



University of Colorado **Boulder**

2019 Program Review

Environmental Studies Program

Academic Review and Planning
Advisory Committee Report

Approved

DocuSigned by:

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Provost and Executive Vice Chancellor for Academic Affairs | Date

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Process Overview

The Academic Review and Planning Advisory Committee (ARPAC) review of the Environmental Studies Program (ENVS) was conducted in accordance with the 2019 program review guidelines. ENVS completed a self-study report which an internal review committee composed of two University of Colorado Boulder (CU Boulder) faculty members outside of ENVS evaluated for accuracy and completeness. The internal reviewers submitted a summary of findings derived from the self-study and from interviews and/or surveys with faculty, staff, and student unit members. An external review committee, consisting of two experts from outside of CU Boulder, visited the unit and submitted a report based upon a review of relevant documents and interviews with faculty, staff, and student unit members and university administrators. Internal and external reviewer comments and recommendations are shared when relevant throughout this report.

Academic Review and Planning Advisory Committee (ARPAC)

Alaa Ahmed, Associate Professor, Department of Mechanical Engineering

Alison Boardman, Associate Professor, School of Education

Barbara Battenfield, Professor, Department of Geography

Paul Campos, Professor, University of Colorado School of Law

Paul Moeller, Associate Professor, University Libraries

Austin Okigbo, Associate Professor, College of Music

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Kathleen Ryan, Associate Professor, Department of Journalism

Hanna Shell, Associate Professor, Department of Cinema Studies and Moving Image Arts

Tamara Sumner, Professor, Institute of Cognitive Science

Michael Stutzer, Professor, Leeds School of Business

Paul Youngquist, Professor, Department of English

Academic year 2019-20
voting members

Non-voting members

Bob Boswell, Vice Chancellor for Diversity, Equity, and Community Engagement and Professor of Molecular, Cellular, and Developmental Biology

Katherine Eggert, Senior Vice Provost and Associate Vice Chancellor for Academic Planning and Assessment and Professor of English

Mary Kraus, Vice Provost and Associate Vice Chancellor for Undergraduate Education and Professor of Geological Sciences

Michele Moses, Vice Provost and Associate Vice Chancellor for Faculty Affairs and Professor of Education

Ann Schmiesing, Executive Vice Provost for Academic Resource Management and Professor of Germanic and Slavic Languages and Literatures

Scott Adler, Dean of the Graduate School and Professor of Political Science

Staff

Andre Grothe, Office of Faculty Affairs

Emmanuel Melgoza Alfaro, Office of Faculty Affairs

Unit Overview

The Office of Data Analytics (ODA) maintains a standardized description of the Environmental Studies Program [on its website](#). ODA updates the profile annually in the fall semester. This report cites data posted in October 2018, reflecting the state of the ENVS as of the academic year (AY) 2017-2018.

Disciplinary context

ENVS combines and integrates different types of knowledge to address the complex environmental, resource, and sustainability challenges in human environment systems. ENVS identifies as a centralized, interdisciplinary program with a preponderance of its faculty members rostered solely within the unit, but with intellectual ties to other units. In particular, ENVS non-rostered core faculty members extend the program's research and teaching reach to units as diverse as Chemistry, Ecology and Evolutionary Biology, Economics, Environmental Engineering, Environmental Design, the Cooperative Institute for Research in Environmental Sciences (CIRES), and the Institute of Behavioral Science. The program director, for example, is currently a non-rostered core ENVS faculty member with tenure in the Department of Ecology and Evolutionary Biology. Thanks to such ties, ENVS personnel have identified and are creating further opportunities for more elaborate and vibrant collaborations, including with the ATLAS Institute and the Law School. In addition, ENVS is currently developing a dual degree program with the Leeds School of Business.

Research and scholarship

ENVS research spans a wide range of disciplinary and interdisciplinary themes, all of which tie to human-environment interactions. These include food systems, human dimensions of global change, conservation biology, restoration ecology, ecosystem biogeochemistry, environmental governance, science and policy interactions, environmental inequality, and climate justice, environmental ethics, sustainable livelihoods, and behavioral dimensions of climate change mitigation and adaptation. ENVS faculty members have been successful in

publications with diverse themes lettered in reputable peer review journals and in book formats. The faculty members have been awarded nearly \$32 million in research funding since 2013. ENVS rostered or co-rostered tenured faculty members account for \$21 million; pre-tenured faculty members, \$11 million. National Science Foundation grants account for 76% of total ENVS federal grant awards. Other significant funding agencies include the US Department of Agriculture, National Oceanic and Atmospheric Administration, Department of the Interior, and the National Aeronautics and Space Administration.

A different indicator of the program's research and scholarship reputation is evidenced in the fact that two of its senior faculty members are on two-year appointments outside of the university, one as observatory director and chief scientist at the National Ecological Observation Network and another at the European Research Council.

Campus
context

The Environmental Studies Program is structured like a department. It offers undergraduate and graduate degrees and serves as a tenure home for faculty members. The fact that it does not have departmental status has been a focus of ongoing conversations with regards to its reputation and ability to enhance external funding sources. Going back to its last review in 2012, ARPAC focused on the question of whether the unit should continue as a program. While the 2019 self-study report and the ENVS strategic plan raise the issue of the unit's program classification, those documents decline to say whether or not ENVS personnel desire to see their unit reclassified as a department. Moreover, neither the internal nor external reviewers touched on this issue. It seems, however, that the program's governing complexity, which the external reviewers identified as a risk, has some connection to its program status.

Faculty
and
research
personnel

According to the self-study report, as of Fall 2018, ENVS employed 25 faculty members: 17 in the tenure-stream (including five full professors, six associate professors [one at 50%], and six assistant professors); seven instructors (four dedicated to the Masters of the Environment [MENV] professional degree program, including one at 50%); and one senior instructor. This record shows the ENVS faculty personnel roster has more than doubled since the 2012 review when the program employed seven tenure-stream faculty members full time and five at 50% time. University general fund monies cover the salaries of 20 ENVS faculty members, whereas the MENV director, who is a tenure-stream faculty member, and four instructors, are supported solely by MENV tuition revenues. According to ODA, ENVS full professors earn on average 90% of what their peers make elsewhere within the Association of American Universities (AAU), whereas ENVS associate professors earn 94% of the average and ENVS assistant professors, 100%.

The program also designates nine faculty members from other units as ENVS affiliates, including the current program director. The tenure homes of the nine affiliates include Chemistry, Ecology and Evolutionary Biology, Economics, and Environmental Engineering. Thirty additional faculty members are designated as ENVS associates. A program associate designation is based on the faculty members' environmental scholarship interests.

Staff

ENV S employs 11 staff members, two in the state-classified system and nine as exempt professionals (now known as "university staff"). Three of these positions support faculty administration of the BA, MS, and PhD programs. The remaining eight staff positions support the MENV professional degree program.

Undergraduate
education

Between 2016 and 2018, Environmental Studies Program undergraduate majors grew from 658 to 787 students. According to the self-study report, between 2012 and 2018, ENVS undergraduate student credit hours (SCH) generated increased by almost 40% from 4,910 to 8,044 hours. The program attributes its newly rostered faculty members and a new curriculum for the SCH growth, although compared to other units the SCH totals are below average. ENVS cites the BA program's heavy reliance on non-ENVS and cross-listed courses to explain its low SCH generation.

ENVS relies on both tenure-track and instructor-track faculty members in teaching. In 2012, ENVS tenure-track faculty members taught 71% of the ENVS student credit hours, instructors taught 20%, and other faculty members, 6%. In recent years, instructor-taught SCH has grown relative to the SCH generated by ENVS tenure-track faculty members, with instructor-taught SCH increasing from approximately 25% to 45% and tenure-track faculty-taught SCH decreasing from approximately 60% to 45% between 2017 and 2018. The program cites the addition of new instructors and the departure of several faculty members on administrative appointments or on leaves with external organizations as the cause.

According to ODA, in fall 2018, the Environmental Studies Program MS and PhD degree programs enrolled 46 students (35 PhD students [76%] and 11 MS students [24%]), while the Master of Environment (MENV), a professional master's degree, enrolled 125 students. ENVS also offers an environmental justice graduate certificate. The self-study report indicated that ENVS MS enrollments have declined whereas PhD program enrollments have remained steady. By contrast, MENV program enrollments have steadily risen. The self-study report suggests a connection between the creation of the MENV (the program began accepting students in 2016) and declining MS degree

enrollments. The self-study report describes MENV as meeting two important and related ENVS goals:

1. The degree fulfills the provost's vision of growing professional master's students in residence;
2. The MENV strengthens CU Boulder's standing as the state's flagship institution by meeting the growing demand for analytically trained and skilled environmental professionals who can address complex problems encountered in both the private and public sectors.

Relative to the attention focused on the MENV in the self-study and the internal and external review reports, not much is said about the MS and PhD degree programs. The ENVS web page however shows multiple outcomes for ENVS MS graduates, including to indicate that they go on to pursue PhD or advanced degrees in law and business or secure academic and private sector jobs. After the 2012 review, the unit increased its efforts to track the job placements of its graduate students.

Budget

Annual allocations from the College of Arts and Sciences operational budget fund the Environmental Studies Program as do departmentally administered indirect cost recovery (DA-ICR) monies and instructional funds. The college allocation for fiscal year 2018-2019 totaled \$1,711,846. The self-study report indicates a growth in revenue from DA-ICR, summer incentives, and program fees.

The provost gave the Environmental Studies Program a \$339,000 loan in FY 2016 to fund costs associated with the launch of the MENV degree program. The program is set to pay this loan back in 2020. This will free up funds for other needs such as student support. While the self-study report sounds generally encouraging, the external reviewers identify a lack of robust policies within ENVS for generating and sharing

revenue, especially as it pertains to the MENV degree program, which appears to provide much of the unit's current revenue.

Space and infrastructure

The Environmental Studies Program is housed and administered in the Sustainability, Energy, and Environment Community (SEEC) building on East Campus. According to the self-study report, SEEC has the capacity to support the academic and experiential needs of the unit's faculty and staff members, researchers, and students. ENVS occupies space on the building's 1st, 2nd, and 3rd floors. Although ENVS makes no claims for needing additional space at the moment, the program expects that the rapid growth of the MENV program and rising undergraduate enrollments will leave ENVS needing more space in the near future.

Governance

The external reviewers indicate that the program's governance structure appears overly complex with implications for efficiency and faculty member workload. An identifiable example is that the Graduate School provides operational oversight for MENV while being housed under ENVS but that the MENV lead reports to the ENVS director. The Environmental Studies Program acknowledged this complexity in its self-study report but made no mention of how it plans to address the issue.

Inclusive excellence

The Environmental Studies Program self-study report does not address the demographic features of the unit's faculty and staff members and students. Nevertheless, ENVS recognizes the need to work on improving diversity and inclusive excellence and has already begun program-wide discussions about inclusivity. Recently, the MENV program hired a full-time diversity and recruitment program manager, and MENV has allocated funds to support programming around diversity, equity, and inclusion that are available to ENVS faculty members, staff members and students. Notable in this effort is

the push for curricular diversity and pedagogical approaches that foster inclusivity.

Climate
and
culture

Based on the climate survey results, the internal reviewers identified a generally positive outlook among ENVS faculty, staff, and students. The program's faculty members expressed high levels of satisfaction with how the diverse metrics for success in research across the many disciplines represented in ENVS are managed. Faculty members expressed a desire for a more constructive partnership with campus administrators in addressing the challenges, costs, and benefits of the MENV program. Some staff members expressed frustration with the university's onboarding process and with a lack of access to supplemental training or a campus professionals' network.

The internal reviewers also conducted a survey of ENVS undergraduates that showed that 89.9% report being either "satisfied" or "very satisfied" with the program; only 1.5% reported being "very dissatisfied." Fifty-eight percent rated their ENVS courses as "better" or "much better" than other CU Boulder courses and only 3.6% rated them as "worse." Eighty-seven percent "agreed" or "strongly agreed" that ENVS encourages a climate that is tolerant and respectful of diversity; 9.6% "strongly disagreed." This larger number indicates that there are some students who are satisfied overall but have concerns about the program climate.

Likewise, ENVS graduate students responding to the internal reviewers expressed satisfaction, with 84% of the research track students and 82% of the professional track either "satisfied" or "very satisfied" with their programs. The MENV students were, however, noticeably less satisfied than the research track graduate students with regards to opportunities for teaching, publication, and help in determining a research topic. Ninety percent of the research track students and 91% of

the professional track students “agreed” or “strongly agreed” that ENVS encourages a climate that is tolerant and respectful of diversity. Many graduate students indicated interest in developing greater synergy between ENVS/MENV faculty members, students, curriculum, and communities. On this issue, the external reviewers recommend that the program consider ways for the MS, MENV, and PhD students to be brought together – perhaps in a common ‘methods’ class. The external reviewers also recommend more social events or seminar series to increase community experience and cross-program interactions.

Past Reviews

ARPAC last reviewed the Environmental Studies Program in 2012. This was before the creation of the Masters of the Environment professional degree. Since 2012, the university has invested in ENVS through funding new faculty lines– both tenure-track and instructors, and by providing seed monies to launch the Masters of the Environment professional degree. Notably, among the recommendations that ARPAC made that remain unaddressed is:

“Engage with the College of Arts and Sciences and the campus in a discussion of the desirability, feasibility, ramifications, and likely timeline of growing ENVS into a larger unit with the structure of a department.”

Analysis

As anticipated by the 2012 ARPAC review, ENVS has grown into a larger unit. The challenge now is where to go from here. There are clearly a lot of opportunities, but also some potential pitfalls as noted by the external reviewers.

ENVS has positioned itself as a cutting-edge program with strong national and international visibility. The unit's rising visibility derives in some measure from the newly established Masters of the Environment degree program. MENV has gained wide recognition since its inception just a few years ago. The implications of pronounced growth, in both the MENV and BA degree programs, raises concerns about mounting instructional needs (personnel and space) and program focus to which the campus and ENVS need to be attentive.

The unit's strategic plan envisions continued student enrollment growth, the development of more certificate programs, and new joint degrees. While these are commendable, such possibilities call for careful consideration of whether or not the unit can continue functioning without being reclassified as a department. In 2012, ARPAC recommended a consideration of this change, but the discussion of which, until now, does not seem to have been had. At least it is not evident in the self-study report, nor in the internal and external reviews.

The ENVS self-study made recommendations for several new hires (including for faculty and administrative staff positions); interestingly, the external reviewers did not mention increased personnel among their recommendations. ARPAC is concerned that proposals to expand the unit employee roster might further compound an already complicated governance structure. The good news is that the self-study report suggests an awareness of how the current governance structure poses long-term risks to sustainable planning for such matters as revenue generation and revenue sharing. The external reviewers expand on such

cautions and the unit is wise to consider their guidance. It is in everyone's interest to safeguard ENVS against potential pitfalls and to strengthen the program, which is fast becoming an enviable campus image-maker.

According to the external reviewers, “[i]n order to navigate the resulting opportunities and challenges, the Program needs a Strategic Plan that delineates a high-level vision that articulates with the campus-wide ‘Academic Futures’ planning effort ‘to further the Public Good.’” The ENVS self-study report already shows an awareness of this shortcoming. The unit raised one concern, however, that the campus academic futures project on interdisciplinarity may serve to normalize an approach and philosophy that has set ENVS apart for many years. As the unit explained in the self-study: “With Academic Futures now focusing on growing interdisciplinary opportunities across campus, we are facing the need to reexamine our program to see where we offer unique value, and to hone and promote our strengths in order to capitalize on our own unique identity” (p. 18). If anything, ENVS ought to pride itself as a pacesetter and model with respect to the Academic Futures vision.

The unit’s culture and climate are generally positive, and there is a desire for more intra-unit interactions among ENVS students. The nature of the two-track (research and professional) graduate program makes sense. Nevertheless, closer interaction between students in the two tracks could be beneficial for both; an example could be providing more practice-based opportunities for “traditional” MS students. In fact, it would reflect well on a program that prides itself on its interdisciplinarity.

The students’ request for professional mentoring is a welcome idea, and one to which the unit is attentive already. Colloquium and symposiums are ways to do this. In addition, ENVS

students seem to call for some type of hands-on coaching. A look at how other units accomplish this might be useful. ENVS is already well-positioned to draw upon experiences elsewhere at CU Boulder given its broad and deep campus reach.

Recommendations

The members of the Academic Review and Planning Advisory Committee address the following recommendations to the Environmental Studies Program and to the offices of responsible administrators:

To the Unit:

1. Engage faculty members in conversations regarding the unit's core identity and mission. Whereas the self-study report identifies as imperative the need to "hone and refine our core identity as a program", it does not state how the unit plans to achieve this goal. At the end of these discussions, write a mission statement that captures that core identity.
2. Revisit the unit's strategic plan in order to align it with the newly articulated vision and mission statement. It may be necessary to revisit the unit's strategic plan with a vision that includes a more extant view of the ENVS MS degree program, which appears to have seen stagnant enrollment, especially in comparison to the MENV degree's robust growth during the same period of time.
3. Articulate the role of the different graduate degree programs, in particular the relationship of the research degrees (MS and PhD) to the professional masters (MENV).
 - a. Consider eliminating the MS degree as a program with separate admission and retaining only as a component of progress toward the PhD degree and as part of dual degree programs.
 - b. If the MS is to be retained as a separate degree program, develop a clear articulation of its objectives and learning outcomes as differentiated from those of the dual degrees and the MENV and PhD.
 - c. Communicate more clearly and often with MENV students, both during the admission process and upon

- enrollment in and progress through the program, the distinctions between the MENV program and a research-track graduate program, including, for example, the fact that MENV students are not eligible for research assistant or teaching assistant positions.
- d. Consider the impact of reduced attention to research-track graduate programs upon recruitment, retention, and research productivity of faculty members.
 - e. Look for ways to enhance opportunities for outside-of-class interactions between the research track and non-research track graduate students.
4. In consultation with the deans of the College of Arts and Sciences and the Graduate School, and the executive vice provost for academic resource management, return and recommit to the founding agreements developed for the MENV for revenue sharing and for the use of revenue share to support ENVS's research enterprise, including support for faculty members and for the research-track graduate programs.
5. Develop a more complete plan to diversify faculty and staff member and student demographics to match and capitalize on current commendable efforts at diversity and inclusivity in curricular and pedagogical approaches.
6. Consider simplifying the program's governance structure, including number and size of committees and number of leadership positions, to reduce faculty member involvement in merely transactional program work. Consider involving faculty members affiliated with institutes in selected governance roles, so long as their involvement does not create conflicts of interest or further complicate governance structures.

7. Revise the mentoring structure and/or its implementation so that junior faculty members hired into ENVS receive consistent degrees of support and advice from senior faculty members, even if the latter are institute-rostered.

8. Make a case to the dean of the College of Arts and Sciences for additional undergraduate advising support.

9. Continue and increase the program's commendable efforts to track the graduates and post-doctoral outcomes.

To the Deans of the
College of Arts and
Sciences and the
Graduate School:

10. Reconsider the operational oversight and transactional assistance provided by the Graduate School to the MENV degree program.

To the Executive Vice
Provost for Academic
Resource Management:

11. Consider preemptively engaging the program regarding its potential future infrastructure needs before such needs become acute and more challenging to fulfill.

Required Follow-Up

The director of the Environmental Studies Program shall report annually on the first of April for a period of three years following the year of the receipt of this report (i.e., April 1st of 2022, 2023, and 2024) to the divisional dean for natural sciences and the dean of the College of Arts and Sciences and to the provost on the implementation of these recommendations. Likewise, the dean of the College of Arts and Sciences shall report annually on the first of May to the provost on the implementation of recommendations addressed to the program. The provost, as part of the review reforms, has agreed to respond annually to all outstanding matters under their purview arising from this review year. All official responses will be posted online.