

## Sustainable Transportation: *Access, Participation, & Independence*

Class: T & Th, 11:00 – 12:15 (Hillcrest 103)

Lab: Th 1:30 – 4:15 (Hillcrest 200)

Woodin Colloquium: Thu, 12:30pm – 1:20pm (Hillcrest 103)

### INSTRUCTORS

Dr. Molly Costanza-Robinson  
Environmental Studies Program  
Dept. of Chemistry & Biochemistry  
McCardell Bicentennial Hall, 446  
[mcostanz@middlebury.edu](mailto:mcostanz@middlebury.edu)

Diane Munroe  
Coordinator for Community-Based Environ. Studies  
Environmental Studies Program  
Hillcrest, 207  
(802) 443-5925 [dmunroe@middlebury.edu](mailto:dmunroe@middlebury.edu)

Office Hours (preliminary only; permanent hours will be set in consultation with you): M 11-12; W 12-1; F 1:35-2:35; and by appt  
Office Hours: W 10-12; Th 9-11; and by appt

### COMMUNITY-ENGAGED CAPSTONE FOR ES MAJORS

ES 401 is organized around community-based projects you will undertake in small teams with and for our community partners. In the transportation seminar, we will be working with numerous transportation professionals and the following primary community partners

- **Mary-Claire Crogan**, *Community-Relations Manager, Addison County Transit Resources*
- **Jen Kravitz**, *Principal, Mary Hogan Elementary*
- **Ross MacDonald**, *Public Transit Coordinator in the Policy Planning and Intermodal Development Division, Vermont Agency of Transportation*
- **Erik Remsen**, *Safe Routes to School Coordinator, Walk Bike Council of Addison County*
- **Mike Winslow**, *Transportation Planner, Addison County Regional Planning Commission*

In ES 0401, our approach is to bring seniors from the various ES foci together to examine a specific topic in depth and from an interdisciplinary perspective. We have designed the course to help you develop skills associated with real-world problem solving, project planning, creativity, and communication. By coming together with your peers to complete projects in teams, you will learn collaborative approaches that require your different academic and personal assets. As an ES major, there are large, diverse, and inter-connected problems out there waiting for you, and we want you to stride out into that world prepared and empowered. Working together with your partners—with humility, with respect, and with all the knowledge, skills, experience, analytical intuitions, creativity, compassion and courage you can muster, and which you have spent so many days and nights cultivating through your studies at Middlebury—you will endeavor to think through, carefully, systematically, and creative about improving the justice and sustainability of aspects of Vermont's transportation system and of Vermonter's transportation-related behavior.

In order to prepare you for your interdisciplinary transportation projects, in the first six weeks of the semester, we will spend one class period per week actively engaging with readings aligned with the following themes:

**Transportation & Environment • Transportation in a Vermont Context • The  
Transportation Climate Initiative • Transportation Equity • (Re)Defining Sustainability  
• Motivating Behavior Change**

**STRUCTURE & PROCESS FOR THE CLASS**

During the first 3 weeks of the semester, project teams will work on developing approaches to their project by designing a project work-plan in collaboration with our community partners.

During the first 6 weeks, project work will be informed by engaging with seminar readings.

The final 6 weeks of the semester will be dedicated to project work. For further background on ES 401, or to review past projects, see: <http://sites.middlebury.edu/envs0401/>

Over the course of the semester, each group will engage in fieldwork, produce project deliverables step-by-step together with our community partners, and prepare for culminating written and oral presentations.

**CLASS COMMUNICATION AND COLLABORATION**

Class readings, assignments, and other course documents are available on the course Canvas site and via the course GoogleDrive. We have also placed project-specific resources on the GoogleDrive, which we anticipate will be helpful your projects. We encourage you to use Sheets and Google Docs as you work with each other and your partners. The instructors will be relying mostly on old-fashioned email to communicate with you.

**GRADES AND ASSIGNMENTS**

**1. Class Attendance and Active Participation** (20% of grade). Attendance at the Woodin Colloquium, Class, and Lab are required. Class time is scheduled Tuesday/Thursday with a Thursday afternoon lab; the instructors will always be available during these times. However, especially after Week 6, we will not meet formally as a class during every lab period. Lab periods when we are not meeting formally as a class will be a common time that you all have available in your schedules to work on your projects, conduct research, go to field sites, etc. and that we have available to help guide/support you.

- (a) This class is based on active engagement with the readings and projects with occasional mini-lectures provided by the instructors and invited guests. Active learning is central to this approach; please be ready to participate in each class meeting. Participation means attending, showing up on time and prepared, asking questions, and engaging one another and assigned activities constructively and with friendliness, curiosity, and a collaborative spirit.
- (b) With respect to evaluation, we will be noting the commentary and active participation you contribute in class, your efforts to listen deeply, to respond thoughtfully and respectfully to your peers, and to help build an inclusive, stimulating learning experience for everyone. If you do not feel comfortable speaking or participating in class for any reason, please come see us during office hours and we will work something out.
- (c) Your participation in project teams is critical to your success in this course. In your groups, participation means communicating conscientiously and responsibly with your project group, community partners, and instructors; meeting group project obligations and deadlines; and contributing a constructive, collaborative, and team-oriented role
- (d) Once the projects are up and running, each group will provide a progress report in class (see schedule for dates). This may include discussing project-specific readings that your group reads beyond class readings, describing obstacles your group encounters, sharing helpful contacts, etc. You will also provide feedback on other groups' projects.

(e) You are required to attend the weekly ES Colloquium on Thursdays 12:15pm – 1:20pm in Hillcrest 103. The colloquium does not provide lunch. Feel free to bring food from the dining hall to eat during the colloquium. We will dedicate time to discuss the colloquium presentations in class.

2. **Peer Evaluation** (5% of grade). You will have the opportunity to provide feedback to your team-members twice in the semester: once mid-way, and at the end.
3. **Individual Assignments** (15% of grade). Further details regarding your two individual assignments will be provided in class.
4. **Working Documents for Group Projects** (20% of grade). As part of your group project, you will prepare and submit to your instructors a series of working documents, including work plans, progress reports, and drafts, among others.
5. **Final Products from Group Projects** (40% of grade). Each project group will work with a community partner. Depending on where your collaboration leads, you will collect and analyze information, data, and materials related to your group’s project and ultimately produce a “deliverable” (often a report, but many other possibilities exist) for your community partner. Projects may require travel within the region and substantial time outside of formally scheduled class. Interim progress reports, a public presentation, multiple drafts, and a professional-quality final report are required.

**Your Final Presentations will be on Thursday, May 7 during the Woodin Colloquium. Most teams will also give an off-campus presentation in a forum relevant to their community partner.**  
**The final written report is due on the last day of exams, May 19, 2020.**

### **GROUND RULES**

At Middlebury, we strive to make our campus a respectful, engaged community that embraces difference, with all the complexity and individuality each person brings. Each student and instructor in this course must contribute to an inclusive and respectful class environment. Students and instructors of all backgrounds including gender, sexual orientation, race, ethnicity, religion, and country of origin shall treat each other fairly and with honesty, integrity, and respect. Civil discourse, reasoned thought, sustained discussion, and constructive engagement without degrading, abusing harassing, or silencing others is required of all students and instructors in this class. We will talk more about norms and ground rules we would like to establish in the first week of class.

### **ACCOMMODATIONS**

Students involved in sports or other extracurricular activities will need to notify the instructors and their project teams at the beginning of the semester about any scheduling conflicts. Students with disabilities who need accommodations in this class are encouraged to contact Diane as early in the semester as possible to ensure that such accommodations can be implemented in a timely fashion. Assistance is available to all eligible students through the ADA Office. Please contact Jodi Litchfield, the ADA Coordinator, at [litchfie@middlebury.edu](mailto:litchfie@middlebury.edu) or (802) 443-5936 for more information. All discussions will remain confidential.

**HONOR CODE**

Adherence to the College honor code is expected and, as seniors, we expect that you are all familiar with its policies (<http://www.middlebury.edu/studentlife/doc/honorcode>). In this course, much of the work is collaborative by design and thus, your classmates and project groups often represent “authorized [and wildly encouraged!] aid.” Work on your individual assignments, however, are just that – individual efforts. Honesty in reporting and assessing both your own and your teammates’ contributions to group work is expected. In the project work and presentation, pay careful attention to appropriate paraphrasing and attribution of credit for quotations, ideas, information, graphics, and so forth. Please come talk to us if you are ever unsure about the ethical course of action in this course.

While we’re here: definitely do not plagiarize. Beyond being unethical, academic dishonesty is a serious offense with some pretty awful consequences, including but not limited to disciplinary action if a case of academic misconduct is found. If you are feeling stressed or are under too much pressure, please come talk to us before considering anything so unwise. For guidance on proper citation, grammar, and writing style, you can consult Middlebury College Library’s resources on the subject (<https://middlebury.libguides.com/citation/plagiarism>)

**EMAIL POLICY**

If you have questions regarding the course, please schedule a time to meet with Molly or Diane or, if appropriate, send us an email. Email is useful for quick and straightforward questions/answers. Face-to-face meetings are essential for nuanced discussions. If you send us an email, please allow enough time to respond. Our goal is to respond to email inquiries within 1 business day. We expect that you will all check your Middlebury email accounts at least 1x daily during the week, so that you are sure to receive any course updates or clarifications.

W1	Tue 2/11	<b>Introduction to ENVS 401</b>
	Thu 2/13	<b>Class: Reading Discussion #1: Transportation and the Environment</b> <ul style="list-style-type: none"> <li>• <u>Executive Summary (p ES1-4) and Ch 8 Environ. Mitigation &amp; Management (p 47-54 through "Summary")</u> in <i>2040 Vermont Long-range Transportation Plan</i></li> <li>• <i>2020 Plan for Climate Action</i></li> <li>• Vermont Edition podcast: <i>A Roadmap of Vermont's Transportation Future</i></li> </ul>
		<b>Colloquium: <i>The Past is Prologue: Climate Change, Environmental Justice, and the Politics of Representation.</i> Carolyn Finney, Scholar-in-Residence, Franklin Environmental Center</b>
		<b>Lab: Colloquium Discussion; Team Development Activities &amp; Transit Adventures Planning</b>
<b>Friday 2/14 @ 5 p.m.: Complete Project Selection Survey due</b>		
W2	Tue 2/18	<b>Reading Discussion #2: Vermont Transportation Challenges &amp; Opportunities</b> <ul style="list-style-type: none"> <li>• <u>Ch 6 (Challenges, p 31-39) &amp; Ch 7 (Opportunities, p 40-46)</u> in <i>2040 Vermont Long-range Transportation Plan</i></li> <li>• <u>Ch 3 (Critical Themes &amp; Challenges, p 26-51)</u></li> </ul>
	Thu 2/20	<b>Class: Guided Project Development &amp; Scoping</b>
		<b>Colloquium: <i>Communicating Climate Change, Mobilizing Behavior Change.</i> Michael Shank, Communications Director, Carbon Neutral Cities Alliance</b>
		<b>Lab: Meet and discuss projects with community partners</b>
<b>Monday 2/24 @ 8 a.m.: Project Scope &amp; Timeline due</b>		
W3	Tue 2/25	<b>Reading Discussion #3: Transportation Climate Initiative</b> <ul style="list-style-type: none"> <li>• TCI Memorandum of Understanding</li> <li>• <u>Slides 4-41</u> of TCI Public Webinar: 2019 Cap-and-Invest Modeling Results</li> <li>• Select TCI Letters to the Editor</li> </ul>
	Thu 2/27	<b>Class: Teaming exercises; Project working session to review timeline and work plan</b>
		<b>Colloquium: <i>MIDD-ES CORE PANEL DISCUSSION: Siting a Solar Farm in Vermont.</i> Mez Baker-Medard, Daniel Brayton, Jeff Howarth, and Peter Ryan</b>
		<b>Lab: Dr. Andrea Hamre, <i>Transportation Policy &amp; Equity in a Rural Context</i>, Transportation Researcher, Montana State University, Western Transportation Institute</b> <ul style="list-style-type: none"> <li>• <u>p 7-11</u> of Ch 1: What is Transportation Equity? in <i>The Right to Transportation: Moving to Equity</i></li> </ul>
<b>Friday 2/28 @ 5 p.m.: First Individual Assignment Due (TCI public comment)</b>		
W4	Tue 3/3	<b>Reading Discussion #4: Transportation Equity</b> <ul style="list-style-type: none"> <li>• <u>Ch 2 (Examining the Empirical Evidence of Transport Inequity in the US and UK, p 15-33)</u> in <i>Running on Empty: Transport, Social Exclusion, &amp; Environmental Justice</i></li> <li>• <u>p 113-125</u> of Ch7: Disability, Aging, and Transportation Equity in <i>The Right to Transportation: Moving to Equity</i></li> </ul>
	Thu 3/5	<b>Class: Project working session</b>
		<b>Colloquium: <i>Good for the Poor, Good for the Forest? Land Rights and Biodiversity Conservation in the Ecuadorian Amazon.</i> Lisa Naughton, Department of Geography, University of Wisconsin-Madison</b>
		<b>Lab: <i>Transportation Equity Panel:</i> Ross MacDonald, Public Transportation Program Manager, VT Agency of Transportation; Cicilia Robison, Director, Addison Central Teens; Angela Smith-Dieng, Director, Adult Services Division, Dept. of Aging &amp;</b>

		Independent Living; Committee for Refugees & Immigrants / Assoc. for Africans Living in VT representative (invited)
<b>Friday 3/13 @ 5 p.m.: Project Progress Report Due</b>		
W5	Tue 3/10	<b>Reading Discussion #5: The Meaning of Sustainability</b> <ul style="list-style-type: none"> <li>• <i>Transport Policy in Belgium: Translating Sustainability Discourses into Unsustainable Outcomes</i></li> </ul>
	Thu 3/12	<i>Class:</i> Oral progress reports for peer feedback, project working session <i>Colloquium:</i> <i>What's Old is New Again: Activating Natural History Collections for Climate Change Research.</i> <b>Lauren Williams</b> , Curator, Blacker Wood Natural History Collection, Rare Books Department, McGill University Library.
		<i>Lab:</i> <b>Dr. Rachele Gould, Equity, Environment, and Behavior Change Guest: University of Vermont, Rubenstein School of the Environment &amp; Natural Resources</b>
<b>Friday 3/13 @ 5 p.m.: Project Progress Report Due</b>		
W6	Tue 3/17	<b>Reading Discussion #6: Behavior Change</b> <ul style="list-style-type: none"> <li>• White paper on reducing greenhouse gas emissions and improving transportation access by advancing public transportation in Vermont</li> <li>• One of the following, as discussed in class               <ul style="list-style-type: none"> <li>○ Sustainable Transportation Attitudes and Health Behavior Change</li> <li>○ Shedding light on the Psychological and Behavioral Determinants of Travel Mode Choice: A Meta-analysis</li> </ul> </li> </ul>
	Thu 3/19	<i>Class:</i> ES Faculty, Affiliates & Staff visit <i>Colloquium:</i> <i>Agroecology and Food Sovereignty - in Theory and Practice.</i> <b>Martha Caswell</b> , Codirector, Agroecology & Livelihoods Collaborative, University of Vermont
		<i>Lab:</i> <b>Check in with community partners; Provide feedback on progress report</b>
<b>Friday 3/20 @ 5 p.m.: Second Individual Assignment Due</b>		
W7	<b>SPRING BREAK</b>	
W8	Tues 3/31	Oral progress reports for peer feedback, project working session
	Thu 4/2	<i>Class:</i> Open Project Time <i>Colloquium:</i> <i>The Material Is the Message: Art in the Time of Climate Change.</i> <b>Jessica Beels</b> , Sculptor and Installation Artist, Washington, D.C.
		<i>Lab:</i> Open Project Time
W9	Tue 4/7	Oral progress reports for peer feedback, project working session
	Thu 4/9	<i>Class:</i> Open Project Time <i>Colloquium:</i> <i>The Latest on Climate Policy from the Vermont State House – and How It Connects to High Pond with Doc Woodin.</i> <b>Phil Huffman '84</b> , Director of Government Relations and Policy, The Nature Conservancy in Vermont
		<i>Lab:</i> Open Project Time
<b>Friday 4/10 @ 5 p.m.: First Draft Due</b>		

W10	Tue 4/14	Open Project Time
	Thu 4/16	<u>Class</u> : Final presentation brainstorming and prep
		<u>Colloquium</u> : MIDD-ES STUDENT REFLECTIONS ON LEARNING: Senior Research Presentations
		<u>Lab</u> : Check-in with community partners
W11	Tue 4/21	Open Project Time (projects and presentations)
	Thu 4/23	<u>Class</u> : Open Project Time (projects and presentations)
		<u>Colloquium</u> : Climate and Security in an Age of Great Power Competition and Global Disruption. <b>Sheri Goodman</b> , Secretary General, International Military Council on Climate and Security
		<u>Lab</u> : Session w/Oratory Now Tutors
W12	Tue 4/28	Open Project Time (projects and presentations)
	Thu 4/30	<u>Class</u> : First rehearsal of colloquium presentation (short form)
		<u>Colloquium</u> : Other Pastorals: Writing Race and the Environment. <b>Jennifer Chang</b> , Assoc. Professor, English and Creative Writing, George Washington University
		<u>Lab</u> : First rehearsal of long-format presentation
<b>Friday 5/1 @ 5 p.m.: Second Draft Due</b>		
<i>*Individual team meetings will be scheduled during week 13 to provide feedback on second draft and to have a second rehearsal of long-format presentation</i>		
W13	Tue 5/5	<u>Class</u> : Second rehearsal of colloquium presentation (short form)
		<u>Colloquium</u> : ENV5 0401 section A presentations
	Thu 5/7	<u>Class</u> : Dress rehearsal of colloquium presentation (short form)
		<u>Lab</u> : Class debrief, evals, assessment survey
W14	<b>Monday 5/11 @ 5 p.m.: Third Draft Due</b>	
	<b>Tuesday 5/19 @ 5 p.m.: ALL Final Products Due</b>	

*\* Short format presentations (5-7 min per team) will be given in a special Tuesday Colloquium. Long format presentations (15-20 min per team) will be scheduled with our community partners during the first week of exams.*