

Addressing the Climate Crisis through Science and Art: The Value of Interdisciplinary and Intergenerational Team Teaching

MEGAN JACOBS AND KINEO MEMMER
UNIVERSITY OF NEW MEXICO

Abstract: The climate crisis is a growing concern for many people, especially those who are of college age, making it an important and pressing issue to explore in honors courses. *Eco-Art: Using Art to Reconcile with the Climate Crisis*, a University of New Mexico (UNM) Honors College course, integrates the disciplines of art and environmental justice to examine climate change and address the social and emotional toll of climate grief. The class was co-created and team taught by Associate Professor Megan Jacobs and UNM undergraduate honors and environmental science student Kineo Memmer. This article unpacks the methodologies and lessons learned from this intergenerational team-teaching experience. The class forged community partnerships and created short documentary films highlighting climate activism in New Mexico as well as creative works on climate grief. Using an egalitarian instruction model, the instructors found common ground between their respective disciplines to develop projects and cull readings, which they outline in detail. This type of collaboration is key in the climate movement, as intersectional ways of problem-solving are necessary to combat the climate crisis.

Keywords: eco-art; climate change; interdisciplinary learning; team teaching; environmental justice

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Eco-Art: Using Art to Reconcile with the Climate Crisis, a University of New Mexico (UNM) Honors College course, integrates the disciplines of art and environmental justice to examine climate change and address

the social and emotional toll of climate grief (“Eco-Art”). The class was co-created and team-taught by Associate Professor Megan Jacobs and UNM undergraduate honors student Kineo Memmer. The mission of UNM honors encourages intergenerational team teaching among honors students and faculty members to create, propose, prepare, and co-teach honors seminars to reflect the curricular needs of students in a rapidly changing world.

Our class was devised to create an enriching interdisciplinary environment for students, drawing upon our unique skill sets from the perspective of an artist and an environmental science student and activist. Climate change is arguably one of the most intersectional issues of modern times, requiring an interdisciplinary approach at the intersections of economics, racial studies, women and gender studies, public health, and environmental science, an approach that dovetails with the UNM Honors College mission. The psychological ramifications of our damaged planet have vast impacts on individuals and communities. The course helps students develop the skills to process environmental grief artistically and engage in social and environmental change through activism.

Our class incorporated tenets of the National Collegiate Honors Council’s “NCHC Shared Principles and Practices of Honors Education,” such as inclusive pedagogical approaches and co-curricular opportunities. We used several high-impact teaching strategies, such as collaborative learning and multiple exposures to content. We intentionally structured our course to scaffold the learning of various creative skills through multiple points of exposure in low-stakes exercises, which we built on and used in our larger community group project.

We also used metacognitive strategies, in which students reflected on their own learning through consistent discussion about the learning process and course structure. Support from UNM’s Center for Teaching and Learning through a Teaching Allocation Grant helped with the purchase of video gear and professional assistance in image capture and editing for this course.

In dialogue with the creation of art, honors students read a range of contemporary reflections on methods used to process the climate crisis, studied strategies for action, and considered tools for resiliency. Seminal readings consisted of Ayana Elizabeth Johnson and Katharine K. Wilkinson’s *All We Can Save: Truth, Courage, and Solutions for the Climate Crisis* and Robin Wall Kimmerer’s *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. These works address environmental crises through the lenses of women, particularly women of color, LGBTQ+

scholars, and other underrepresented groups. The readings create a groundwork that acknowledges and encourages new ways of framing human relationships with the natural world and investigates those whose health and well-being are most at risk within the climate crisis while also providing new ideas on how people can take action.

We structured our course content around the mediums of photography, film, poetry, music, and land art to illustrate to students that art has historically been used as activism and to introduce them to multiple methods of creation. Through class discussions, students developed the skills to critically analyze artworks and test methods of creation. Their analyses culminated in collaborative short documentary films and individual creative projects that consider climate change on a personal and community level. The goals of these projects were twofold: to aid in environmental activism through art and to encourage students' personal reconciliation with the climate crisis.

The class's short documentary films, which highlighted New Mexico activists and scholars focused on climate justice, were created in partnership with a local New Mexican environmental organization, Land Witness Project ("UNM Honors College Eco-Art Documentary Short Films"). The films tackle a range of issues: the health impacts on humans due to climate change, environmental justice through agriculture, water scarcity, and nuclear issues in New Mexico. The community team—composed of Land Witness Project members, sustainability studies faculty members, and interviewees—offered feedback and suggestions on the development of students' projects.

Over the span of six weeks, students worked iteratively to refine their films. This project fostered students' outreach skills and engagement with the community while creating a product with a lasting communal impact. The final films were screened at a public UNM Honors College Discovery Series event in partnership with the annual UNM Sustainability Expo. This event included a panel discussion with the interview subjects.

The final project for the course was an individual creative art project. Students had the freedom to investigate a topic related to the climate crisis through a personal lens, using a range of media, such as photography, collage, sculpture, and painting. Students chose materials based on their ability to communicate feelings of grief and hope as well as ways to encourage engagement with and connection to the natural world. Our motivation for developing this course was to provide a platform for students to express and investigate their climate grief, which they feel increasingly acutely.

A 2021 survey of 10,000 participants aged 16–25 years found that 59% of respondents were extremely worried about climate change, and 84% were found to be at least moderately worried (Hickman et al.). This worry led to feelings of sadness, anxiety, anger, powerlessness, helplessness, and guilt in respondents. Many people turn to art to process such complex feelings. For example, our students used their individual creative projects as a tool to connect to natural spaces and to explore choice and loss. This project allowed students to reflect on the semester of learning and apply the readings and discussions to their own creative work.

From our work on this intergenerational pedagogical process, we learned to develop community connections, conduct research, and solidify our curriculum. Having ample time to develop meaningful community relationships and to learn to work with one another was paramount to our success. While science and art are often considered to be on opposite ends of the spectrum within higher education, this class was a way to bridge that gap by creating dialogue, discussion, and creative works at the intersection of those disciplines while harnessing the knowledge that students bring to the classroom.

Adopting an egalitarian instruction model, we learned from one another by developing skills to communicate at the overlap between our two disciplines, science and art. We forged a deeper understanding about the pedagogical process—one that recognized the needs of students in dialogue with the expectations of instructors—which was fostered by having an undergraduate student as an instructor. We adapted to the needs and learning styles of our students and had a renewed sense of empathy for the learning process as we were often learning along with them.

Important to what we learned from the process of team teaching this interdisciplinary course were trust, patience, work ethic, and clear communication, all key components to our venture's success. We realize now that the development of these collaborative working approaches helped us and our students develop skills that are critical in the fight against the climate crisis. For transformational environmental change to occur, interdisciplinary approaches and collaboration are paramount. Ultimately, we achieved more than we could have accomplished individually, and the process expanded our course's pedagogical framework, placing an emphasis on community collaboration, a key component of climate activism.

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The authors may be contacted at mejacobs@unm.edu.