University policy. If you have questions about proper attribution, do not hesitate to contact me for help.																		

	<ul style="list-style-type: none"> • Plagiarism and other forms of academic misrepresentation are taken extremely seriously. Misrepresentation of another's work as one's own is widely recognized as among the most serious violations. The violation is clearly flagrant when it occurs as plagiarism on a required paper or assignment or as cheating on an examination, regardless of whether it is a take-home or in-class examination. The punishment for such offenses can involve expulsion from the program. There are many other ways in which a violation can occur. • <i>Academic Dishonesty:</i> Students are expected to maintain the highest ethical standards inside and outside the classroom. Cheating on exams and term papers (i.e. plagiarism and unauthorized collaboration) is obviously discouraged and will be treated appropriately. The usual penalty for violations is a failing grade for the particular assignment in question; however, in some instances, such actions may result in a failing grade for the course. • Academic integrity governs the way in which classwork, writing, and research are done at a University. It is founded on the principles of respect for knowledge, truth, scholarship, and acting with honesty. These principles and values are the foundation of academia and are especially important to the Heinz College with its mission of providing public and private sector education for professionals. Academic integrity is essential for all students and it is the responsibility of all faculty members to provide learning environments that foster and enforce academic integrity. As per university rules, faculty must report all incidents to the appropriate associate dean in which there is sufficient evidence that a student or students have breached academic integrity by cheating or plagiarism. • Please visit the <i>Heinz College Student Handbook</i>, CHAPTER 9, "ETHICS AND DISCIPLINE," for guidance on issues related to academic integrity, as these policies are in effect in this course: https://www.heinz.cmu.edu/heinz-shared/files/img/student-handbooks/heinz-college-2020-2021-student-handbook.pdf
Course Policies & Expectations	<ul style="list-style-type: none"> • Professionalism: Your entire experience is geared toward helping you develop skills necessary to participate in the world as a qualified professional. This means taking responsibility for the work that you produce and for your conduct among your student colleagues and other members of the university community. Quality work in developing knowledge, skills, and wisdom are the most important goals to keep in mind. Quantity of product and number of hours spent working are secondary to overall quality. • Attendance: Students are expected to attend all sessions. Students may be excused from two classes for professional, health, or personal reasons when the instructor is notified of the pending absence. Attendance performance is used as a multiplying factor in the final grade. • Participation: It is essential for all students to participate fully in class in their case evaluation teams. Students will complete a peer evaluation of their team's performance. The instructor will note class participation observations. The results of the evaluation scores are used as a multiplying factor in the final grade, using a

	<p>statistical distribution of the scores with mean and cut point performance thresholds based on standard deviations from mean performance.</p> <ul style="list-style-type: none"> • Recording of Class: Some students find it helpful to record class sessions. Because there may be times when recording of class may be inappropriate, students must request the instructor's permission prior to recording classes. All such recordings are for personal use. Copies of these recordings may not be distributed to anyone else in any format or fashion. • Contacting me for help: Send me an e-mail to set up an appointment. Email is the best way to get in contact with me.
Student Well-Being	<ul style="list-style-type: none"> • This year is unlike any other. We are all under a lot of stress and uncertainty at this time. Make sure to move regularly, eat well, and reach out to your support system or me (mmehalik@andrew.cmu.edu) if you need to. We can all benefit from support in times of stress, and this semester is no exception. • Take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful. If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. Counseling and Psychological Services (CaPS) is here to help: call 412-268-2922 and visit their website at http://www.cmu.edu/counseling/. Consider reaching out to a friend, faculty or family member you trust for help getting connected to the support that can help. If you or someone you know is feeling suicidal or in danger of self-harm, call someone immediately, day or night: CaPS: 412-268-2922 Re:solve Crisis Network: 888-796-8226 <p>If the situation is life threatening, call the police: On campus: CMU Police: 412-268-2323 Off campus: 911</p> <p>If you have questions about this or your coursework, please let me know.</p> <ul style="list-style-type: none"> • Food Insecurity: If you are worried about affording food or feeling insecure about food, there are resources on campus who can help. Email the CMU Food Pantry Coordinator to schedule an appointment: Pantry Coordinator cmu-pantry@andrew.cmu.edu 412-268-8704 (SLICE office)
Transferring to fully remote during the semester	<ul style="list-style-type: none"> • If the class needs to go fully remote, you will receive an email from me and an announcement will be published on our course website on Canvas.

Use of technology during class	<ul style="list-style-type: none"> This class involves regular use of technology– both for in-person and remote students. Research has shown that divided attention is detrimental to learning, so I encourage you to close any windows not directly related to what we are doing while you are in class. Please turn off your phone notifications and limit other likely sources of technology disruption, so you can fully engage with the material, each other, and me. Also, if applicable, people in remote mode should have their video turned on during the entire class time. This will create a better learning environment for everyone. A laptop will be needed for our in-person classes, so if you do not have access to one, please email me (mmehalik@andrew.cmu.edu) as soon as possible so we can find a solution.
Accommodations for students with disabilities	<ul style="list-style-type: none"> If you have a disability and have an accommodations letter from the Disability Resources office, I encourage you to discuss your accommodations and needs with me as early in the semester as possible. I will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, I encourage you to contact them at access@andrew.cmu.edu.
Diversity statement	<ul style="list-style-type: none"> We must treat every individual with respect. We are diverse in many ways, and this diversity is fundamental to building and maintaining an equitable and inclusive campus community. Diversity can refer to multiple ways that we identify ourselves, including but not limited to race, color, national origin, language, sex, disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status, or genetic information. Each of these diverse identities, along with many others not mentioned here, shape the perspectives our students, faculty, and staff bring to our campus. We, at CMU, will work to promote diversity, equity and inclusion not only because diversity fuels excellence and innovation, but because we want to pursue justice. We acknowledge our imperfections while we also fully commit to the work, inside and outside of our classrooms, of building and sustaining a campus community that increasingly embraces these core values. Each of us is responsible for creating a safer, more inclusive environment. Unfortunately, incidents of bias or discrimination do occur, whether intentional or unintentional. They contribute to creating an unwelcoming environment for individuals and groups at the university. Therefore, the university encourages anyone who experiences or observes unfair or hostile treatment on the basis of identity to speak out for justice and support, within the moment of the incident or after the incident has passed. Anyone can share these experiences using the following resources: <ul style="list-style-type: none"> Center for Student Diversity and Inclusion: csdi@andrew.cmu.edu, (412) 268-2150 Report-It online anonymous reporting platform: reportit.net username: <i>tartans</i> password: <i>plaid</i> All reports will be documented and deliberated to determine if there should be any following actions. Regardless of incident type, the university will use all shared experiences to transform our campus climate to be more equitable and just.
	<ul style="list-style-type: none"> I will be using Zoom to record our class sessions. The links to the recorded sessions will be available on Canvas. If the situation presents itself where we will need to transition to remote learning, please make sure that your Internet connection and equipment are set up to use Zoom and able to share audio and video during class meetings. (See this page from

	<p>Computing Resources for information on the technology you are likely to need: https://www.cmu.edu/computing/start/students.html)</p> <ul style="list-style-type: none"> • Let me know if there is a gap in your technology set-up (mmehalik@andrew.cmu.edu) as soon as possible, and we can see about finding solutions. • Sharing video: In this course, being able to see one another helps to facilitate a better learning environment and promote more engaging discussions. Therefore, if we are in remote learning mode, our default will be to expect students to have their cameras on during lectures and discussions. However, I also completely understand there may be reasons students would not want to have their cameras on. If you have any concerns about sharing your video, please email me as soon as possible (mmehalik@andrew.cmu.edu) and we can discuss possible adjustments. Note: You may use a background image in your video if you wish; just check in advance that this works with your device(s) and internet bandwidth. • If you are logged in remotely during our class meetings, please keep your mic muted unless you are sharing with the class or your breakout group. • If you have a question or want to answer a question, please use the chat or the "raise hand" feature. I will be monitoring these channels in order to call on students to contribute. • Our synchronous meetings may involve breakout room discussions, and those will work better if everyone in your small group has their camera turned on. During large group debriefs, you may keep your video off.
Expectations for coming to class	<ul style="list-style-type: none"> • In order to attend class meetings in person, all students are expected to abide by all behaviors indicated in A Tartan's Responsibility, including any timely updates based on the current conditions. • In terms of specific classroom expectations, whenever the requirement to wear a facial covering is in effect on campus, students are expected to wear a facial covering throughout class. Note: the requirement to wear a facial covering is in effect for the start of the Fall 2021 semester. If you do not wear a facial covering to class, I will ask you to put one on (and if you don't have one with you, I will direct you to a distribution location on campus, see https://www.cmu.edu/coronavirus/health-and-wellness/facial-covering.html). If you do not comply, you will be referred to the Office of Community Standards and Integrity for follow up, which could include student conduct action. Finally, please note that sanitizing wipes should be available in our classroom for those who wish to use them.
Recording of class sessions	<ul style="list-style-type: none"> • For this course, I will be recording class sessions and making them available to you for your personal, educational use. The purpose of these recording is so students in this course (and only students in this course) can watch or re-watch past class sessions. Feel free to use the recordings if you would like to review something we discussed in class or if you are temporarily unable to attend class.
Grading policies and late assignments	<ul style="list-style-type: none"> • All assignments have due dates indicated on the syllabus. In general, submitting assignments on time lets me provide feedback in a more timely and efficient manner. Assignments build on each other, so timely submissions are crucial to your progress in the class. However, sometimes life happens. If you cannot submit an assignment on time, the default will be that you will be eligible for 90% of the grade the first 48 hours that the assignment is late. If you have to submit beyond 48 hours past the due date, please contact me (mmehalik@andrew.cmu.edu) as soon as possible so we can make arrangements.
Student Academic Success Center (SASC)	<p>Student Academic Success Center (SASC)</p> <p>SASC focuses on creating spaces for students to engage in their coursework and approach learning through a variety of group and individual tutoring options. We offer</p>

	<p>many opportunities for students to deepen their understanding of who they are as learners, communicators, and scholars. Our workshops are free to the CMU community and meet the needs of all disciplines and levels of study. SASC programs to support student learning include the following (program titles link to webpages):</p> <ul style="list-style-type: none"> • Academic Coaching--This program provides holistic, one-on-one peer support and group workshops to help undergraduate and graduate students implement habits for success. Request an initial consultation here. • Peer Tutoring--Peer Tutoring is offered in two formats for students seeking support related to their coursework. Visit the webpage to see courses currently being supported by Peer Tutoring. • Communication Support--Communication Support offers free one-on-one communication consulting as well as group workshops to support strong written, oral, and visual communication in texts including IMRaD and thesis-driven essays, data-driven reports, oral presentations, posters and visual design, advanced research, application materials, grant proposals, business and public policy documents, data visualisation, and team projects. Schedule an appointment on our website (in-person, zoom synchronous, or recorded video), attend a workshop, or consult handouts or videos to strengthen communication skills. • Language and Cross-Cultural Support--This program supports students seeking help with language and cross-cultural skills for academic and professional success through individual and group sessions. Make an appointment with a Language Development Specialist to get individualized coaching. • Supplemental Instruction (SI)--This program offers a non-remedial approach to learning in historically difficult courses at CMU. Visit the website to see courses with SI available here.
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Schedule and Specific Learning Objectives

Times and dates are listed for Section A (Pittsburgh).

Week	Date	Assignment
1	9/1	<ul style="list-style-type: none"> • Learning Objectives: <ul style="list-style-type: none"> ○ Framing the Need for Environmental Policy ○ Course Overview ○ Introduction to Systems Perspective ○ Overview of Case Analysis
2	9/8	<ul style="list-style-type: none"> • Learning Objectives: <ul style="list-style-type: none"> ○ Understand context of American Environmentalism and its impact ○ Environmental Justice and Environmental Racism ○ Get broad perspective on the evolution of government's role ○ Systems Analysis Methodologies (cont.) ○ Gibson-Scherer, Ch. 1, 2 & 3 ○ V&K, Chs. 1 & 2 • Case Studies Due (Group Assignment) <ul style="list-style-type: none"> ○ A. Layzer, (Clean Air & Water Acts) ○ B. Layzer, (Love Canal)
3	9/15	<ul style="list-style-type: none"> • Learning Objective: <ul style="list-style-type: none"> ○ Learn frameworks for addressing Values, Goals, Agenda Setting & Policy Processes <ul style="list-style-type: none"> ○ Cohen, Chs. 1-4 ○ V&K, Ch. 3 • Skill Development Objectives: <ul style="list-style-type: none"> ○ Determining the Goals of a system • Case Studies Due (Group Assignment) <ul style="list-style-type: none"> ○ A. Layzer, (Community Activism – Dudley St. – on Canvas) ○ B. Layzer, (Cape Wind) ○ C. Layzer, (Federal Grazing)
4	9/22	<ul style="list-style-type: none"> • Skill Development Objectives: <ul style="list-style-type: none"> ○ Establishing Indices of Performance <ul style="list-style-type: none"> ○ Gibson & Scherer, Ch. 4 ○ Rate and Weight methods ○ Dominance, Utility Values <ul style="list-style-type: none"> ○ Stokey & Zechhauser, pp.237 – 254 • Learning Objectives: <ul style="list-style-type: none"> ○ Environmental Justice and Frontline Communities ○ Congressional and Executive Branch Regulatory Approaches ○ Policy Processes and Rulemaking <ul style="list-style-type: none"> ○ V&K Chs. 4, 5, 7 ○ EJ Reading • Case Studies <ul style="list-style-type: none"> ○ A. Layzer, (Spotted Owl) ○ B. Layzer, (Drilling in ANWR) ○ C. Layzer, (Snowmobiles in Yellowstone)
5	9/29	<ul style="list-style-type: none"> • Skill Development Objectives: <ul style="list-style-type: none"> ○ Utility Values, Cont. ○ Multi-Attribute Utility Values (MAUT)

		<ul style="list-style-type: none"> ○ Stokey & Zechhauser, pp. 201 – 236 <ul style="list-style-type: none"> • Learning Objectives: <ul style="list-style-type: none"> ○ Court Actions and Reviews ○ V&K, 6 • Case Studies <ul style="list-style-type: none"> ○ A. Layzer, (NE Fisheries) ○ B. Layzer, (Deepwater Horizon) ○ C. Layzer, (Hurricane Katrina)
6	10/6	<ul style="list-style-type: none"> • Skill Development Objectives: <ul style="list-style-type: none"> ○ MAUT (cont.), Decision Analysis, and Sensitivity Analysis/Tornado Diagrams <ul style="list-style-type: none"> ○ Stokey & Zechhauser, pp. 201 – 236 ○ Economic Modeling <ul style="list-style-type: none"> ○ Stokey & Zechhauser, pp. 134 - 176 • Case Studies <ul style="list-style-type: none"> ○ A. Layzer, (Acid Rain) + Special Handout on Acid Rain ○ B. Layzer, (Climate Change) ○ C. Layzer, (Fracking Wars)
7	10/13 Last Class Meeting	<ul style="list-style-type: none"> • Learning Objectives: <ul style="list-style-type: none"> ○ Meaning Making and Sense Making ○ Effective Communication for Policymaking ○ Role of Science <ul style="list-style-type: none"> ○ V&K, 8, 11, 12 ○ M. Callon, pp. 196-233. ○ W. Bijker, T. Pinch and T. Hughes, pp. 17-50. • Skill Development Objectives: <ul style="list-style-type: none"> ○ Decision Modeling with Uncertainty ○ In-class exercises • End of Mini Case Report Due • Course Reflection Due 11:59:59 pm