

Beyond PR:

the state of
climate action
at Cornell

Climatizing
Cornell
Education –
A Missing Vision

An independent report by
Cornell on Fire

Published January 29, 2024

Available online at
www.cornellonfire.org

Summary for Changemakers

Universities, where most of the research on climate change and sustainability is carried out, have a concomitant educational duty: informing students about these matters and preparing them to face the accelerating climate crisis, which will dominate our species' agenda for decades, if not centuries, to come.

This brief report assesses the extent to which Cornell presently engages with this educational challenge. Cornell's integrated sustainability plan lacks a clear vision for sustainability curriculum and their mandatory sustainability module for new students, while laudable, is cursory. Meanwhile, Cornell's "platinum" STARS rating for coursework relies on an undefined concept of sustainability that seems so broad as to be meaningless. STARS may do more damage than good by giving the impression that the university sector is moving in the right direction.

We conclude that Cornell's response to the challenge is weak and unbecoming of its status as leader in public education, and recommend several ways forward.

Table of Contents

Navigate our findings on the state of Cornell's climate education:

- 1. Introduction**
- 2. Cornell's sustainability education credentials**
- 3. Analyzing climate and ecology in current "sustainability" courses**
- 4. Towards a credible and suitably ambitious vision**
- 5. The role of education in Cornell's integrated sustainability plan**
- 6. Conclusions**

"The university's role in relation to climate change education is critical in addressing scientific, environmental, social, and political challenges. Future decision-makers need to make their decisions from an informed position, and for this reason, climate change education and research programmes are of major importance."

[-Filho et al., "Towards a greater engagement of universities in addressing climate change challenges," 2023](#)

1. Introduction

Universities, where most of the research on climate change and sustainability is carried out, have a concomitant educational duty: informing students about these matters and preparing them to face the accelerating climate crisis, which will dominate our species' agenda for decades, if not centuries, to come, threatening the very survival of human civilization. The purpose of this brief report is to assess the extent to which Cornell presently engages with this educational challenge. We conclude that Cornell's response to the challenge is weak and unbecoming of its status as leader in public education, and recommend several ways forward.

2. Cornell's sustainability education credentials

Cornell claims to be a leader among US universities in addressing sustainability in its degree programs. This claim is backed by Cornell's platinum rating on [STARS](#), a self-reporting system that compares universities on multiple dimensions, notably the number of courses that include aspects of sustainability. In the most recent report, dated March 2023, Cornell gave itself a score of [13.48 / 14.00](#) — a "platinum" rating. The main curriculum-related components of this rating are:

- The proportion of academic departments offering sustainability-related courses: 89.89%
- The percentage of courses that "are sustainability course offerings": 18.71%
- A new module, described in the self-report under the "points of distinction" rubric as follows:

"Starting in August 2020, all incoming undergraduate students (first-year and new transfer students) now complete a new sustainability module entitled "Mission Sustainability" as part of the student "To-Do List." The module includes four parts: a climate and sustainability literacy survey, a 13-minute video about sustainability at Cornell, an exploration of sustainability-related campus resources, and a short reflection essay."

3. Analyzing climate and ecology in current “sustainability” courses

The introduction of a compulsory module on climate and sustainability seems like a positive step. It provides a vital opportunity to offer students knowledge about the climate and ecological crisis globally and locally. It could also open diverse avenues for them to actively engage in advancing ways forward through learning, exchange of ideas, activism, and individual behavior change. However, the current module falls notably short of encouraging students to connect constructively with the crisis in these ways. Instead, it simply registers their levels of knowledge and anxiety about it, and provides assurances that Cornell is doing its part to address the problem. Unfortunately, our reporting shows this to be a misleading impression. Overall, the module appears to offer an acknowledgment of the climate crisis, but does more to promote Cornell than to empower students to be informed, engaged participants in the societal transformation to come.

For those students who do wish to integrate questions of sustainability into their education, Cornell provides a collated list of all the courses across schools and programs that it has identified as “sustainability courses”. This list is the basis for Cornell’s STARS reporting on the number of sustainability-related courses and proportion of academic departments offering such courses. We note parenthetically that the link from the Cornell STARS page to the list of courses on the website of the Atkinson Center for Sustainability (<https://curricula.atkinson.cornell.edu/>) points to a [nonexistent page](#). An actual list is available [here](#). This list, which we used in preparing the present report, does not link back to the Atkinson Center, which seems not to be involved in curating the course offerings.

A quick perusal of the descriptions of courses listed as “sustainability courses” reveals broad disparities in their scope of engagement with climate change or environmental crisis more broadly. Below are some examples. An outstanding positive example is AEM 2770:

AEM 2770 - Excursions in Computational Sustainability

Balancing environmental, economic, and societal needs for a sustainable future encompasses problems of unprecedented size and complexity. Computing and information science can play an important role in addressing critical sustainability challenges faced by present and future generations. The goal of the course is to introduce students to a range of sustainability challenges and to computational methods that can help address such challenges. Sustainability topics include sustainable development, biodiversity and wildlife conservation, poverty mitigation, food security, renewable resources, energy, transportation, and climate change. In the context of these sustainability topics, the course will introduce students to mathematical and computational modeling techniques, algorithms, and statistical methods. The course is at the introductory undergraduate level. Students are expected to have basic knowledge of probability theory and calculus.

Some courses listed are part of laudable efforts to explore climate change and related topics on sustainability within disciplines beyond the environmental sciences. An example is the new [Environmental Humanities concentration](#), an option within the Environment and Sustainability major. There are some faculty members bringing in innovative new courses that empower students to translate knowledge of climate change into action, such as "[Using the Power of Food to Confront Climate Change](#)". There are also cases of instructors "climatizing" their existing courses. See Appendix for two examples.

On the other hand, many of the entries listed as "sustainability courses" seem to have absolutely nothing to do with climate change or environmental themes. For example:

EAS 4050 - Active Tectonics

Develops the ideas and methods necessary to understand how the Earth deforms—from individual earthquakes to the construction of mountain ranges. Discusses the driving forces of deformation, and how these forces interact with different geologic materials to cause deformation.

BIOMG 6310 - Protein Structure and Function

Presentations on the basic principles of protein structure, dynamics, and function. Specific topics include protein stability, dynamics, evolution, molecular recognition, basic enzyme kinetics, and spectroscopic tools for studying proteins.

Additional examples of such courses whose status as "sustainability courses" is questionable include: CHEME 6670 - Fossil Fuels Module or PAM 6020 - Intermediate Statistics for Sociological Research. We note that our assessment relies exclusively on the published brief description of each course; however, this is also the information students have available when browsing sustainability-related courses.

Some departments seem to list most of their courses, including many we found questionable, while others list none. This suggests that deciding on the manner in which courses qualify as 'sustainability courses' is left up to the department. The STARS Technical Manual does provide criteria for assessing whether a course qualifies. However, these are very loose and do not define what is meant by sustainability, beyond the rather unhelpful description "references sustainability, the interdependence of ecological and social/economic systems, or a sustainability challenge" ([STARS Technical Manual, AC-01 p.1](#)). Cornell's page on sustainability-related courses also does not specify what type of content a course must have to fall under this category.

As another justification of its platinum STARS rating, Cornell claims that [six of its colleges have sustainability-focused learning outcomes](#). Here too, however, the definition of sustainability seems to be so broad as to give credit for compulsory courses whose descriptions include no reference to climate, ecology or environmental crisis or change. In particular, in the College of Arts and Sciences, students must complete courses to fulfill the distribution categories that include an understanding of sustainability including: Global Citizenship (GLC-AS), Biological Sciences (BIO-AS), and Social Difference (SCD-AS). However, in the descriptions of these three categories, environmental themes seem to be a small component in the first, and are not mentioned in the second or third.

4. Towards a credible and suitably ambitious vision

How best to advance the integration of climate change, ecological breakdown and environmental sustainability in degree programs? A credible and suitably ambitious vision for this would need to start from a systematic assessment of Cornell's existing offerings on these themes. The number of courses on themes of 'sustainability', currently used by Cornell to claim leadership in this area, is a very crude measure. It lumps together mandatory and elective courses with different credit weightings. It does not tell us about the proportion of total courses that relate to these topics, nor the proportion of an average student's courses that do so in any given department or college.

Cornell's list gives the impression that a student who desires to learn about sustainability has many options that span diverse fields of study. However, even this conclusion can be questioned. What are the criteria according to which courses are categorized as relating to sustainability? The university and each department have an incentive to list as many as possible to boost their environmental credentials. But how many of these courses teach students something about the crisis we face, its implications and solutions? The sustainability course list page assumes a common understanding of the term sustainability, with no parameters as to what counts as a 'sustainability course', and, concerningly, no requirement that it link to environmental issues.

An improvement in the transparency and credibility of Cornell's commitment to providing an education that informs and prepares students adequately for their future lives and careers would require that the following questions be explicitly addressed in Cornell's public communication on its course offerings:

- How is 'sustainability' interpreted?
- Who decides on the inclusion of climate-related courses in programs and offerings in colleges and departments? Are the decisions systematic or *ad hoc*? Are offerings growing randomly or by design?

- More broadly, *what is Cornell's vision for adapting its degree offerings in response to the climate crisis, and how is it taking steps towards this?*

With regard to the last point, Harvard offers a useful example of a [vision and a strategy](#) for holistic and coordinated development of climate education across the university, including a broad-based process to identify its weaknesses. Another great case is the adoption by UCSD of a requirement that all students complete [a one-quarter course](#) that satisfies the new Climate Change Education Requirement in order to earn a bachelor's degree. Cornell should learn from these inspiring examples and develop its own vision.

That said, we note that, perhaps not surprisingly, the Harvard plan makes no mention of the elephant in the room. Per Harvard *Crimson*, most of Harvard's alumni go on to work on the one "industry" that's most destructive of climate — finance (see [here](#)). We can hardly expect Harvard (or Cornell) to admit that what's killing the planet is capitalism, but we should fight to make it known to the students, the faculty, the alumni, and the trustees.

5. The role of education in Cornell's integrated sustainability plan

Cornell has published a series of [sustainability plans](#), which include an education component. For instance, the declared priorities of the Sustainable Cornell Council include the establishment of an [education and engagement committee](#), tasked with assessing (and improving) incoming student climate literacy. However, little information is available on how this initiative is proceeding. Curricular goals in the plan mention introducing a graduate course on sustainability under the auspices of the Atkinson Center, but no campus-wide course is mentioned on the Atkinson Center site. Furthermore, the curriculum is not mentioned in the climate literacy section of the plan. The declared [mission of the new Cornell Jeb E. Brooks School of Public Policy](#), established with a large gift to Cornell, does mention climate change and sustainability, but no details are offered.

6. Conclusions

A close look at Cornell's STARS report and the webpages it refers to, including the grouped sustainability course list and college learning goals, suggests that Cornell has made minimal effort to demonstrate its contribution to preparing students for the climate crisis future and their role in it, beyond meeting the limited requirements of the STARS reporting system to achieve platinum status.

In regard to this status, STARS may do more damage than good by giving the impression that the university sector is moving in the right direction and highlighting exemplary cases to follow that have made insufficient efforts to climatize curricula. (N.B. The STARS system has received [criticism elsewhere](#)). The STARS rating gives universities such as Cornell cover

to be complacent in their efforts to promote a sustainable future. On the part of Cornell, better efforts should include:

- A systematic assessment of all courses for sustainability relevance, based on transparent criteria that include direct reference to climate change/crisis/ecological breakdown.
- A clear public position on what sustainability is, how it relates to climate change, and why it is important to a Cornell education.
- An orientation guide that spells out for students how central this topic is to their futures and hence the need to prioritize it in their education.
- A clearly articulated vision and strategy for how Cornell will continue developing its education for a climate changing world, identifying concrete weaknesses to address, as well as celebrating progress, i.e. not just a PR exercise.

Cornell cannot ignore the climate catastrophe and keep educating students for a world that no longer exists. Rather, it should ask itself, collectively, “To what end do we do what we do?”, acknowledge the scope of the crisis, and step up to the challenge.

Appendix: two examples of existing courses that have been ‘climatized’

What strategies are Cornell instructors taking to introduce the climate and ecological crisis and related themes into courses that did not previously cover them? The following are just two recent examples.

SOC3170/GOVT3174 - Nationalism and Identity - Instructor: Leila Wilmers

- Altered overall course learning goals to emphasize understanding of application to contemporary context
- Theme of climate crisis in introductory class as part of the context in which we are studying nationalism and identity, and the attention the course will pay to this.
- Students encouraged to consider the context of the climate crisis in their course start and end written self-reflection assignments, and in group discussions following these.
- Included readings on climate change and nationalism relating to different sections of the course (e.g. within topics on: nationalism and modernity; nation building under Putin; and one week now entirely dedicated to nationalism and climate change).
- Added lecture content and discussion exercises on nationalism and climate change.
- Introduced new multimedia examples for class slides situating topics in the context of the climate and ecological crisis throughout the course where possible.
- One of two choices of final paper question now relates to climate change and nationalism.

COGST4310/PSYCH4320/BIONB4330 - The Consciousness Revolutions - Instructor: Shimon Edelman

- The course has been thoroughly “climatized”, as described in the following paragraph, which has been added to the opening section of the syllabus:

*A new special focus this year is on **climate change** — an accelerating global catastrophe caused by human actions, which can only be mitigated by understanding, and intervening on, the many relevant aspects of human consciousness. (To get involved in climate action at Cornell, visit <https://www.cornellonfire.org/>.) From week 4 onward, every set of readings will include one or more papers, marked by *, tying consciousness to climate change.*

- Readings specifically and explicitly relating to climate change are now included under the following weekly rubrics:
 - THE BRAIN’S VR ENGINE: LOCATION
 - THE BRAIN’S VR ENGINE: MEMORY AND TIME TRAVEL

- THE BRAIN'S VR ENGINE: EMBODIMENT
 - THE BRAIN'S VR ENGINE: SELF-MODEL
 - PAIN
 - LANGUAGE
 - SELF AND SOCIETY
 - SPECIES OF SUFFERING
 - PERSONAL PALLIATIVES
 - A WORLD TO WIN
- The full syllabus is available at
<https://shimon-edelman.github.io/Edelman-the-consciousness-revolutions-syllabus-2024.pdf>

Report originally published online January 29, finalized February 1, 2024.