

Communities and Climate Change IDS 2935

Class Periods: Tuesday Period 7 (1:55-2:45) TUR 2303; Thursday Period 7-8 (1:55-3:50) MAEB 0229

Location: TUR 2303 (Tuesdays); MAEB 0229 (Thursdays)

Academic Term: fall 2021

Instructor

Stephen Mulkey, PhD

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Office: 621 Carr Hall

Phone: 208.596.3234 (cell phone - please use respectfully and protect my privacy)

Office Hours: By appointment in person or via Zoom

Please contact through the Canvas website. Use direct email for personal questions such as grades, special circumstances, and needed accommodations.

Course Description

Communities are the collection of citizens, neighbors, governing bodies, and institutions where most people live their daily lives. The community is where the impacts of climate and ecosystem disruption are experienced, and it will be the front line of adaptation to these impacts. Forward looking community leaders seek to develop decision-making processes to use local and regional knowledge to respond to the impacts of climate change. Our global economic system and political divisions have left many people disconnected from their communities and living in relative isolation among their neighbors. Re-establishing these human connections and developing alternative economies are prerequisites for mounting effective community responses to climate change.

This course provides an overview of anthropogenic climate change and helps students develop an understanding of local and regional resilience and adaptive responses to specific impacts of climate change. Impacts to be reviewed include extreme temperature, extreme precipitation, sea level rise, population migrations, food and water security, public health, disruption of ecosystem services, and disruptions of economy. Climate change will be presented from a holistic perspective that includes understanding of fossil emissions, anthropogenic disruption of ecosystems and the biosphere, and community-based adaptation. Students will review critical timelines for global efforts at mitigation and options for how communities can adapt and build resilience with respect to specific future scenarios. Those communities that have been dealing with climate variability and have a wealth of knowledge about how to adapt will be used for case studies. Case studies of adaptive responses by local and regional communities in Florida will provide the basis of group student projects. Students will choose from a variety of local and regional organizations to explore how these groups are responding to climate change.

Course Delivery

During the first third of the course classes will focus on direct content delivery include discussions of the peer-reviewed literature and group projects. Development of the group projects will begin by the third week of classes. During the remaining two-thirds of the course we will review recent scholarship on topics that relevant to community-level mitigation and adaptation. The weekly literature and case-study discussions will be led by Stephen. Assignments will include graded Discussions and Reflections. Group activities will initially focus on identifying local and regional organizations for study. Groups of 4-5 (depending on class size) will be created by Canvas. Each group will be responsible for researching the climate preparedness of their respective assigned organization. This will include interviewing he principals at those organizations and the development of scholarship from the literature. Each member of a group will be responsible for a final report on their findings and groups will give a presentation on these findings during the final two weeks of the semester.

Texts

No comprehensive texts exist for this course. Readings and media will be available within each module and will be designated as Required or Recommended. Exams, Quizzes, Discussions, and Reflections will be based on materials provided within each module, including lectures. Although they will add to your understanding, the following texts are strictly optional.

Grassroots Stewardship – Sustainability Within Our Reach. Chapin. Oxford. 2020. ISBN-9780190081195 (use this for references)

The Future We Choose: Surviving the Climate Crisis. Figueres & Rivett-Carnac. Knoff. 2020. ISBN 0525658351 (use this for recommendations from policy leaders)

Climate Action Planning: A Guide to Creating Low-Carbon Resilient Communities. Boswell, Greve, and Seale. Island Press. 2019. ISBN-1610919637

A Promise to You

If you regularly attend lectures, turn in the assignments on time, and interact with me and your classmates, you will do very well in this course. The amount of material can be daunting. I will help you as you work your way through the modules. Please keep me informed of your individual progress and alert me if you need help. If time is limited a lecture may be delivered only via Zoom. I may from time to time record a lecture on my phone as a legal record. If I do this, you will be informed as a class before I do so.

Assigned Readings, Media, and Webpages

Materials will be assigned as indicated in the course schedule below and posted to the course website by modules in full text or through links. Citations for posted articles are listed at the end of this syllabus. Quizzes will be drawn mainly from lectures and will include some materials from posted readings, media, and webpages. The main points from the assigned readings and media will be included in the lectures or as questions for classroom discussions. Students will be guided to use these materials for group projects and clarification of lectures.

Expectations

This course has high standards for student creativity and scholarship. The schedule of graded assignments intensive and will require students to keep up. The outside readings should be used to develop group projects and to clarify the lectures. The main points from required readings and media will be covered in the lectures, in reflection exercises, or as questions for classroom discussions. Each student is solely responsible for reading and following the instructions, guidelines, and schedules in this syllabus, on the course webpage, or announced in class. Independent research by students will be a significant portion of assessment. Not having read or followed the instructions will not constitute an excuse for missing an assignment, exam, or other assessment. Please set your preferences in Canvas so that you receive timely notifications of course announcements and other information. Check Announcements in Canvas regularly as e-mail notifications from Canvas do not always go through. The amount of effort including class time is estimated to be 12 hours per week.

A minimum grade of C is required for general education B credit.

Required Equipment

This class depends on reliable internet connectivity. The download speed should be at least 50mbps. You must have a personal computer or laptop. This course cannot be taken from your phone or a tablet because the webpages on canvas are not optimized for mobile devices. You must have a camera that you can use during synchronous lectures. I would like to see you during Q&A and the camera will facilitate me learning who you are during the initial part of the semester. The camera will also be required for your group project presentation. Contact me if you require special consideration with respect to equipment or its use in this course.

Communications

All e-mail correspondence to the course instructor should originate from Canvas, but e-mails of a personal nature may originate from your ufl.edu account. ***Put your full name in the body of the e-mail, and your course number in the subject line.***

When you have a question, check the following sources first to see if it is already answered, before e-mailing your instructor:

- Course Syllabus
- e-Learning announcements (this is the primary means that your Instructor has to communicate with you in a timely manner)
- e-Learning Discussion Posts

If you still cannot find the answer to your questions:

- If it is a question that others might find useful to know the answer to as well, post it in the e-Learning Discussion section.
- If it is a question specific to you (e.g., account or grade specific), send an e-mail to your instructor following the instructions above. Barring unusual circumstances, expect a reply

within 24 hours (Monday through Friday). E-mails and e-Learning Discussion posts are checked at least once per day, but sometimes not more than that.

Course Website (e-Learning)

Class material including the syllabus, weekly comprehension quizzes, exam results, lecture slides, links to videos and outside materials, and other information related to the course will be posted on the course e-Learning website (<http://elearning.ufl.edu>). Assignments and quizzes will be available through notifications on Canvas. All quizzes and written assignments will be completed through Canvas and no paper materials will be used throughout the course. You are responsible for all announcements made in lecture and those posted on the course website. For help with e-Learning, call the UF Computing Help Desk at 352.392.4357, or visit the e-Learning support website

Course Schedule spring 2020

The course schedule will change periodically due to unfolding logistics as the course proceeds. Please check this syllabus on a regular basis.

Course Schedule - spring 2020

Please read this: The lecture schedule will change periodically due to unfolding logistics as the course proceeds. Please check this syllabus on a regular basis. Unless stated otherwise all assignments are due on Sunday at 11:59 the week of the module where they appear. You are responsible for scheduling your time to avoid multiple assignments due at the last minutes. Exams will be timed and become available in the morning on Thursday and are due by Friday at midnight of the week when they occur. Your initial post to a Discussion should appear on Thursday to give time for your classmates to respond.

Module	Topic/Activity	Readings & Media
Module 1 23-29 August	Lecture: Reality and Responsibility Introduction to course content Lecture: Climate change sources of information Lecture: Climate change processes and causes	NASA: How do we know? The scientific consensus Climate change essential knowledge World scientists' warning Sixty years of warnings Introduction to climate models How to read a scientific paper The most important thing you can do...
Module 2 30 August – 5 September	Lecture: Climate change causes and processes Lecture: Climate change impacts on living systems and human communities	AR6 – Extreme weather and climate change NOAA new climate normal NCA4 – Impacts, risks, and adaptation Hothouse Earth Climate is a threat multiplier Harold Wanless (U Miami) Michael Mann <i>The New Climate War</i>
Module 3 6-12 September	Lecture catch up Lecture: Climate change and human health Group project discussion	USGCRP 2016 Climate and health Heat index Community based adaptation and public health Imperative to protect health Lancet countdown 2020 The human hazard – public health and climate change in Florida

<p>Module 4 13-19 September</p>	<p>Lecture: Climate change and agriculture Lecture: Food security Lecture: Water security</p>	<p>The EAT-<i>Lancet</i> Commission The true cost of food in the US The carbon and opportunity costs of food Global food system emissions and agriculture World Resources Institute – Water security and conflict NCA4 2018 - Water</p>
<p>Module 5 20-26 September</p>	<p>Lecture: Risks and hazards Lecture: Psychology and politics of climate change Group project discussion of community organizations for group projects Discussion of Exam 1 results</p>	<p>IPCC report on impacts, adaptation, vulnerability APA report on psychology and climate change Reports from Yale Climate Change Communication (2019-2021) How hope and doubt affect climate mobilization WEF 2021 Global risks report Tidal flooding and sea level rise Andrea Dutton on sea level rise</p>
<p>Module 6 27 September- 3 October</p>	<p>Lecture: Risk management and mismanagement Group projects discussion</p>	<p>Safe-to-fail and fail-safe risk management Demonstrations of combining adaptation and disaster risk management Pathways to coastal retreat Making room for the river Climate foreclosure crisis Insurance underwriters and climate risk</p>
<p>Module 7 4-10 October</p>	<p>Lecture: Fossil fuel energy (recorded) Lecture: Community renewable energy Video Lecture: A primer on carbon accounting and carbon markets</p>	<p>World energy outlook (iea) 2020 US grid energy storage factsheet Holistic approach to distributed solar energy (NREL) Europe’s community energy systems Do we need hydrogen? Blue hydrogen is not green</p>

<p>Module 8 11-17 October</p>	<p>Lecture catch up Lecture: Community-based and ecosystems-based adaptation</p>	<p>Climate adaptation around the world Community based adaptation to climate change Gender based violence and environmental change Assessment of CBA success CBA EBA approach to disaster risk in mountains Empowering women to address climate change</p>
<p>Module 9 18-24 October</p>	<p>Lecture: Defining resilience and resilience planning Lecture: Community resilience Discussion and review of Exam 2</p>	<p>The great green wall of the Sahara Community resilience for a 1.5°C world Peak Florida – growth out of control Let the environment guide our development</p>
<p>Module 10 25-31 October</p>	<p>Lecture: Case studies of community adaptation and sustainability Lecture: Urban sustainability case studies Group project reports and initial findings</p>	<p>Solutions to plan sustainable cities Contemporary climate analogs for 540 urban areas City resilience index 100 resilient cities in 2017</p>
<p>Module 11 1-7 November</p>	<p>Lecture: Geoengineering Lecture: Climate mobilization</p>	<p>The climate debt the US owes the world US climate fair share The enormous risk of atmospheric hacking Life cycle assessment of direct air capture How to win the new climate war The climate mobilization Scientists' climate warning 2021</p>
<p>Module 12 8-14 November</p>	<p>Lecture: Ethics and economics Discussion of Exam 3</p>	<p>How to understand the concept of the discount rate The ethics of climate change The Nobel Prize for climate catastrophe</p>

		<p>Estimating economic damage from climate change in the US</p> <p>A healthy economy should be designed to thrive not grow</p> <p>The dirty secret of capitalism</p> <p>A moonshot guide to changing capitalism</p> <p>Economics of renewable energy in the US</p>
Module 13 15-21 November	Review: Solutions	<p>Project Drawdown</p> <p>Readings TBD</p>
	Group presentations and peer reviews	
	Group presentations and peer reviews	
	Group presentation and peer reviews	
	Group presentations and peer reviews	
Conclusions		Final project reports due Monday 13 December 11:59

Group Projects

Group members will be assigned by Canvas. Each group of 4-5 students will explore the climate change planning and programming of one community organization. An organization can be chosen by the group subject to approval by the instructor and you should seek an organization that will provide a comparative analysis with respect to case examples discussed in class. The instructor will facilitate introduction of the groups to their chosen community organization. A list of local, regional, and state organizations is provided below. A term project will be developed by the group based on (1) a written proposal, (2) engagement with the organization, (3) an annotated bibliography with relevant readings and comparison to similar organizations, (4) a group presentation, and (5) a final report submitted independently by each student.

Grading rubrics and explicit instructions will be provided for each phase of the project including detailed instructions for construction of your annotated bibliography. The final report should contain specific recommendations for development of adaptive strategies and building

resilience with respect to the community organization assessed by each group. Each student will provide a peer review of two presentations according to rubric provided. Project proposals will consist of two paragraphs describing the organization and their adaptive planning (or absence thereof) and role in community adaptation.

Organizations to explore include the list below. You should feel free to propose your own for approval by the instructor. If you wish to visit the organization, be sure to exercise social distancing and wear a face mask. You should feel free to conduct interviews online.

Local organizations

Gainesville Regional Utilities [future power](#) needs (critically evaluate GRU claims)
Alachua County Department of [Environmental Protection](#)
Alachua County [Growth Management](#) and Comprehensive Plan
Alachua Conservation Trust <https://www.alachuaconservationtrust.org/>
We are Neutral <https://www.weareneutral.com/#intro>
Current Problems <https://www.currentproblems.org/home-2>
The Florida Springs Institute <https://floridaspringsinstitute.org/>
Rebuilding Together for North Central Florida <https://rebuildingtogetherncf.org/>
Alachua County Commission <https://alachuacounty.us/Depts/BOCC/Pages/BOCC.aspx>
Gainesville City Commission <http://www.cityofgainesville.org/CityCommission.aspx>
Community Weatherization Coalition <http://communityweatherization.org/>

Regional and State Organizations

[Southeast Florida Regional Climate Change Compact](#)
[Sea Level Rise Task Force](#) for Miami/Dade government
Florida Sierra Club <https://www.sierraclub.org/florida>
St. Johns Riverkeeper <http://www.stjohnsriverkeeper.org/>
[Jacksonville Waterways Commission](#)
Regional Resiliency Coalition <http://www.tbrpc.org/resiliency/>

Attendance and make-ups

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

If you are experiencing COVID-19 symptoms ([click here for guidance from the CDC on symptoms of coronavirus](#)), please use the UF Health screening system and follow the instructions on whether you are able to attend class. [Click here for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms](#). Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. Refer to the above link for more information on the university's attendance policy.

Exams

There will be three 120-minute essay exams during the semester. There is no final exam. Exams will be administered online and made available for 48 hours. Exams will be essay and emphasize lecture materials and specific parts of the outside readings and media. Exams will be open book and taken on your personal laptop and written and submitted through the Canvas website. A possible list of essay questions will be distributed at least one week in advance of the exam date. The exam questions will be chosen from these questions. You are expected to develop in-depth responses to all possible questions and thus be fully prepared to answer the ones that appear on the exam.

Exams will be curved and normalized to a scale of 0 to 100 after the distribution of scores has been assembled. Review of your performance on an exam will be available by appointment one week after the date of the exam. Exams will not be available for review after the semester has ended.

No make-up exams will be given without prior permission or documentation of illness. Students that will be missing an exam due to a prearranged university-approved excused absence (sports, etc.) should let the instructor know a minimum of two weeks in advance. These students may be required to take the makeup exam before the scheduled in-class exam.

In case of illness during the exam period, a letter from the student's primary care provider is required. This letter must state that the student was unable to complete the exam on the scheduled dates (i.e., a letter stating only that the student was seen in a clinic is not sufficient). A personal matter requires a note from the Dean of Students (P202 Peabody Hall). These notes must be received within five business days after the exam. Make up exams will be short-answer or essay format.

Comprehension Quizzes

There will be 5 online quizzes to assess comprehension during the semester. Questions will be drawn from lectures, readings, and media. Quizzes will be in objective multiple-choice format. You will be allowed two attempts for each question and the highest score received will be recorded for that quiz. All quizzes must be completed by the stated date and time. Extensions will not be given because of technical or personal issues that occur within 24 hours of date of the quiz. Quizzes will have a set time limit – typically 60 minutes. Students are expected to work independently on the quizzes and to not use notes. The lowest quiz score will be dropped.

Online Discussions and Reflections

Your instructor will post questions for graded Discussion and Reflection. See the rubrics online for assessment criteria.

Participation

Twice during the semester students will be asked to self-assess their online and in class [- participation according to the following scale:

_____ I contribute several times during a class discussion. (25)

_____ I contribute at least once during a class discussion. (20)

_____ I often contribute to class discussion. (10)

_____ I occasionally contribute to class discussion. (5)

_____ I rarely contribute to class discussion. (0)

External Speakers

Opportunities will arise during the semester for engagement with governmental and nongovernmental bodies in Alachua County. In addition, there will several scheduled talks by experts. I will post information about these events as it becomes available. Note that I serve as a member of the joint County and City Citizens Climate Advisory Committee. These meetings are open to the public. You should feel free to review the recordings of these events rather than attend in person.

Grades

Assessment	Points
Online exams (3@90 pts each)	270
Online quizzes (5@20 pts each)	100
Reflections (4@10 pts each)	40
Online discussions (6@20 pts each)	120
Speaker & outside events (2@10 pts each)	20
Read full project description	10
Draft subtopic and group project proposal	20
Draft annotated bibliography	20
Peer review of 2 presentations (2@15 pts each)	30
Presentation of term project	100
Annotated bibliography for term project	100
Final project report	100
Total	930

Grading Scheme

A 100 % to 94.0%

A- < 94.0 % to 90.0%

B+ < 90.0 % to 87.0%

B < 87.0 % to 84.0%

B- < 84.0 % to 80.0%

C+ < 80.0 % to 77.0%
C < 77.0 % to 74.0%
C- < 74.0 % to 70.0%
D+ < 70.0 % to 67.0%
D < 67.0 % to 64.0%
D- < 64.0 % to 61.0%
E < 61.0 % to 0.0%

More information on UF grading policy may be found at:

<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#grades>

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Students Requiring Accommodations

Students with disabilities requesting accommodations for online programming should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu/evals>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

University Honesty Policy

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class. This course will use Turnitin to identify plagiarizing.

In-Class Recording

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

Academic Resources for Getting Help

E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

Library Support: Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints On-Campus: Visit the Student Honor Code and Student Conduct Code webpage for more information.

On-Line Students Complaints: View the Distance Learning Student Complaint Process.

Health and Wellness

U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need or visit the Student Health Care Center website.

University Police Department: Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.

Use and Commercial Sale of Course Lectures

The content presented in the class is the property of UF and may not be duplicated in any format without permission from UF and may not be used for any commercial purposes. Students violating this policy may be subject to disciplinary action under the UF Conduct Code.

No part of the PowerPoints or other instructional content posted on Canvas may be reproduced, shared, or posted in any form outside of the class without permission in writing from Stephen Mulkey. Please see statement above regarding in-class recording by students.

Materials for Projects and Discussion

Journals*

[Proceedings of the National Academy of Sciences US](#)

[Nature](#)

[Nature Communications](#)

[Science Advances](#)

[Scientific Reports](#)

[Earth's Future](#)

[Nature Climate Change](#)

[Sustainability Science](#)

[Ecology and Society](#)
[Global Environmental Change](#)
[Climatic Change](#)
[Climate Risk Management](#)

*All are freely available if accessed from UFL.EDU or through UF Library as proxy. Use UF VPN to avoid UF Library

Sources of Literature Reviews and Assessment

US Climate Resilience Toolkit. <https://toolkit.climate.gov/tools>

US Global Change Research Program overview of resources <https://www.globalchange.gov/browse>

US Global Change Research Program report on human health <https://www.globalchange.gov/browse/reports/impacts-climate-change-human-health-united-states-scientific-assessment>

UN Intergovernmental Panel on Climate Change (IPCC) <https://www.ipcc.ch/> and specifically <https://www.ipcc.ch/working-group/wg2/>

UN Development Program for Climate Change Adaptation. <https://www.adaptation-undp.org/resources/featured>

ICLEI (International Council for Local Environmental Initiatives) USA. Local Governments for Sustainability. <http://icleiusa.org/>

About Stephen Mulkey: “Stephen Mulkey is an environmental scientist dedicated to developing undergraduate and graduate programming to build society’s capacity for environmental mitigation, adaptation, and resilience. Mulkey was the president of Unity College in Unity, Maine from 2011 through 2015. His leadership and forward-looking vision resulted in Unity College being the first college in the U.S. to divest its endowment from the top 200 fossil fuel companies, and the first college in the U.S. to adopt sustainability science as the framework for all academic programming. Mulkey believes that higher education has an ethical duty to prepare generations of graduates for the extreme sustainability and climate change challenges of this century. During and after earning his PhD at the University of Pennsylvania, he spent over twenty years as a tropical forest ecologist affiliated with the Smithsonian. Mulkey has served as tenured faculty at three doctoral granting universities, as science advisor to the state of Florida, and as a program officer at the National Science Foundation.”

You can see more my writings at environmentalcentury.net

Letters of Recommendation: Please do not request a letter of recommendation unless you have cultivated a professional relationship with me. Getting an A in my course is not sufficient. I

need to know much more about your professional development before I can write a meaningful letter.