University of Colorado
Boulder

AY 24-25

CLIMATE, SUSTAINABILITY AND JUSTICE EDUCATION PATHWAYS REPORT (CSJE)



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Charge

CU Boulder is widely recognized for its leadership in climate action, sustainability, and social justice across research, teaching, and practice. Despite this strong reputation, **the university has yet to establish comprehensive, accessible educational pathways that reflect these commitments.**

The demand is undeniable: over 30% of incoming students cite CU Boulder's sustainability reputation as a key factor in their decision to enroll. In addition, 62% of students believe the university should make a bold commitment to environmental sustainability, while 70% want to see its commitment to social justice maintained and strengthened. **Students are calling for climate, sustainability, and justice education (CSJE) to be a core institutional priority.** As the number of college-bound students in the US declines, CU's ability to attract and retain undergraduate students may increasingly hinge on our capacity to prepare students for careers in climate action, sustainability, and social justice.

In response to this need, the Center for Teaching & Learning (CTL), in partnership with the Boulder Faculty Assembly (BFA), sponsored and formally charged a CSJE working group during the 2024–2025 academic year. **This group was tasked with exploring how to create interdisciplinary, coherent, and meaningful undergraduate learning experiences centered on climate, sustainability, and justice.**

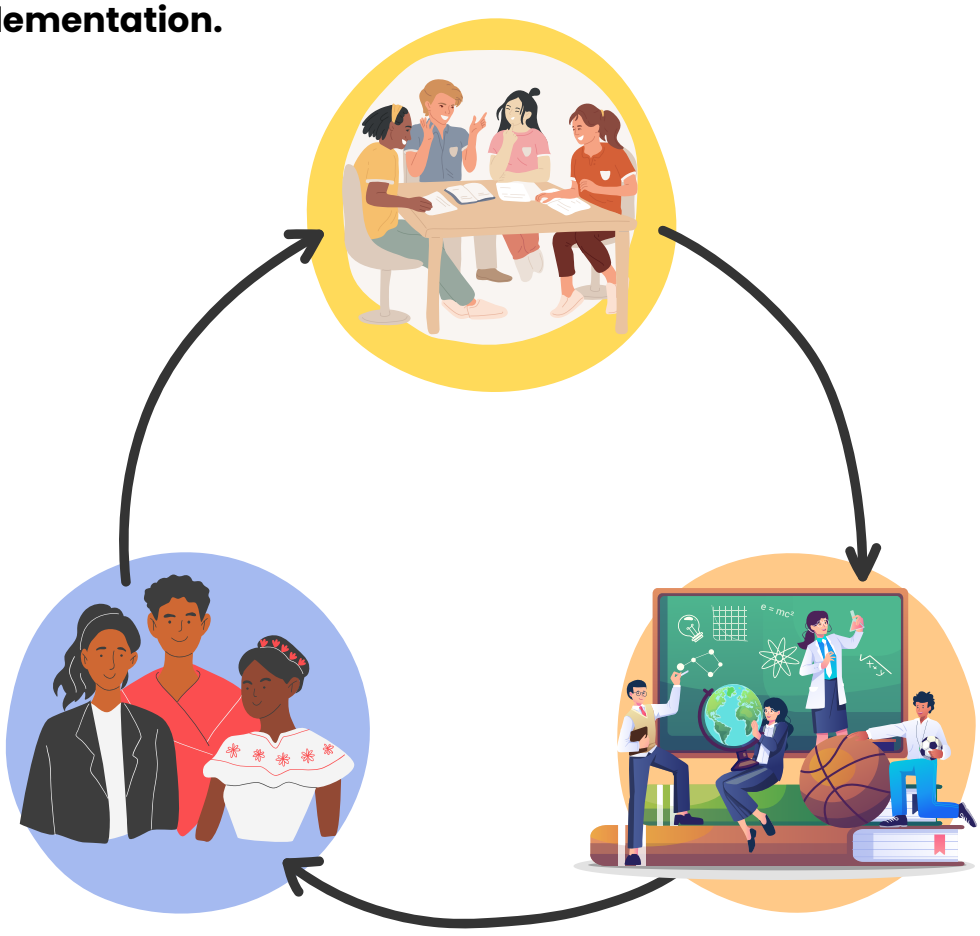
62%
OF STUDENTS WANT A BOLD COMMITMENT TO ENVIRONMENTAL SUSTAINABILITY

70%
OF STUDENTS WANT A STRENGTHENED COMMITMENT TO SOCIAL JUSTICE

Executive Summary

PARTICIPATORY DESIGN

The CSJE initiative utilized a participatory approach towards the development of educational pathways. **The participatory approach brought together the perspectives of three different stakeholders in the development process, including CU faculty and staff, CU students, and local community-based organizations.** These groups met separately over the course of the academic year to pursue particular objectives. The artifacts produced by the different groups were exchanged with one another for feedback and further refinement. **The result of this process was a co-designed vision statement, guiding principles, learning objectives, and roadmap for pathway implementation.**



FACULTY AND STAFF WORKING GROUP

The 18-member faculty group comprised faculty from departments across the university and staff from the Environmental Center. Faculty members were invited to participate through the BFA and CTL. The group met biweekly and identified five strands of work. Members self-selected into the strands. The faculty working group also collaboratively drafted pathway learning objectives. The strands of the working group were as follows:

- **One strand evaluated existing initiatives, programs, and courses related to CSJE** across CU Boulder housed in different departments. That strand also developed a nomination process for faculty to identify courses to include in the pathways.
- **A second strand sought to gather students' perspectives on CSJE pathways.** To accomplish this, the strand developed a protocol, held several focus groups, and summarized the perspectives.
- **A third strand focused on the role of out-of-classroom experiences and partnerships with community-based organizations.** They developed a foundational set of guiding principles for collaborating with off-campus partners and determined some potential partners for piloting these relationships.
- **A fourth strand explored all formal educational pathways**, including stackable microcredentials, assessing viability of implementation and their value add to students.

STUDENT AND COMMUNITY LEADERS WORKING GROUPS

The seven-member student working group met biweekly and co-designed guiding principles for the pathway development. Finally, a retreat was held with two local community-based organizations (FLOWS and Harvest All First Nations) at which participants developed a set of guiding principles and learning objectives. **The documents produced by each group were circulated to the other groups for feedback until a final vision statement, set of guiding principles and learning objectives emerged.** This anchoring framework will guide implementation of pathways in the 2025-2026 academic year. **This report details the vision statement, guiding principles, and learning objectives that inform the proposed CSJE pathways, as well as a proposed implementation plan.**

Themes guiding the design of CSJE pathways

The participatory design process was initially guided by three themes. These themes stemmed from different CU Boulder statements that spoke to CSJE pathway development.

One statement from the Integrated Sustainability Initiative report pointed to the importance of a collaborative approach to the integration of sustainability into CU.

> "The integration of sustainability into academic, operational, and cultural visioning is central to the core mission of higher education. Integration depends, however, on **collaborative, non-hierarchical modes of institutional governance** in order adequately to address students' desire to solve complex problems."
> *-Integrated Sustainability Initiative*

A statement theme from the Common Curriculum brought together the ideas of environment, individuals, and equitable futures.

> "...students will gain an understanding of the interdependence of individual, societal and environmental wellbeing and of the **necessity for stewardship to advance balanced and equitable futures for all.**"
> *-Common Curriculum*

A third statement from the CU Boulder Land Acknowledgement recognized the importance of Indigenous knowledges in CU Boulder's curriculum development.

> "While the University of Colorado Boulder can never undo or rectify the devastation wrought on Indigenous peoples, we commit to improving and enhancing engagement with Indigenous peoples and issues locally and globally. We will do this by:
>
> **Educating, conducting research, supporting student success and integrating Indigenous knowledge.**"
> -CUB Land Acknowledgement

The three themes were instrumental in guiding our process and enacting our commitments. They span different stakeholders at CU into a cohesive whole towards a vision for the pathway development process.

Vision for CSJE pathways

The proposed microcredential pathways aim to **provide undergraduate students with transdisciplinary learning opportunities that will better equip/empower them** to proactively consider, assess, and respond to the changing climate and its varied impacts and opportunities. Students will address climate change issues of societal relevance, while also developing dispositions and skills valued in the growing fields of sustainability and environmental science, design, policy, and other efforts. **These pathways are unique, in that students will learn about climate change issues by analyzing their root causes from a justice-oriented perspective and through the combined lenses of ethics, communication, and natural science.** The pathways will encompass multiple knowledge and values systems that honor the Western scientific community, as well as BIPOC and indigenous thought and theory. Furthermore, courses offered through this certificate/credential will emphasize the **development of students' collaboration skills,** both with one another and community partners. The certificate/credential is **designed for undergraduate students in any major.**

The vision statement reflects the previous themes and was developed collaboratively to guided the pathway development process.

Guiding Principles for CSJE pathways

In addition to the development of an overarching vision by the faculty group, the community partners in collaboration with the student working group developed a set of guiding principles for the pathway design process:

Proposed Principles from CBO's

- **History from a decolonized perspective** - Including understanding the institutions they participate in, such as CU.
- **Root-focused analysis that incorporates colonization, racism, displacement, human-nature divide perception** towards new reparation-based narratives
- **Reconnection and exploration of nature, science, TEK, and community development by honoring (local) thought leaders pushed to the margins**. Narratives that guide dominant ecological perspectives and alternative ones that feature interdependence and interconnectedness of all things.

Synthesizing the foundational themes from CU statements with the principles developed by our community and student partners, the faculty working group established a set of collaboratively developed principles to guide the pathways.

Collaboratively developed Guiding Principles

Justice-Centered Climate Literacy: To critically understand the disproportionate effects of climate change as a product of intersecting historical, political, economic, and systemic injustices.

Disciplinary Integration and Relevance to Curriculum: Examine and evolve disciplinary assumptions and frameworks across the university — from sciences to humanities, engineering to arts — to better advance climate justice

Relation and Emotional Work: Develop affective and relational competencies to process, hold, and respond to the emotional realities of climate change and injustice.

Climate Action + Community Engagement/ Experiential: Prepare students to ethically engage in climate centered work through community-led, experiential learning models.

Diverse Ways of Knowing: Cultivate epistemological humility by integrating Indigenous knowledge, storytelling, and non-Western frameworks alongside Western science.

Humanistic, Hopeful, and Imaginative: Foster capacity for imaginative, human-centered, and future-forward approaches to climate solutions rooted in care and hope.

These principles speak to different aspects of the pathways, including lived commitments to equity, justice, interdisciplinarity, and diverse epistemologies; the importance of engaging in climate centered work in the real world; and finally attention to the embodied and felt experiences of living in a changing climate that center justice, creativity, capacity and care.

Proposed integrated learning objectives for CSJE pathways

The vision statement, themes, and principles guided an iterative development of specific learning objectives (LOs) to aid in identifying undergraduate pathways for CSJE. The objectives deeply reflect the participatory nature of this effort, bringing together the ideas, hopes, and tensions across the faculty and student working groups and community partners. Given the nature of design work, we expect these objectives to shift as new perspectives, ideas, and constraints come into view.

Proposed LOs from Students

- Ground learning opportunities around climate and sustainability in justice/injustice and historical/systemic factors. Bring in Indigenous, intersectional, and global lenses.
- Courses should focus on mechanisms of climate change. Empirical research should incorporate examples of underrepresented groups, or discuss why these examples don't exist (including highlighting underrepresented scholars/ researchers/ practitioners in the field of choice).
- Students should consider the relevance and relationship of climate justice with their major/ minor/ interests.
- Learn about climate justice through values and storytelling, not just intellectualized or data-based information. Center healing processes, relationality, and coping skills (collective + individual) to effectively process the reality of climate breakdown and the injustice that is causing it.
- Focus on hopefulness and solutions (mitigation and adaptation), instead of just the problems. Incorporate experiences outside of the classroom when relevant that involve taking action, especially community engagement activities. Learn how to be a climate justice organizer/advocate/scholar.

These objectives were integrated with those developed by the faculty working group to produce the overarching learning objectives.

CSJE Pathway Learning Objectives

1. **Science and Systems Thinking**

Goal: Use scientific and systems-based approaches in service of equity and justice.

Students will:

- Apply scientific principles and climate data to understand causes and consequences of climate change.
- Use models and systems thinking to design solutions informed by justice and sustainability.
- Examine biases, assumptions, and values embedded in scientific inquiry and data representation.
- Integrate Indigenous and relational environmental frameworks alongside Western science.

2. **Justice-Centered Climate Literacy**

Goal: Develop a foundational understanding of the role of intersecting systems of injustice among all causes of climate change.

Students will:

- Define and articulate what climate justice means in their own words using real-world case studies.
- Analyze local and global examples of environmental injustice and their historical roots (e.g., colonialism, capitalism, extractivism).
- Evaluate how underrepresented communities are included or excluded in climate data, discourse, and decision-making.
- Propose justice-forward, community-centered climate solutions.
- Understand systemic inequities and power structures shaping climate vulnerability and resilience.

CSJE Pathway Learning Objectives (cont'd)

3. Ethics, Equity & Values

Goal: Explore the ethical dimensions of sustainability, positionality, and responsibility.

Students will:

- Critically assess ethical dilemmas and equity considerations in climate decision-making.
- Reflect on their own values, lived experiences, and career goals in relation to sustainability and justice.
- Evaluate how climate policies and solutions can either reinforce or dismantle injustice.
- Cultivate ethical frameworks that prioritize life, interdependence, and care across generations.

4. Emotional & Relational Resilience

Goal: Build emotional intelligence and healing-informed practices in climate work.

Students will:

- Recognize and name emotional responses to climate injustice (e.g., grief, anger, shame, hope).
- Apply individual and collective coping, healing, and resilience practices.
- Discuss the role of emotional awareness and community care in climate action.
- Design personal or community well-being practices to sustain climate engagement.

CSJE Pathway Learning Objectives (cont'd)

5. Language, Narrative & Communication

Goal: Understand and use language, communication, and storytelling as tools and objects of analysis for climate justice and transformation.

Students will:

- Use tools from linguistics, rhetoric, and media studies to identify patterns of misinformation and strategic framing in climate discourse and narratives.
- Apply computational methods to study climate communication across media and communities and gauge the impact of messages on public attitudes.
- Create persuasive, inclusive messages across a range of mediums informed by rhetorical and sociolinguistic awareness.
- Elevate underrepresented voices and knowledge structures through culturally sustaining and critically reflexive communication practices.

6. Collaborative & Community-Engaged Practices

Goal: Cultivate reciprocal partnerships and shared power in climate action.

Students will:

- Develop respectful, inclusive collaboration skills grounded in justice and mutuality.
- Analyze power dynamics between institutions and communities.
- Engage with local organizations, internships, or community-driven projects.
- Co-create climate solutions that center community priorities and honor local knowledge.

CSJE Pathway Learning Objectives (cont'd)

7. Disciplinary Integration

Goal: Connect climate justice to students' fields of study and professional trajectories.

Students will:

- Identify how climate justice intersects with their discipline (e.g., engineering, art, public health, literature).
- Critique disciplinary assumptions and frameworks that may hinder justice.
- Design discipline-specific projects that integrate climate justice approaches.
- Reflect on how their education can contribute to systemic change

8. Futures Thinking & Imagination

Goal: Envision transformative futures rooted in hope, care, and collective liberation.

Students will:

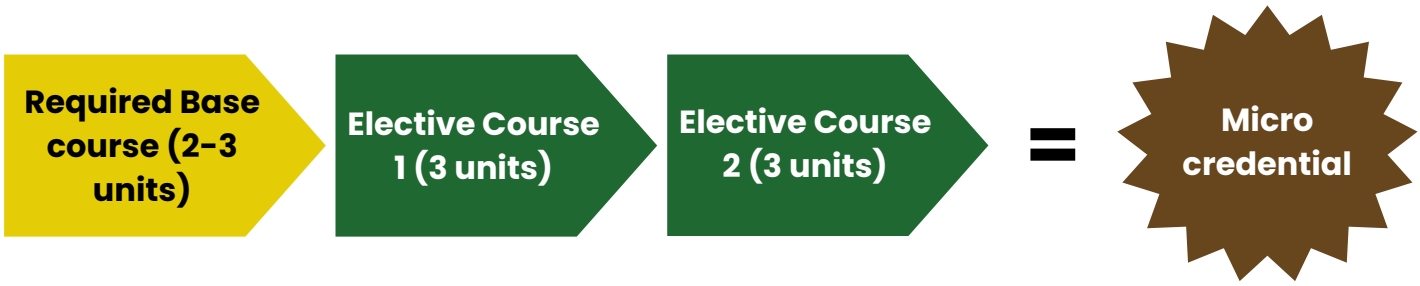
- Identify narratives of resistance and transformation within climate movements.
- Evaluate the psychological and social impacts of despair vs. hope in climate work.
- Develop future visions and strategies centered on just transitions and intergenerational healing.
- Integrate storytelling, art, or spiritual practices into climate solution-building.

Recommendations for pathway structure and implementation

The following recommendations for the structure and design of the CSJE pathways are directly informed by student feedback gathered through focus groups. Focus groups were predominantly comprised of students outside of ENVS and ENVD majors. Students emphasized the need for a curriculum that is not only interdisciplinary and action-oriented but also flexible and mindful of financial and academic pressures.

- A CSJE curriculum that is interdisciplinary, action-oriented, and flexible in its design.
- Hands-on learning and real-world applications.
- Mindful of the financial implications of adding additional requirements.
- Introduce sustainability topics sophomore year or later, as students would have more perspective and academic grounding by then.
- Project-heavy courses tied directly to a student's major are more engaging than test-heavy courses.
- Course marketing is important—using engaging titles and descriptions that reflect the real-world application of the content will attract more students.

Academic Microcredential Pathway



Stackable Microcredentials



Student Feedback

- May not carry as much weight as other forms of certification, so students may be less invested
- Might be more accessible for students outside of ENVS/ENVD majors
- Entry to a certificate/minor
- Propose three-courses (base course + two electives)
- Would the three-course credential provide sufficient understanding of these complex topics?

Proposal for pathway implementation

This ambitious one year effort to develop undergraduate pathways in CSJE through a participatory approach that brought together diverse perspectives resulted in a blueprint for pathway implementation. Each of the working groups expressed an interest in continuing the work into 2025-2026 academic year. We view the implementation process as iterative, and participatory. We propose the following iterative and participatory implementation plan. While the timeline is ambitious, we believe it reflects the urgency expressed by students and the momentum of this initiative.

Based on student feedback, we recommend the development process be expedited to launch the microcredentials by Fall 2027.



Implementation Goal	Faculty working group	Student working group	CBOs	AD	AY
Reconstitute members of the faculty and student working groups to create an implementation plan.	x	x	HAFN		Fall 2025
Engage the course solicitation process	x	x			Fall 2025
Develop reciprocal agreements with community organizations to host student experiential learning.			x	x	Fall 2025
Design the CSJE foundational course co-taught by faculty, students and community partners	x	x	x		Sprg 2026
Create a home for university/Provost's office administration of the microcredentials and pursue certification	x			x	Sprg 2026
Create potential pathways for majors. Get approval.	x	x			Sprg 2026
Design a landing page on CU's website that provides a roadmap for students to pursue the microcredential.				x	Sprg 2026
Add to course catalog and advertise				x	Sprg 2026
Students start micro credentials					Fall, 2027