New Program Proposal
B.A./A.B in Environmental and Sustainability Studies
College of Charleston

Summary

The College of Charleston's (CofC) proposes a B.A./A.B. program in Environmental and Sustainability Studies. The proposed program will prepare students with the breadth of knowledge and interdisciplinary thinking skills to innovate solutions to intertwined environmental, social, and economic problems. The proposed program will therefore include an interdisciplinary core curriculum for both the BS and the BA, featuring foundational coursework in natural sciences, humanities and social sciences, economics, and interdisciplinary environmental and sustainability studies. To complement this interdisciplinary breadth, the BS degree will require more in-depth training in the natural sciences in order to equip students for science-based careers or graduate study in areas including environmental science and environmental management, while the BA degree will emphasize training in the social sciences and humanities to prepare students for socially-oriented careers or advanced study in areas including environmental policy and sustainability management The proposed program will be delivered in person and begin in the Fall of 2023.

CHE staff evaluated the program to ensure the program met Commission requirements before transmitting the proposal to the Advisory Committee on Academic Programs (ACAP) for review and recommendation. ACAP voted unanimously to recommend approval of the proposal on March 23, 2023. The full program proposal and support documents are attached.

College of Charleston Undergraduate Student Data, Fall 2022

Undergraduate In-State/Out-of-State Enrollment, Fall 2022	5,551 (55.67) / 4,421 (44.33)

Similar Programs in South Carolina – Public and Private Institutions

Program Name and Designation	Institution	Similarities	Differences
BA in Sustainability and Coastal Resilience, with Policy and Culture concentration or Business and Economics concentration	Coastal Carolina University	Both our program and theirs take a broadly interdisciplinary approach to sustainability, including natural sciences, social sciences/humanities, and economics perspectives, with an emphasis on social sciences/humanities perspectives. Curricula have somewhat similar structures, with foundational courses, environmental social sciences /humanities electives, and a required experiential learning component.	Our program focuses on the breadth of environmental and sustainability studies, while their programs include a specific focus on coastal resilience. Our program requires a qualitative, spatial, or mixed methods course. Our program provides students with greater flexibility to select electives from among relevant social sciences, humanities, business, and economics courses. Their programs require students to focus on either social sciences/humanities (Policy and Culture concentration) or business/economics. Our program includes a greater variety of relevant business/ economics courses compared with their Business and Economics concentration.
BA, Environmental Studies	Winthrop University	Both programs offer an interdisciplinary environmental degree, including social sciences/humanities, economics, and natural sciences perspectives, with an emphasis on social sciences/ humanities. Both programs require methods courses and an experiential learning component.	Our proposed curriculum includes an overarching focus on sustainability and requires one social sustainability course as well as one additional quantitative methods course (2 courses vs. 1 course).
BS in Environmental and Natural Resources, Natural Resource and Economic Policy concentration	Clemson University	Both programs offer an interdisciplinary environmental degree, including natural sciences, social sciences, and economics perspectives, with an emphasis on social sciences/economics perspectives and required experiential learning.	Our proposed curriculum includes a focus on sustainability and includes 6 credits of broadly interdisciplinary environmental and sustainability studies coursework, a social sustainability course, and a qualitative, spatial, or mixed methods course. Their program draws heavily from economics with some policy coursework while our program allows students to take relevant course from across the social sciences, humanities, economics, and business.

BS in Sustainability Sciences	Furman University	Both programs take an interdisciplinary approach to sustainability, including social sciences/humanities and natural sciences perspectives, with upper-level coursework focused on social sciences/ humanities. Both programs require an experiential learning component.	Our program focuses on the breadth of environmental and sustainability studies, while their program focuses specifically on sustainability. Our program requires an economics course, a statistics course, and a qualitative, spatial, or mixed methods course.
BA, Environmental Studies	Francis Marion University	Both programs offer an interdisciplinary environmental degree, including social sciences/humanities, economics, and natural sciences perspectives, with an emphasis on social sciences/humanities.	Our proposed curriculum includes an overarching focus on sustainability. Our program requires more foundational environmental science coursework (2 courses vs. 1), two quantitative methods courses, and an experiential learning component.
BA, Environmental Studies	USC Columbia	Both programs require foundational coursework in natural and social sciences. Both courses allow students to select from a broad array of environmental electives.	Our proposed curriculum includes an overarching focus on sustainability and requires additional methods courses (3 courses vs. 1 course) and an experiential learning component. Their program allows students to select electives from among a range of natural and social sciences courses, while our program requires students to take a minimum of 12 credits of electives from social sciences/humanities perspectives beyond the foundation level.
BA, Environmental Studies	Wofford College	Both programs offer an interdisciplinary environmental degree, with foundational coursework in environmental sciences and social sciences/humanities perspectives on the environment.	Their program requires no economics and no research methods course, although students may choose an economics elective and may opt to take one research methods course. Our program requires a foundational economics course and three research methods courses. Beyond the foundation level, their program allows students to opt entirely for electives from relevant natural sciences courses if the student desires, while our program requires students to take a minimum of 12 credits of electives from social

			sciences/humanities perspectives beyond the foundation level.
BS in Sustainability and Coastal Resilience, with Science and Ecosystems concentration	Coastal Carolina University	Both programs take a broadly interdisciplinary approach to sustainability, including natural sciences, social sciences/humanities, and economics perspectives.	This program is focused on natural sciences perspectives and is more similar to our proposed Environmental and Sustainability Studies BS (with similarities and differences detailed in our BS proposal).
BS in Environmental and Natural Resources, with Natural Resources Management concentration	Clemson University	Both programs offer an interdisciplinary environmental degree, including natural sciences, social sciences, and economics perspectives.	This program is more focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Science	Francis Marion University	Both programs offer an interdisciplinary environmental degree.	This program is more focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Studies	Wofford College	Both programs offer an interdisciplinary environmental degree.	This program is more focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Studies	Southern Wesleyan University	Both programs focus on the environment.	This program is focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS in Environmental and Natural Resources, with Conservation Biology concentration	Clemson University	Both programs offer an interdisciplinary environmental degree, including natural sciences, social sciences, and economics perspectives.	This program is more focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Science	Claflin University	Both programs focus on the environment.	This program is focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Science	USC Columbia	Both programs focus on the environment.	This program is focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Sciences	Winthrop University	Both programs offer an interdisciplinary environmental degree.	This program is more focused on a natural sciences approach to the environment (see similarities and

			differences detailed in our BS proposal).
BS, Environmental Science	Anderson University	Both programs focus on the environment.	This program is focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Science	Lander University	Both programs focus on the environment.	This program is focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).

Enrollment Projections

Year	Fall Headcount	Spring Headcount	Summer Headcount
2023-24	90	90	0
2024-25	150	150	0
2025-26	200	200	0
2026-27	230	230	0
2027-28	240	240	0

Industry-related Occupational Wages and Projections in South Carolina, 2020-2030

Occupation	South Carolina		National			
	Projected Annual Job Openings	Projected Job Growth	Projected Annual Job Openings	Projected Job Growth	Median Earnings (2021)	Source
Environmental Scientists and Specialists	50	20%	9,400	8%	$76,530	O*Net
Environmental Science and Protection Technicians	20	13%	4,700	11%	$47,370	O*Net
Conservation Scientists	50	9%	2,500	6%	$63,750	O*Net
Sustainability Specialists	470	8%	141,900	6%	$74,670	O*Net
Environmental Compliance Inspectors	390	10%	30,000	6%	$71,650	O*Net
Environmental Economists	10	9%	1,600	13%	$105,630	O*Net

Institutional Approvals and Dates of Approval (include department through Provost/Chief Academic Officer, President, and Board of Trustees approval):

Environmental and Sustainability Studies program	08/17/2022
Dean, School of Humanities and Social Sciences	08/18/2022
Dean, School of Sciences, Mathematics, and Engineering	08/21/2022
Office of Institutional Effectiveness	08/28/2022
Office of the Provost	09/06/2022
Academic Planning Committee	09/07/2022
Faculty Curriculum Committee	09/16/2022
Budget Committee	09/19/2022
Faculty Senate	10/11/2022
Board of Trustees	10/21/2022

NEW PROGRAM PROPOSAL FORM

Name of Institution: College of Charleston

Name of Program (include degree designation and all concentrations, options, or tracks):

Environmental and Sustainability Studies, B.A./A.B.

Program Designation:

- ☐ Associate's Degree
- ☐ Master's Degree
- ☒ Bachelor's Degree: 4 Year
- ☐ Specialist
- ☐ Bachelor's Degree: 5 Year
- ☐ Doctoral Degree: Research/Scholarship (e.g., Ph.D. and DMA)
- ☐ Doctoral Degree: Professional Practice (e.g., Ed.D., D.N.P., J.D., Pharm.D., and M.D.)

Consider the program for supplemental Palmetto Fellows and LIFE Scholarship awards?

- ☒ Yes
- ☐ No

Proposed Date of Implementation: August 2023

CIP Code: 03.9999

Delivery Site(s): 50201

Delivery Mode:

- ☒ Traditional/face-to-face
  *select if less than 25% online
- ☐ Distance Education
  - ☐ 100% online
  - ☐ Blended/hybrid (50% or more online)
  - ☐ Blended/hybrid (25-49% online)
  - ☐ Other distance education (explain if selected)

Program Contact Information (name, title, telephone number, and email address):

Allison Welch, Ph.D., Director of Environmental and Sustainability Studies Minor and Associate Professor of Biology, 843-953-5451, welcha@cofc.edu

Institutional Approvals and Dates of Approval (include department through Provost/Chief Academic Officer, President, and Board of Trustees approval):

Environmental and Sustainability Studies program	08/17/2022
Dean, School of Humanities and Social Sciences	08/18/2022
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Faculty Curriculum Committee	09/16/2022

Budget Committee	09/19/2022
Faculty Senate	10/11/2022
Board of Trustees	10/21/2022

Background Information

State the nature and purpose of the proposed program, including target audience, centrality to institutional mission, and relation to the strategic plan.

Sustainability is a defining issue of our time. Earth's systems are under increasing stress from accelerating rates of natural resource consumption, climate change, and weather-related stresses, resulting in ecological crises, social disruption, economic and political uncertainties, and disparate and unjust impacts to human health, security, and well-being. Today's generation of students will face increasing climate change, sea level rise, environmental pollution, and resource depletion, with resulting impacts on individuals, communities, and industries. Consequently, there is tremendous demand for innovative approaches that can help mitigate environmental problems, advance environmental justice, promote sustainable and regenerative use of resources, and stimulate individual and societal resilience. A new generation of students trained rigorously in environmental and sustainability studies will be needed to meet these 21st century challenges.

The aim of the proposed Environmental and Sustainability Studies major is to prepare students with the breadth of knowledge and interdisciplinary thinking skills to innovate solutions to intertwined environmental, social, and economic problems. The proposed program will therefore include an interdisciplinary core curriculum for both the BS and the BA, featuring foundational coursework in natural sciences, humanities and social sciences, economics, and interdisciplinary environmental and sustainability studies. To complement this interdisciplinary breadth, the BS degree will require more in-depth training in the natural sciences in order to equip students for science-based careers or graduate study in areas including environmental science and environmental management, while the BA degree will emphasize training in the social sciences and humanities to prepare students for socially-oriented careers or advanced study in areas including environmental policy and sustainability management. Experiential learning is a hallmark of the proposed program, with each student required to participate in a relevant internship, research experience, study abroad, or other form of experiential learning. This curriculum will prepare each graduate to apply specialized skills and knowledge from within either the natural sciences (BS) or the social sciences (BA) to help address multifaceted sustainability issues in complex real-world settings, with a full appreciation of how their approach interacts with other dimensions of the issue.

Over the past several years, sustainability has emerged as a strong feature of the College's institutional identity, making the proposed major an excellent fit for the institution. In its most recent mission statement, the College commits itself "to developing ethically centered, intellectually versatile and globally fluent citizens who create innovative solutions to social, economic and environmental challenges." The mission and core values of the College are reflected in both the content and the intellectual spirit of the proposed ENSS major, with its focus on interdisciplinary systems thinking (reflecting the College's Core Values *Liberal Arts Education* and *Academic Excellence*), student engagement (reflecting Core Values *Student Centeredness* and *Academic Excellence*), and innovative, future-oriented problem solving (reflecting Core Values *Innovation* and *Public Mission*) guided by values including justice and inclusion, ecological integrity, and intergenerational equity (reflecting Core Values *Integrity* and *Diversity, Equity, and Inclusion*). In support of the College of Charleston Strategic Plan's Pillar 2, *Academic Distinction*, launching BA and BS programs in Environmental and Sustainability Studies will attract highly qualified, engaged, and purpose-driven students to the College (*Pillar 2, Strategy 2: Attract and enroll more highly qualified, civic-minded and intellectually curious students*); increase student opportunities for experiential learning (*Pillar 2, Strategy 4: Make experiential learning a differentiator of the College of Charleston educational experience*); and enhance CofC's profile as a leader in sustainability through the addition of a new

signature program (*Pillar 2, Strategy 3: Identify and develop signature undergraduate, master's and doctoral programs and institutes that will advance our profile as a national university*).

The proposed program will be the first undergraduate major in Environmental and Sustainability Studies to be offered in South Carolina and only the second in the Southeast. As such, the target audience includes new students, both in-state and out-of-state, whose interests in a broadly interdisciplinary environmental and sustainability program are not currently served within South Carolina. The College plans to feature the new program in its recruitment and marketing efforts to increase awareness of Environmental and Sustainability Studies to prospective students. The program will also appeal to existing College of Charleston students, particularly those within the existing Environmental and Sustainability Studies minor, some of whom affiliate more strongly with the minor than with their declared major. In addition, the program will welcome transfer students and military veterans, who will be able to satisfy some requirements for the major with transfer credit for certain foundational level courses in economics, mathematics, and natural sciences that are routinely offered at two-year colleges as well as for specialized coursework in environment- and sustainability-related topics that may be offered.

Assessment of Need

Provide an assessment of the need for the program for the institution, the state, the region, and beyond, if applicable.

As recognized by the College of Charleston's mission statement, our institutional calling is to serve the state of South Carolina, the nation, and the world by educating "globally fluent citizens who create innovative solutions to social, economic and environmental challenges." Some of the most vexing issues facing humanity today – from climate change to food and energy security to health disparities – represent intertwined environmental, economic, and social challenges. The complexity of these problems demands innovative solutions, grounded in an understanding of the interconnections among environmental, social, and economic factors. The Environmental and Sustainability Studies major engages with these complexities to prepare students to envision and pursue more sustainable future states through strategic, creative, and ethical thinking. Thus, the creation of this major aims to meet current needs by preparing students for meaningful work while providing the state, region, and world with professionals who are prepared to address complex sustainability challenges to secure the well-being of future generations.

The national and international focus on sustainability and the environment brings expanded job opportunities and increased student demand for relevant programs and skills. For example, the US Department of Labor projected that "Environmental Scientists and Specialists" jobs will grow 8% from 2020-2030.[1] In addition, sustainability and "green" initiatives are now infused throughout the economy, and projected growth for "Sustainability Specialists" by the US Department of Labor's Occupational Information Network from 2020-2030 is 6%.[2] Most of these jobs will require a four-year bachelor's degree. The number of major US companies with a strong commitment to sustainability has increased dramatically; in 2021, Andrew Winston wrote in the Harvard Business Review that "Virtually all of the world's largest companies now issue a sustainability report and set goals; more than 2,000 companies have set a science-based carbon target; and about one-third of Europe's

[1] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Information Network, Environmental Scientists and Specialists: https://www.onetonline.org/link/localtrends/19-2041.00?st=SC [accessed October 7, 2022]
[2] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Information Network, Sustainability Specialists: https://www.onetonline.org/link/localtrends/13-1199.05?st=SC [accessed October 7, 2022]

largest public companies have pledged to reach net zero by 2050."[3] This evolving job market needs people trained to coordinate the private, public, and nonprofit sector industries' response to the changes to come in our ecological and social systems.

No other institution in the state offers an undergraduate major in Environmental and Sustainability Studies, and only one institution in the southeast region currently offers this undergraduate major (George Mason University in Virginia). Although several institutions in South Carolina offer degrees in Environmental Science (University of South Carolina at Columbia, BS; Claflin University, BS; Lander University, BS; Winthrop University, BS) or Environmental Studies (USC- Columbia, BA; Winthrop, BA; Wofford, BA, BS), these programs do not focus on sustainability. Furman University offers BS degrees in Sustainability Science and in Earth and Environmental Sciences, and Coastal Carolina University's Honors College offers a Sustainability and Coastal Resilience (BA and BS) program. Clemson offers BS degrees in more specialized environmental programs (Environmental and Natural Resources; Environmental Engineering; Plant and Environmental Sciences; Forest Resources Management). Thus, the College of Charleston is uniquely positioned to offer an undergraduate degree program in Environmental and Sustainability Studies that will appeal not only to students interested in the environment, but also to those interested in sustainability more broadly. Further, only the College of Charleston offers both an interdisciplinary undergraduate minor in addition to an interdisciplinary Master of Science program in Environmental and Sustainability Studies. By capitalizing on extensive course offerings and faculty expertise spanning a range of disciplines at the College, the new major program in Environmental and Sustainability Studies will codify and clarify the campus-wide capacity of our faculty to serve students across the full breadth of Environmental and Sustainability Studies. In doing so, the new program will help the College recruit new students, including those whose interests in a broadly interdisciplinary sustainability program are not currently served within South Carolina.

The proposed program is projected to attract new students to the College and the state. Based on an analysis of degree conferrals in environmental- and sustainability-related bachelor's programs at regional competitors over the past 10 years,[4] we project an enrollment of 240-300 students across the BA and BS within 4 years of the program, with potential for further growth. While some students who declare the new major would have attended the College anyway and declared a different major, both the analysis above and many anecdotes of prospective students inquiring about an Environmental and Sustainability Studies major suggest that the new major will also attract new students to the College. The College of Charleston is distinctly positioned to appeal to prospective students interested in Environmental and Sustainability Studies. In a recent national survey, prospective college students interested in pursuing environmental studies expressed higher than average interest in study abroad opportunities, in undergraduate research with faculty, and in making a difference in the world, and were more likely to prioritize the academic and physical environment when deciding where to apply.[4] This prospective student profile is exceptionally well aligned with distinguishing strengths of the College of Charleston, suggesting a competitive advantage for the College in attracting such students. Nationally, degree conferrals in environmental and sustainability related programs have grown at a higher rate than overall bachelor's degree conferrals over the past decade, indicating growth in the demand for such programs.[4] Recent experience with rapid growth in the new Environmental Geosciences BS program also suggests robust and increasing demand for environment- and sustainability-related programs at the College. When the Environmental Geosciences major was launched in Fall 2021, the forecast population was 36 students by Fall 2023; with 40 students as of Summer 2022, the program is growing at a rate much faster than projected.

As additional evidence of the need for this new major, please see the accompanying industry support letters from Nucor Steel, Charleston County Economic Development, SC Department of Health and

[3] Winston, Andrew, "Sustainable Business Went Mainstream in 2021," Harvard Business Review, January 6, 2022, https://hbr.org/2021/12/sustainable-business-went-mainstream-in-2021
[4] "Environmental and Sustainability Studies: Market Assessment" produced by Eduventures for the College of Charleston, October 2021.

Environmental Control, SC Department of Natural Resources, City of Charleston Office of Resilience and Sustainability, The Sustainability Institute, SC Sea Grant, and the Hollings Marine Laboratory.

Transfer and Articulation

Identify any special articulation agreements for the proposed program. Provide the articulation agreement or Memorandum of Agreement/Understanding.

N/A

Employment Opportunities

Occupation	South Carolina		National		
	Projected Annual Job Openings	Projected Job Growth (2018-28)	Projected Annual Job Openings	Projected Job Growth (2020-30)	Median Earnings (2021)
Environmental Scientists and Specialists[a]	50	20%	9,400	8%	$76,530
Environmental Science and Protection Technicians[b]	20	13%	4,700	11%	$47,370
Conservation Scientists[c]	50	9%	2,500	6%	$63,750
Sustainability Specialists[d]	470	8%	141,900	6%	$74,670
Environmental Compliance Inspectors[e]	390	10%	30,000	6%	$71,650
Environmental Economists[f]	10	9%	1,600	13%	$105,630

[a] https://www.onetonline.org/link/summary/19-2041.00; https://www.onetonline.org/link/localtrends/19-2041.00?st=SC [accessed October 7, 2022]

[b] Identified as a "Bright Outlook" occupation by the US Bureau of Labor Statistics based on expected rapid growth; https://www.onetonline.org/link/summary/19-4042.00, https://www.onetonline.org/link/localtrends/19-4042.00?st=SC [accessed October 7, 2022]

[c] https://www.onetonline.org/link/summary/19-1031.00, https://www.onetonline.org/link/localtrends/19-1031.00?st=SC [accessed October 7, 2022]

[d] Job numbers are based on data for the more general category, "Project Management Specialists and Business Operations Specialists, All Other"; https://www.onetonline.org/link/summary/13-1199.05, https://www.onetonline.org/link/localtrends/13-1199.05?st=SC [accessed October 7, 2022]

[e] Job numbers are based on data for the more general category, "Compliance Officers"; https://www.onetonline.org/link/summary/13-1041.01, https://www.onetonline.org/link/localtrends/13-1041.01?st=SC [accessed October 7, 2022]

[f] Identified as a "Bright Outlook" occupation by the US Bureau of Labor Statistics based on expected rapid growth; https://www.onetonline.org/link/summary/19-3011.01, https://www.onetonline.org/link/localtrends/19-3011.01?st=SC [accessed October 7, 2022]

Supporting Evidence of Anticipated Employment Opportunities

Provide supporting evidence of anticipated employment opportunities for graduates.

SCWorks.org—There is a high demand for environmental and sustainability professionals in South Carolina. SCWorks.org is the State's largest workforce development database. A query, run on October 1, 2022 with "environmental" or "sustainability" keyword in the job yielded 776 open positions. Position titles available included: Environmental and Recycling Coordinator Health, Safety and Environmental Coordinator, Director Safety Health Environmental, Environmental Project manager, Environmental Health Manager, Assistant Director of Environmental Services, Environmental Scientist, Supervisor of Environmental Services, Environmental Consultant, Environmental Services Tech, Environmental Services Aid, Associate Director of Operations and Sustainability Coordinator, Environmental Compliance and Sustainability Project Manager, Sustainability Projects Manager, Environmental Compliance and Sustainability Manager.

US Department of Labor's Occupational Information Network—According to O*NET (https://www.onetcenter.org/initiatives.html#green),

> "Growing emphasis on "green" or environmentally friendly activities has a widespread impact on the world-of-work. This goes beyond a specific subset of "green jobs." Instead, concepts such as sustainability, climate adaptation, conservation, energy efficiency, and transportation touch on a broad range of occupations across the U.S. economy."

This infusion of environmental and sustainability concerns throughout the economy is reflected in O*NET's extensive list of occupations that incorporate "green topics" (https://www.onetonline.org/search/green_topics/).

In addition to the systemic need for workers prepared to address environmental and sustainability issues, environmental and sustainability professionals are represented by several occupational categories, including two "Bright Outlook" occupations with particularly rapid job growth expected. Most of these occupations require a four-year bachelor's degree, although some require more advanced training. Detailed data are provided in the table above.

US Bureau of Labor Statistics—According to the US Bureau of Labor Statistics, demand for Environmental Scientists and Specialists and Conservation Scientists is projected to grow due to "growing public concern around the effects of climate change and the need to improve water and air quality" (https://www.bls.gov/emp/tables/factors-affecting-occupational-utilization.htm [accessed October 7, 2022]).

US Department of Labor's CareerOneStop—Increased focus on the environment and sustainability is shaping the career landscape in broad ways. The Department of Labor defines Green Careers as occupations that are "affected by activities such as conserving energy, developing alternative energy, reducing pollution, or recycling" and highlights more than 200 Green Careers within 12 sectors (https://www.careeronestop.org/GreenCareers/ExploreGreenCareers/explore-green-careers.aspx). Many of these occupations will require relevant training and skills, including many New Green Occupations, which are emerging because of increased interest in the environment and sustainability, and Changing Skill Green Occupations, which are adding new tasks or specialty areas due to increased demand for green goods and services (https://www.careeronestop.org/GreenCareers/WhatAreGreenCareers/what-are-green-careers.aspx).

Charleston Regional Development Alliance—The Charleston Regional Development Alliance highlights Sustainability as an asset associated with doing business in the Charleston region (https://www.crda.org/assets/pdf/esg.pdf), demonstrating the demand for sustainability among both employers and employees (https://www.crda.org/doing-business-here/esg/)

Description of the Program

Projected Enrollment, B.A. and B.S. combined*			
Year	Fall Headcount	Spring Headcount	Summer Headcount
2023-24	90	90	0
2024-25	150	150	0
2025-26	200	200	0
2026-27	230	230	0
2027-28	240	240	0

* Enrollment is expected to be equally divided between the BA and the BS. Thus, at maturity, we project 120 students enrolled in the BA and 120 in the BS.

Explain how the enrollment projections were calculated.

Projection is based on the following conservative estimates, with numbers divided equally between the BA and the BS. In year 1, we estimate 50 incoming students to declare the major, including 5 who would not otherwise have attended the College and 40 existing students to add the new major (some as a double major in addition to their existing major). With more prospective students aware of the new major, we estimate 60 incoming students will declare the major each year beginning in year 2, including 15/year who would not otherwise have attended the College. In years 2 and 3, we expect the students who declared as sophomores (30) and juniors (10) in year 1 to graduate. In years 4 and beyond we expect to graduate 60 students/year.

We project that the proposed Environmental and Sustainability Studies major at the College of Charleston, at maturity, could confer a total of 60-75 degrees annually, combined across the BA and BS, for a projected total enrollment of 240-300. This projection is based on average degrees conferred annually during the past 5 years,[5] relative to undergraduate enrollment, at top regional competitors (0.58%) and at highly similar institutions (0.72%). *The table above presents conservative estimates of 50 incoming students in year 1 and 60 incoming students/year beginning in year 2.*

In addition, based on the number of declared ENSS minors in Spring 2022 (189 students) and data suggesting that at least ¾ of current and recent ENSS minors would have declared an ENSS major had this option been available when they entered the College,[6] we estimate 140-180 students (35-45 students/year) will be recruited from within the population of CofC undergraduate students. *The table above presents the conservative scenario that most of the students who declare the new major are*

[5] Ten years of data on bachelor's degree conferral in Environmental Studies, Environmental Science, and Sustainability Studies from top regional competitors and South Carolina programs were provided by Eduventures Research in Fall 2021.

[6] In a survey sent to 23 seniors graduating with the minor in Spring 2021, 8 of 8 respondents (100%) indicated that they would have been likely or very likely to declare the ENSS major, either as part of a double major (100%) or as their sole major (63%, 5/8). Similarly, in a survey sent to 135 ENSS minors enrolled in the Fall 2021 semester, 35 of 36 respondents (97%) indicated that they would have been likely or very likely to declare the ENSS major, either as part of a double major (83%, 30/36) or as their sole major (72%, 26/36). Together, these data suggest very strong interest among current and recent CofC ENSS minors in an ENSS major and that many of these students would be interested in majoring in ENSS along with another major.

those who would have attended CofC regardless, with just 5 new recruits to the College in year 1 and 15/year beginning in year 2.

The projected enrollment suggests that adding a major in Environmental and Sustainability Studies will allow the College to recruit new students who would not otherwise have enrolled. This projection is further supported by anecdotal evidence[7] that some students interested in the College of Charleston and Environmental and Sustainability Studies opt instead to attend other institutions that offer a major in Environmental Studies, Environmental Science, and/or Sustainability.

Finally, recent rapid growth in the ENSS minor[8] and growing interest in this field regionally and nationally[9] indicates further potential for growth.

Besides the general institutional admission requirements, are there any separate or additional admission requirements for the proposed program? If yes, explain.

☐Yes

☒No

Curriculum

New Courses

List and provide course descriptions for new courses.

ENVT 210 Sustainable Humanities (3 credits) – This course introduces students to an exploration of sustainability from interdisciplinary environmental humanities perspectives. Students will apply, analyze, and evaluate knowledge from various humanities disciplines, including environmental ethics, ecocriticism, environmental psychology, and gender studies, covering various cultural contexts and geographic regions, past and present, to better understand sustainability and today's social, environmental, and economic problems and solutions to those problems. Students will examine how various worldviews, narratives, and understandings of humans inform both unsustainable and sustainable behaviors, from individual to community levels.

ENVT 336 Environmental Communication (3 credits) – This course introduces students to the interdisciplinary field of environmental communication and engages students in identifying, analyzing, and proposing solutions to communication problems related to the intersection of the environment, economics, and social justice. The course explores discourses around the environment and sustainability, including historical, legal, and technological context and rhetorical frames used by governments, corporations, social movements, and everyday people. Students will explore the role of communication in the public sphere and the power of cultural symbols and messages to shape discourses and practices related to the environment and sustainability.

[7] Anecdotal evidence is in the form of inquiries about an ENSS major by prospective students and their parents, discussions with students and/or parents considering the lack of an ENSS major in their deliberations, reports of students choosing other schools based on the lack of an ENSS major, and reports of students transferring to other schools that offer a major in Environmental Studies, Environmental Science, and/or Sustainability Studies.

[8] The ENSS minor has grown from 77 declared students in Spring 2012 to 189 declared students in Spring 2022 (245% growth), with an increase in 44% (from 131 in Spring 2019) in the past three years.

[9] Data on bachelor's degrees conferrals nationwide from 2012-2020 showed 6% annual growth in Environmental Studies and Environmental Science and 20% annual growth in Sustainability Studies. "Environmental and Sustainability Studies: Market Assessment" produced by Eduventures for the College of Charleston, October 2021.

ENVT 360 Sustainability Practices in Context (3-4 credits) – This course introduces students to an exploration of sustainability in an experiential setting. Students will apply knowledge from various disciplines to analyze complex environmental and/or sustainability problems and solutions in applied settings. Students will visit field sites, businesses, intentional communities, governmental agencies, and/or non-governmental organizations in various domestic or international contexts and interact with people in those settings, to learn about the challenges and successes they face in translating sustainability into lived behaviors and organizational shifts. Course includes a study away component. Topics will vary.

ENVT 460 Experiential Topics in Environmental and Sustainability Studies (3-4 credits) – An advanced interdisciplinary course investigating a particular topic within applied environmental and sustainability studies. Includes a significant experiential learning component through community engagement or other forms of active participation in initiatives designed to address environmental or sustainability issues. Topics will vary.

ENVT 490 Capstone in Environmental and Sustainability Studies (3 credits) – This course provides a capstone experience in which Environmental and Sustainability Studies majors synthesize and apply their learning in the context of relevant theory in the field and engage in professional development to prepare for post-graduation plans. Students will complete readings, discussions, and a semester-long project as the culmination of their academic experience in Environmental and Sustainability Studies and will reflect on their experiences and accomplishments to develop a professional identity. Students will complete the capstone with an e-portfolio that articulates and demonstrates the competencies, skills, and knowledge they have mastered as an Environmental and Sustainability Studies major.

ENVT 499A Bachelor's Essay (3 credits) – Semester one of a two semester intensive research and writing course for accomplished and motivated upper-level students under the close supervision of a faculty member in the department or program. Students must take the initiative in seeking a faculty member to help in the design and supervision of the project. This is an individual enrollment course, and registration is carried out by the faculty mentor.

ENVT 499B Bachelor's Essay (3 credits) – Semester two of a two semester intensive research and writing course for accomplished and motivated upper-level students under the close supervision of a faculty member in the department or program. Students must take the initiative in seeking a faculty member to help in the design and supervision of the project. This is an individual enrollment course, and registration is carried out through consultation with the faculty mentor.

Total Credit Hours Required: 122

Curriculum by Year					
Course Name	**Credit Hours**	**Course Name**	**Credit Hours**	**Course Name**	**Credit Hours**
Year 1					
Fall		**Spring**		**Summer**	
(Gen Ed) ENGL 110 Intro to Academic Writing	4	**ENVT 200 Intro to Environmental and Sustainability Studies**	3		
(Gen Ed) Natural Science 1 of 2	4	*(Gen Ed) Natural Science 2 of 2*	4		
First Year Experience Requirement	3	*(Gen Ed) Math 1 of 2*	3		
(Gen Ed) Foreign Language 1 of 4	3	*(Gen Ed) Foreign Language 2 of 4*	3		
		(Gen Ed) Humanities 1 of 4	3		
Total Semester Hours	*14*	*Total Semester Hours*	*16*	*Total Semester Hours*	
Year 2					
Fall		**Spring**		**Summer**	
Environmental Science Foundation 1 of 2	3-4	Environmental Science Foundation 2 of 2	3-4		
Environment & Society Foundation 1 of 2	3	Environment & Society Foundation 2 of 2	3		
(Gen Ed) Math 1 of 2	3	Quantitative Methods 1 of 2	3		
(Gen Ed) Social Science 1 of 2	3	*(Gen Ed) Humanities 2 of 4*	3		
(Gen Ed) Foreign Language 3 of 4	3	*(Gen Ed) Foreign Language 4 of 4*	3		
Total Semester Hours	*15-16*	*Total Semester Hours*	*15-16*	*Total Semester Hours*	
Year 3					
Fall		**Spring**		**Summer**	
Quantitative Methods Course 2 of 2	3	Qualitative, Spatial, or Mixed Methods Course	3-4		
Human-Environment Interactions Elective 1 of 3	3	Human-Environment Interactions Elective 2 of 3	3		
Economics Foundation	3	Social Sustainability Elective	3		
(Gen Ed) Social Science 2 of 2	3	*(Gen Ed) Humanities 3 of 4*	3		
(Gen Ed) History 1 of 2	3	*(Gen Ed) History 2 of 2*	3		
Total Semester Hours	*15*	*Total Semester Hours*	*15-16*	*Total Semester Hours*	
Year 4					
Fall		**Spring**		**Summer**	
ENSS Experiential Learning	0-3	**ENVT 490 Capstone**	3		
Human-Environment Interactions Elective 3 of 3	3	ENSS B.A. Elective	2-4		
ENSS B.A. Elective	2-4	*Founding Documents Requirement*	3		

Curriculum by Year					
Course Name	**Credit Hours**	**Course Name**	**Credit Hours**	**Course Name**	**Credit Hours**
(Gen Ed) Social Science 2 of 2	3	Unrestricted Elective	3		
Unrestricted Elective	3	Unrestricted Elective	3		
Total Semester Hours	*11-16*	*Total Semester Hours*	*14-15*	*Total Semester Hours*	

Environmental and Sustainability Studies Foundation

Environmental Science Foundations (at least 6 credits from at least two different disciplines)
BIOL 204 Humans and the Environment (3)
BIOL 209 Marine Biology (4)
BIOL 211 Biodiversity, Ecology, and Conservation Biology (4)
BIOL 213 Marine Ecology, Biodiversity, and Conservation Biology (4)
GEOL 103/103L Environmental Geology (4)
GEOL 107 Introduction to Coastal and Marine Geology (3)
PHYS 105 Introduction to Meteorology (3)
PHYS 106L Exercises in Weather and Climate (2)

Environmental and Society Foundations (two courses, each from a different discipline)
ANTH 401 Environmental Anthropology (3)
ENVT 210 Sustainable Humanities (3)
ENVT 363 Race, Gender, and Environment (3)
GEOG 397 Environmental Geography (3)
INTL 350 Cross Regional Studies (3) *[when topic is Global Environmental Challenges]*
PHIL 155 Environmental Ethics (3)
PHIL 245 Environmental Philosophy (3)
POLI 294 Introduction to Sustainability (3)
POLI 307 Environmental Policy (3)
POLI 364 International Environmental Politics (3)
POLI 397 Environmental Geography (3)
PSYC 329 Environmental Psychology (3)
RELS 276 Religion and the Environment (3)
SOCY 323 Sociology of Sustainability and Consumption (3)
SOCY 346 Environmental Sociology (3)

Economics Foundation (one course)
ECON 101 Introduction to Economics (3)
ECON 200 Principles of Microeconomics (3)
ECON 201 Principles of Macroeconomics (3)
INTL 120 Economics of Globalization (3)
POLI 265 International Political Economy (3)

Methods Courses

Quantitative Methods (6 credits, with at least 3 credits from DATA 101 or MATH 250)
DATA 101 Introduction to Data Science (3)
DSCI 232 Business Statistics (3)
DSCI 323 Computer-Based Decision Modeling (3)
HEAL 350 Epidemiology (3)
MATH 250 Statistical Methods I (3)
MATH 350 Statistical Methods II (3)
PSYC 211 Psychological Statistics (3)
SOCY 272 Making Sense of Sociological Data (3)

Qualitative, Spatial, or Mixed Methods (one course)
GEOG 206 Doing Research in Politics: Introduction to Qualitative Research (3)
POLI 206 Doing Research in Politics: Introduction to Qualitative Research (3)
SOCY 271 Introduction to Social Research (3)
GEOG 219 Reading the Lowcountry Landscape (3)
GEOL 402 Geospatial Science (4)
HPCP 298 Digital Methods & Communication for Preservation & Community Planning (3)
POLI 310 Applications of Geographic Information Systems (GIS) (3)

ANTH 491 Research Methods (3)
COMM 301 Communication Research Methods (3)
PSYC 220 Research Methods (3)

Electives (complete at least 18 credits)

Human-Environment Interactions (at least 9 credits)
ANTH 115 Introduction to Cultural Sustainability (3)
ANTH 401 Environmental Anthropology (3)
COMM 336 Addressing Problems in Context (3) *[when topic is Environmental Communication]*
ECON 311 Environmental Economics (3)
ENTR 407 Ecopreneurship (3)
ENVT 336 Environmental Communication (3)
ENVT 363 Race, Gender, and Environment (3)
GEOG 101 World Regional Geography (3)
GRST 230 Green Germany: Environmentalism and Sustainability in Modern Germany (3)
HEAL 345 Environmental Health (3)
HPCP 222 Heritage Preservation and Environmental Conservation (3)
INTL 350 Cross Regional Studies (3) *[when topic is Global Environmental Challenges]*
MGMT 305 The Nexus of Management and Weather (3)
PHIL 150 Nature, Technology, and Society (3)
PHIL 245 Environmental Philosophy (3)
PHYS 305 The Nexus of Management and Weather (3)
POLI 104 World Regional Geography (3)
POLI 294 Introduction to Sustainability (3)
POLI 307 Environmental Policy (3)
POLI 331 Geography of Native Lands/Indian Law (3)
POLI 364 International Environmental Politics (3)
POLI 370 Sustainable Development (3)
POLI 397 Environmental Geography (3)
POLI 443 Governance of Social-Ecological Systems (3)
PRST 490 Applying Sustainable Business Solutions (3)
PSYC 329 Environmental Psychology (3)
RELS 276 Religion and the Environment (3)
SCIM 371 Green Supply Chain Management (3)
SOCY 323 Sociology of Sustainability and Consumption (3)
SOCY 346 Environmental Sociology (3)
SOCY 352 Population and Society (3)
URST 313 Sustainable Urbanism (3)
URST 361 Water Use Law (3)

Social Sustainability (at least 3 credits)
AAST 366 Race-Ethnic Relations (3)
ANTH 362 Social and Cultural Change (3)
ENTR 320 New Venture Modeling (3)
ENTR 406 Social Entrepreneurship (3)
MGMT 350 Business, Leadership, & Society (3)
MGMT 402 Leading Organizational Change (3)
POLI 306 Urban Policy (3)
POLI 312 Social Welfare Policy and Sustainability (3)
POLI 347 International Development: Theories and Practices (3)
PSYC 332 Psychology of Social Change (3)
SOCY 106 Sociology of Peace (3)
SOCY 351 Urban Sociology (3)
SOCY 366 Race and Ethnic Relations (3)

WGST 200 Introduction to Women's and Gender Studies (3)

Additional Electives (additional credits, as needed)
BIOL 204 Humans and the Environment (3)
BIOL 406 Conservation Biology (3)
COMM 410 Analysis of Communication Practice (3) *[when topic is Science Communication]*
DSCI 323 Computer-Based Decision Modeling (3)
ECON 303 Economics of Transportation and Geography (3)
ECON 325 Economics for Development (3)
ECON 340 Public Finance (3)
ENGR 321 Human Factors Engineering (3)
ENVT 350 Independent Study in Environmental and Sustainability Studies (1-4)
ENVT 352 Special Topics in Environmental and Sustainability Studies (1-4)
ENVT 355 Internship in Environmental and Sustainability Studies (1-3)
ENVT 360 Sustainability Practices in Context (3)
ENVT 395 Seminar in Environment and Sustainability Studies (1)
ENVT 452 Advanced Special Topics in Environmental and Sustainability Studies (1-4)
ENVT 460 Experiential Topics in Environmental and Sustainability Studies (3)
ENVT 499A Bachelor's Essay (3)
GEOG 219 Reading the Lowcountry Landscape (3)
GEOL 213 Natural Hazards (3)
GEOL 288 Global Change: A Geological Perspective (3)
GEOL 291 Water Resources (4)
GEOL 314 Introduction to Remote Sensing (4)
GEOL 402 Geospatial Science (4)
HEAL 456 Biostatistics in Health Sciences (3)
HIST 215 Native American History (3)
HIST 218 The American West (3)
HIST 256 History of Science and Technology (3)
HONS 250 Honors Colloquium: Special Topics in Diversity and Sustainability (3) *[with approval of ENSS director]*
HPCP 325 Community Planning for Preservationists (3)
INTL 120 Economics of Globalization (3)
MGMT 342 Project Management (3)
PHYS 105 Introduction to Meteorology (3)
PHYS 106L Exercises in Weather and Climate (2)
PMGT 301 Introduction to Project Management (3)
POLI 210 Introduction to Public Administration (3)
POLI 211 Introduction to Public Policy (3)
POLI 265 International Political Economy (3)
POLI 310 Applications of Geographic Information Systems (GIS) (3)
URST 360 Land Use Law (3)

- Must include at least 12 credits of coursework at the 300-level or above.
- No more than 21 credits from any one discipline, with the exception of ENVT, may be applied to the ENSS major requirements.
- No more than 3 credits of internship may be applied to the ENSS major requirements.
- No more than 3 credits of independent study, research, or Bachelor's Essay may be applied to the ENSS major requirements.
- Special topics, variable topics, and individual enrollment courses may be approved on a course-by-course basis.

***REACH Act**: As confirmed in the September 21, 2021 letter from College of Charleston's President Andrew T. Hsu as issued to Rusty Monhollon, CHE's President and Executive Director, this new program

along with every current and future undergraduate degree program beginning with the entering freshman class of the 2021-22 academic year, will require the completion of a 3-credit hour course covering in its entirety the United States Constitution, the Declaration of Independence, the Emancipation Proclamation, at least five *Federalist Papers* and at least one document that is foundational to the African American struggle among the following 16 courses that are currently offered regularly at the College of Charleston:

Political Science
POLI 101 American Government
HONS 165 Honors American Government
POLI 280 American Political Thought
POLI 320 Constitutional Law
POLI 321 Civil Liberties

History
HIST 201 United States to 1865
HIST 202 United States since 1865
HIST 213 American Jewish History: Colonial Times to the Present
HIST 216 African American History to 1865
HIST 217 African American History since 1865
HIST 304 History of the United States: Civil War and Reconstruction, 1845-1877

Jewish Studies
JWST 260 American Jewish History: Colonial Times to the Present

Philosophy
PHIL 209 Political Philosophy
PHIL 220 American Political Thought
PHIL 310 American Philosophy

Theatre
THTR 212 History of American Theatre

Similar Programs in South Carolina offered by Public and Independent Institutions

Identify the similar programs offered and describe the similarities and differences for each program.

Program Name and Designation	Total Credit Hours	Institution	Similarities	Differences
MOST SIMILAR PROGRAMS				
BA in Sustainability and Coastal Resilience, with Policy and Culture concentration or Business and Economics concentration	56	Coastal Carolina University	Both our program and theirs take a broadly interdisciplinary approach to sustainability, including natural sciences, social sciences/humanities, and economics perspectives, with an emphasis on social sciences/humanities perspectives. Curricula have somewhat similar structures, with foundational courses, environmental social sciences /humanities electives, and a required experiential learning component.	• Our program focuses on the breadth of environmental and sustainability studies, while their programs include a specific focus on coastal resilience. • Our program requires a qualitative, spatial, or mixed methods course. • Our program provides students with greater flexibility to select electives from among relevant social sciences, humanities, business, and economics courses. Their programs require students to focus on either social sciences/humanities (Policy and Culture concentration) or business/economics. Our program includes a greater variety of relevant business/ economics courses compared with their Business and Economics concentration.
BA, Environmental Studies	51	Winthrop University	Both programs offer an interdisciplinary environmental degree, including social sciences/humanities, economics, and natural sciences perspectives, with an emphasis on social sciences/ humanities. Both programs require methods courses and an experiential learning component.	• Our proposed curriculum includes an overarching focus on sustainability and requires one social sustainability course as well as one additional quantitative methods course (2 courses vs. 1 course).
BS in Environmental and Natural Resources, Natural Resource and Economic Policy concentration	61	Clemson University	Both programs offer an interdisciplinary environmental degree, including natural sciences, social sciences, and economics perspectives, with an emphasis on social sciences/economics perspectives and required experiential learning.	• Our proposed curriculum includes a focus on sustainability and includes 6 credits of broadly interdisciplinary environmental and sustainability studies coursework, a social sustainability course, and a qualitative, spatial, or mixed methods course. • Their program draws heavily from economics with some policy coursework while our program allows students to take relevant course from across the social sciences, humanities, economics, and business.

BS in Sustainability Sciences	52	Furman University	Both programs take an interdisciplinary approach to sustainability, including social sciences/humanities and natural sciences perspectives, with upper-level coursework focused on social sciences/ humanities. Both programs require an experiential learning component.	• Our program focuses on the breadth of environmental and sustainability studies, while their program focuses specifically on sustainability. • Our program requires an economics course, a statistics course, and a qualitative, spatial, or mixed methods course.
BA, Environmental Studies	53	Francis Marion University	Both programs offer an interdisciplinary environmental degree, including social sciences/humanities, economics, and natural sciences perspectives, with an emphasis on social sciences/humanities.	• Our proposed curriculum includes an overarching focus on sustainability. • Our program requires more foundational environmental science coursework (2 courses vs. 1), two quantitative methods courses, and an experiential learning component.
SIMILAR PROGRAMS				
BA, Environmental Studies	40	USC Columbia	Both programs require foundational coursework in natural and social sciences. Both courses allow students to select from a broad array of environmental electives.	• Our proposed curriculum includes an overarching focus on sustainability and requires additional methods courses (3 courses vs. 1 course) and an experiential learning component. • Their program allows students to select electives from among a range of natural and social sciences courses, while our program requires students to take a minimum of 12 credits of electives from social sciences/humanities perspectives beyond the foundation level.
BA, Environmental Studies	36	Wofford College	Both programs offer an interdisciplinary environmental degree, with foundational coursework in environmental sciences and social sciences/humanities perspectives on the environment.	• Their program requires no economics and no research methods course, although students may choose an economics elective and may opt to take one research methods course. Our program requires a foundational economics course and three research methods courses. • Beyond the foundation level, their program allows students to opt entirely for electives from relevant natural sciences courses if the student desires, while our program requires students to take a minimum of 12 credits of electives from social sciences/humanities perspectives beyond the foundation level.
BS in Sustainability and Coastal Resilience, with Science and Ecosystems concentration	56	Coastal Carolina University	Both programs take a broadly interdisciplinary approach to sustainability, including natural sciences, social sciences/humanities, and economics perspectives.	• This program is focused on natural sciences perspectives and is more similar to our proposed Environmental and Sustainability Studies BS (with similarities and differences detailed in our BS proposal).

BS in Environmental and Natural Resources, with Natural Resources Management concentration	63	Clemson University	Both programs offer an interdisciplinary environmental degree, including natural sciences, social sciences, and economics perspectives.	• This program is more focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Science	69	Francis Marion University	Both programs offer an interdisciplinary environmental degree.	• This program is more focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Studies	46	Wofford College	Both programs offer an interdisciplinary environmental degree.	• This program is more focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Studies	53	Southern Wesleyan University	Both programs focus on the environment.	• This program is focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
SOMEWHAT SIMILAR PROGRAMS				
BS in Environmental and Natural Resources, with Conservation Biology concentration	77	Clemson University	Both programs offer an interdisciplinary environmental degree, including natural sciences, social sciences, and economics perspectives.	• This program is more focused on a natural sciencesapproach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Science	62	Claflin University	Both programs focus on the environment.	• This program is focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Science	61	USC Columbia	Both programs focus on the environment.	• This program is focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Sciences	62	Winthrop University	Both programs offer an interdisciplinary environmental degree.	• This program is more focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Science	47	Anderson University	Both programs focus on the environment.	• This program is focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).
BS, Environmental Science	65	Lander University	Both programs focus on the environment.	• This program is focused on a natural sciences approach to the environment (see similarities and differences detailed in our BS proposal).

Faculty

Rank and Full- or Part-time	Courses Taught for the Program	Academic Degrees and Coursework Relevant to Courses Taught, Including Institution and Major	Other Qualifications and Relevant Professional Experience (e.g., licensures, certifications, years in industry, etc.)
NEW HIRE IN YEAR 4 Assistant Professor, Environmental and Sustainability Studies; FT	**ENVT 200** **ENVT 460** **ENVT 490**	Ph.D., Environmental and Sustainability Studies or closely related field	
Senior Instructor, Environmental and Sustainability Studies; FT	**ENVT 200** **ENVT 210** **ENVT 360** **ENVT 363** **ENVT 490** RELS 276	Ph.D., Religion (focus on religion and nature), Univ of Florida; M.Sc., Centre for Human Ecology, Edinburgh, Scotland; Postgraduate Certificate in EcoPhilosophy and Practice, Murdoch University	Director, CofC Quality Enhancement Plan, "Sustainability Literacy as a Bridge to Addressing 21st Century Problems" (2016-2022); Advisory Council, Sustainability Curriculum Consortium (2020-2022); author of 2 scholarly books and 20+ scholarly articles and book chapters on sustainability, religion, and the environment
Associate Professor, Geology and Environmental Geosciences; FT	**ENVT 200** GEOL 291	Ph.D., Civil and Environmental Engineering, University of Maryland, College Park	
Professor, Biology; FT	**ENVT 200**	Ph.D., Botany, Auburn University	$1m+ federal grants and 30+ peer-reviewed publications on effects of climate change on plant physiology
Associate Professor, Biology; FT	**ENVT 200** **ENVT 355** BIOL 211	Ph.D., Biological Sciences, University of Missouri	multiple peer-reviewed publications on impacts of environmental change on amphibians
Assistant Professor, Religious Studies; FT	**ENVT 200** RELS 276	Ph.D., American Religions, Duke University	author of multiple peer-reviewed publications on intersections of religion and the environment
Associate Professor, Communication; FT	**ENVT 336** COMM 336 COMM 410	Ph.D., Communication, Northwestern University	
Senior Instructor, Biology; FT	**ENVT 352** BIOL 204 BIOL 211 BIOL 406	M.S., Biomimicry, Arizona State University; M.S. - Zoology, University of New Hampshire	Certified Biomimicry Professional (BPro)
Professor, Psychology; FT	**ENVT 360** **ENVT 460** PSYC 332	Ph.D., Experimental Psychology, University of	

		Wyoming; M.A, Ethics, M.A., Experimental Psychology	
Professor, Geology and Environmental Geosciences; FT	**ENVT 395** GEOL 103 GEOL 291	Ph.D., Earth and Environmental Science (Hydrology), New Mexico Tech, Socorro	
Associate Professor, Historic Preservation and Community Planning; FT	**ENVT 395** HPCP 222 URST 313	Ph.D., Historic Preservation, Tulane University; Master of Urban Planning, University of Michigan; Graduate Certificate, Historic Preservation, Eastern Michigan University	author of 1 scholarly book and multiple book chapters on sustainability in historic preservation
Assistant Professor, Sociology and Anthropology; FT	ANTH 115 ANTH 401	Ph.D., Anthropology, Cornell University	
Professor, Biology; FT	BIOL 213 BIOL 406	Ph.D., Biology, University of North Carolina, Chapel Hill	
Professor, Economics; FT	ECON 200 ECON 201 ECON 311	Ph.D., Economics, University of New Mexico - Albuquerque, New Mexico	
Associate Professor, Entrepreneurship; FT	ENTR 320	Ph.D., Property, University of Aberdeen, Scotland	Director, Center for Entrepreneurship, College of Charleston
Professor, Geology and Environmental Geosciences; FT	GEOL 103 GEOL 291	Ph.D., Environmental Sciences, Swiss Federal Institute of Technology, Zurich	
Associate Professor, Geology and Environmental Geosciences; FT	GEOL 103 GEOL 213	Ph.D., Geological Sciences (Seismology), Columbia U., New York, N.Y.	
Professor, Geology and Environmental Geosciences; FT	GEOL 103 GEOL 402	Ph.D., Applied Geology, Purdue University	
Associate Professor, Health and Human Performance; FT	HEAL 345 HEAL 350	M.P.H., Environmental Health, Emory University; Ph.D., Geography, Florida State University	
Assistant Professor, International Studies; FT	INTL 350	Ph.D., History, University of Texas - Austin	author of 1 scholarly book and multiple peer-reviewed publications on Caribbean/ Latin American tourism and environmental history
Instructor, Management; FT	MGMT 350	M.B.A, Georgetown University	Corporate Sustainability Certificate International Business Diplomacy Certificate
Assistant Professor, Philosophy; FT	PHIL 155 PHIL 245	Ph.D., Philosophy, Duke University	

Professor, Physics; FT	PHYS 105 PHYS 106L PHYS 305	Ph.D., Astrophysical, Planetary, and Atmospheric Sciences, University of Colorado, Boulder	
Associate Professor, Political Science; FT	POLI 294 POLI 364 POLI 370	J.D., Loyola University; Ph.D., Political Science, University of California, Irvine	
Associate Professor, Political Science; FT	POLI 211 POLI 307 POLI 443	Ph.D., Political Science, University of Oklahoma	
Associate Professor, Political Science; FT	GEOG 219 POLI 331 POLI 397	Ph.D., Geography, University of Minnesota	
Associate Professor, Political Science; FT	GEOG 101 POLI 104 POLI 310	Ph.D., Geography, Western University	
Professor, Psychology; FT	PSYC 329 WGST 200	Ph.D., Psychology, Wayne State University	author of multiple peer-reviewed articles and book chapters on psychological dimensions of sexual assault and eating disorders
Associate Professor, Sociology and Anthropology; FT	SOCY 271 SOCY 323 SOCY 346 SOCY 351	Ph.D., Sociology and Anthropology, Northeastern University; M.U.A., Urban Affairs and Planning (Environmental Policy Concentration), Virginia Tech	

Total FTE needed to support the proposed program (B.A. and B.S.):
Faculty: 2 (1 existing, 1 new)
Staff: 0.25 (new)
Administration: 0.385 (0.125 existing, 0.25 new)

Faculty, Staff, and Administrative Personnel

Discuss the Faculty, Staff, and Administrative Personnel needs of the program.

ENVT courses

The College of Charleston has recently hired a Senior Instructor of Environmental and Sustainability Studies, who will contribute to teaching in this program. In addition, a number of faculty from departments across campus also contribute to teaching ENVT courses.

A new tenure-track assistant professor will be needed, beginning in year 4 of the program (AY2026-27), to cover expanded offerings of the new Capstone course (ENVT 490), the new Experiential Topics course (ENVT 460), and to contribute to teaching ENVT 200. As one of only two faculty dedicated solely to Environmental and Sustainability Studies, the new faculty hire will also provide crucial support in terms of student advising, mentoring student research through ENVT 350 and ENVT 499A/B, and other service to the program.

The only new required course is the Capstone, ENVT 490, which will be taught by the existing senior instructor and the requested new hire.

Multiple sections of the required intro course, ENVT 200, are taught each semester. A recent change in the Public Health curriculum is reducing demand for ENVT 200 from Public Health majors, resulting in additional capacity for new students who declare the Environmental and Sustainability Studies major and would not otherwise have taken the course.

Each student in the major will be required to participate in experiential learning; an estimated 50% of students will meet this requirement through the new Experiential Learning course, ENVT 460, while the remaining students will meet the requirement through existing internship, independent study, and research opportunities (for credit through ENVT or another program/department, or not for credit) or through an existing study away or experiential course (through ENVT or another program/department). Although the new hire may contribute to ENVT 460, the Environmental and Sustainability Studies minor already offers several appropriate courses under the Special Topics course, ENVT 452; these courses can be offered in the future as ENVT 460 and will allow the program to meet much of the demand for the Experiential course. The Experiential Learning requirement may increase student interest in other experiential learning opportunities, including internships with credit through ENVT 355, independent study through ENVT 350, and Bachelor's Essay through the new ENVT 499A/499B. The ENSS director and associate director will serve as faculty of record for ENVT 355 as part of their administrative duties, and faculty affiliated with the program will supervise independent studies and Bachelor's Essays through ENVT 350/499 or through their home department. Because College of Charleston students in general, and Environmental and Sustainability Studies students in particular, already participate in experiential learning at a high rate, the increase in demand for such experiences is not expected to be excessive.

An existing faculty member will teach the new course, ENVT 210, which is an elective for the BS and BA, through reallocation of effort from ENVT 200, which will be taken up by the new hire.

All other new courses being proposed are formalizations of courses already being offered, either through Special Topics (e.g., ENVT 360, 460), through individual enrollments in other departments or HONS (i.e., ENVT 499A/B), or through including students in an existing course (i.e., COMM 336/ENVT 336).

Other courses

The addition of the proposed ENSS major is not expected to require additional course sections in any non-ENVT course. Students who opt for the new major would have taken many of these courses as ENSS minors with a major in a related discipline, resulting in little net change in course enrollments. New students attracted to the College by the new major will increase demand for some courses. However, most requirements for the major can be met with a variety of existing courses leading to minimal increased demand for any one course. For requirements that can be met primarily with courses that are not included in the existing Environmental and Sustainability Studies minor, an analysis of available seats over a 4-semester period from Spring 2020-Fall 2021 indicates adequate available seats for projected ENSS students. Based on a high-end enrollment projection of 300 majors (150 BS, 150 BA), with the assumption that all represent new demand for these courses, there would be maximum demand of 37.5 seats/semester for the Economics Foundation requirement (BA and BS) and 17.25 seats/semester for the new Social Sustainability requirement and the new Qualitative, Spatial, or Mixed Methods course requirement (BA only). Over the analysis period, there were an average of 51.4 available seats/semester in courses for the Economics Foundation requirement (BA and BS), an average of 42.25 available seats/semester in courses for the Social Sustainability requirement (BA only), and an average of 40.75 seats/semester in courses for the Qualitative, Spatial, or Mixed Methods course requirement (BA only), in each case more than enough to meet the maximum increase in demand.

Staff and Administrative Personnel

Considering the projected program size, successful management of the program will expand the duties of the existing program director (existing 0.125 FTE + new 0.125) and will require a new associate program director (new 0.125 FTE). Together, the director and associate director will be responsible for program administration and development, supervising internships, student advising and support, and other service work for the program.

As a stand-alone interdisciplinary program that is not housed within a department, Environmental and Sustainability Studies currently has no administrative support. With the projected enrollment in the major, ¼ FTE admin support will be needed, which will be provided by reallocating/adding to the existing duties of an admin in the School of Sciences, Mathematics, and Engineering.

Resources

Library and Learning Resources

Explain how current library/learning collections, databases, resources, and services specific to the discipline, including those provided by PASCAL, can support the proposed program. Identify additional library resources needed.

The College of Charleston libraries are structured around one main facility, the Marlene and Nathan Addlestone Library, with smaller, more specialized libraries that support the diverse teaching and research needs of the institution. The Addlestone Library encompasses 140,000 square feet, accommodates one million volumes, seats 1,600 patrons, offers 20 study group rooms, and maintains over 239 computer workstations. The facility was designed to accommodate the technological needs of a contemporary academic library. The computer workstations are equipped with several web browsers, a suite of Microsoft Office software, statistical software packages, and other standard computer applications. These computers are networked to seven high-capacity laser printers; one color printer is also available. In addition to the desktop computers, students may borrow one of 20 laptops equipped with wireless internet hardware and software for use within the building and grounds, 3 flip cameras, and 2 iMac computers with video editing capabilities. There are 60 iPads to enhance student learning in the classroom, including 5 iPads that students can check out at any time. Wireless access is available throughout the library.

The library's collections consist of over 1,085,194 cataloged monographs, serials and other hard copy items, including 13,472 audiovisual items in the media collection, and 3,202 print subscriptions to journals and other periodicals. The print subscriptions are supplemented by 388,290 electronic books and 110,032 electronic journals, which are available online and 24/7/365. All faculty and students with a valid College of Charleston account may access these electronic resources from anywhere in the world.

The library is a member of the Partnership among South Carolina Academic Libraries (PASCAL), a consortium of the state's academic libraries together with their parent institutions and state agency partners. PASCAL fosters cooperation on a broad range of issues such as shared licensing of electronic resources (including unlimited access to over 200,000 e-book titles from major publishers and university presses) and universal borrowing.

Other significant materials can be found in the Lowcountry Digital Library. Established by the College in 2009, the Lowcountry Digital Library (LCDL) produces digital collections and projects that support research about the Lowcountry region of South Carolina and historically interconnected sites in the Atlantic World. LCDL is committed to a multifaceted approach that incorporates historical and anthropological scholarship, oral history, integrative archival practices, digital librarianship, and spatial, temporal, and environmental information. Together with its institutional partners, LCDL helps students, scholars, and a wide range of public audiences develop a better understanding of the

history and culture of the South Carolina Lowcountry relative to the nation and the world. In order to provide a well-rounded digital collection, the library works with over 17 partner institutions across the coastal region of South Carolina and Barbados to digitize and describe unique local resources while adhering to national best practices and standards, ensuring the overall quality, accessibility and sustainability of these digital resources.

The Addlestone Library completed a major renovation project in the summer of 2014, adding 200 seats for students, new outlets for charging laptops, tablets and other mobile devices, and a new high-tech lecture room that doubles as added study space for students.

Every College of Charleston student is required to enroll in a First-Year Experience course (FYE), which includes training regarding library and learning resources. These topics are also included in first-year orientation for all incoming students. Many of these resources are available online via the library portal, and the library main page includes resources to support students including chat, email, and phone contact information. All new faculty are required to attend a new faculty orientation session during which Library staff provide training on how to access and utilize library resources. In addition, the front Information Desk provides guidance for general research inquiries, support for student computing, help using the computer lab and equipment, and answers to general questions.

Library Resources specifically for supporting Environmental and Sustainability Studies

The current quantitative count of the College of Charleston Libraries' holdings in the subject areas associated with environmental and sustainability studies are ***43,043 print monographs***, access to ***28,356 eBooks***, and access to ***2,115 journals*** (relevant across agriculture, botany, ecology, environmental sciences, geology, meteorology, and oceanography disciplines), available in print or electronically through a number of databases that the College of Charleston Libraries subscribes to. The following table breaks down the monographic holdings in the subclasses of the Library of Congress classification areas identified for this assessment as relevant to the proposed curriculum.

Library of Congress Classification: Subclass Area	# of Print Titles	# of eBooks
GB: Physical Geography (GB3-5030)	**1,726**	**1,284**
Geomorphology, landforms, terrain (GB400-649)	874	551
Hydrology, water (GB651-2998)	580	420
Natural disasters (GB5000-5030)	82	189
GC: Oceanography (QC1-1581)	**3,219**	**758**
GE: Environmental Sciences (GE1-350)	**1,577**	**2,480**
Environmental education (GE70-90)	69	138
Environmental policy (GE170-190)	447	464
Environmentalism, green movement (GE195-199)	314	657
Environmental management (GE300-350)	74	167
GF: Human ecology, anthropogeography (GF1-900)	**867**	**1,117**
Environmental influences on humans (GF51)	29	19
Human influences on the environment (GF75)	115	106
By region or country (GF500-900)	183	288
K: Law in General		
Environmental law (K3581-3598)	72	297
Public policy (K3220)	0	2
QC: Physics		
General (QC1-75)	1,363	1,761
Meteorology, climatology (QC851-999)	45	77
QD: Chemistry		
Organic chemistry (QD241-441)	1,268	2,263
QE: Geology (QE1-996.5)	**5,519**	**2,468**
QH: Natural History (General)		
General, including nature conservation (QH1-199.5)	3,504	4,117

Biology (general)	5,740	5,142
QK: Botany (QK1-989)	**3,093**	**2,221**
QP: Physiology		
General, including influence of the environment (QP1-345)	1,473	1,793
S: Agriculture (General)		
Agriculture and the environment (S589.75-589.76)	21	41
Agricultural meteorology, crops, and climate (S600-600.7)	20	57
Agricultural conservation (S604.5-604.64)	1	11
Conservation of natural resources, including land conservation (S900-972)	137	121
SH: Aquaculture, fisheries, angling		
Aquaculture (SH20.3-191)	8,771	186
Fisheries (SH201-399)	3,736	597
TD: Environmental Technology, Sanitary Engineering		
Environmental protection (TD169-171.8)	101	190
Environmental pollution (TD172-193.5)	247	395
Environmental effects of industries and plants (TD194-195)	317	437
Special types of environment including soil pollution, noise pollution (TD878-894)	226	541

Core Books

Published in 2011 by the Association for College and Research Libraries (ACRL), the Standards for Libraries in Higher Education states that "libraries are encouraged to use existing institutional peer groups, where available, for comparisons" (ACRL, 2018). However, it can be quite difficult to compare the collection of an entire subject area from one institution to another. Therefore, for the purposes of this proposal, the holdings of the College of Charleston Libraries have been compared to both a select list of recommended academic titles in the field as well as the holdings of two peer institutions (University of South Carolina, a state peer with a BA in Environmental Studies and a BS in Environmental Sciences, and Appalachian State University, who offers similar Environmental Studies programs as well as Sustainable Development degrees, including one with a focus on Environmental Studies). The select list of titles (**88**) were recommended by *Choice* magazine as Outstanding Academic Titles in the subject area of environmental studies were published between 2019 and 2021. *Choice* is published by ACRL and is a well-known quality resource for book selection in academic libraries.

Currently, the College of Charleston Libraries holds, or has access to, **86.4%** of the titles (**76**), either in print or as an eBook, recommended by *Choice* in their Outstanding Academic Titles series in environmental studies. Comparatively, University of South Carolina holds **33%** and Appalachian State University holds **58%** of the Outstanding Academic Titles in environmental studies identified published between 2019 and 2021.

Core Journals

Access to quality journal titles is essential to any academic research. The College of Charleston Libraries currently has access to ***15 of 20*** titles ranked by SCImago Journal & Country Rank (2021) as the top twenty journal titles in the field of Environmental Science. Additionally, the College of Charleston Libraries has access to ***14 of 20*** titles ranked by SCImago Journal & Country Rank (2021) as the top twenty journal titles in the field of Renewable Energy, Sustainability, and the Environment. These are available through a mix of subscription and open access databases through the library's website, and in some cases print. The following is a sample of the SCImago top ranked journals held by the College of Charleston and the coverage available across the subject areas of environmental science and energy, sustainability, and the environment:

- **Annual Review of Ecology, Evolution, and Systematics** (Print: 1970-2002 ADL, 2003-2010 (MRL); Electronic: 1970-present)
- **Chem** (Electronic: 2016-present)
- **Nature Ecology and Evolution** (Electronic: 2017-1 year ago)
- **Annual Review of Environment and Resources** (Electronic: 1997-2005)
- **Applied Catalysis B: Environmental** (Electronic: 1995-present)
- **Current Climate Change Reports** (Electronic: 2015-2017)
- **Energy and Environmental Materials** (Electronic: 2018-present)
- **Global Change Biology** (Electronic: 1997-present)
- **Journal of Environmental Economics and Management** (Print: 1989-1991 MRL, 1995-2004 ADL; Electronic: 1993-present)
- **Frontiers in Ecology and the Environment** (Electronic: 2003-present)
- **IEEE Transactions of Sustainable Energy** (Electronic: 2010-present)
- **Renewable and Sustainable Energy Reviews** (Electronic: 1997-present)
- **Environmental Innovations and Societal Transitions** (Electronic: 2011-present)
- **Environmental Research Letters** (Electronic: 2006-present)

A complete listing of journals accessible at the College of Charleston Libraries in the field of **Earth & Environmental Sciences** can be found **here**.

Core Databases

The Library Research Guide for **Environmental and Sustainability Studies Research** does an excellent job pointing undergraduate, graduate students, and faculty and staff to the most commonly used titles and resources in the field. Core databases for environmental and sustainability studies include the following:

- **Academic Search Complete.** Includes thousands of full-text journals, access to magazines, thousands of peer-reviewed journals, access to over 1,400 journals without an embargo, over 2,000 journals indexed in Web of Science and Scopus, and more.
- **American Energy Society.** Provides membership-level access to the AES publications, *Energy Matters* and *Energy Today* plus their archives, as well as access to AES reports, white papers, and podcasts.
- **Agricultural and Environmental Science Collection.** Provides abstracts, citations, and full-text offerings drawn from thousands of scientific journals, conference proceedings, reports, monographs, and government publications. Subject coverage includes agriculture, animal sciences, biodiversity, climate science, and more.
- **ASFA: Aquatic Sciences and Fisheries Abstracts.** This database provides extensive coverage of research on aquatic organisms for scientists researching the world's living aquatic resources.
- **Chatham House Online Archive Module 1: 1920-1979.** The research, publications, speeches and archives of the leading international affairs think tank, The Royal Institute of International Affairs, Chatham House, London. High level analysis and research on almost 100 years of global events and issues. Includes 'behind the doors' insight into the real movers and shakers, influencers and deal brokers. For researchers of international affairs, economics, law, and business, diplomacy, security and terrorism, environment, development, war and peace studies.
- **CQ Researcher.** In-depth, unbiased coverage of health, social trends, criminal justice, international affairs, education, the environment, technology and the economy. Each single-

themed, 12,000-word report is researched and written by a seasoned journalist and includes bibliographies of key sources.

- **Ecological Society of America Publications.** The Ecological Society of America publishes six journals with its publishing partner, John Wiley & Sons. Includes the most widely read and cited in the field of ecology.
- **Environmental Impact Statements: Digest.** Detailed abstracts of hundreds of environmental impact statements issued by the U.S. government. Database coverage is from 1985 to present.
- **Environmental Studies (Gale in Context).** Focuses on the academic study of sustainability and the environment. Covers physical, social, and economic aspects of environmental issues.
- **GeoRef.** Comprehensive geoscience database includes references to geoscience maps, serial, and non-serial literature, all publications of the U.S. Geological Survey, master's theses and doctoral dissertations from US and Canadian universities. North American resources from 1669; worldwide coverage from 1933.
- **GreenFILE.** Scholarly, government and general-interest titles covering content about the environmental effects of individuals, corporations and local/national governments.
- **Philosopher's Index with Full Text.** Provides hundreds of full-text philosophy journals from around the world, many of which are available with no embargo.
- **ProQuest Dissertations & Theses Global.** World's most comprehensive international collection of dissertations and theses, spanning from 1743 to the present day.
- **Roper iPoll.** Includes survey results from academic, commercial, and media survey organizations such as ABC News, Gallup, Pew Research Center, Kaiser Family Foundation, and many more.
- **ScienceDirect Journals.** Full-text database offering journal articles and book chapters from nearly 2,500 journals and more than 30,000 books.
- **SpringerLink.** Includes scientific, technological, and medical eBooks and journals, including reference works, with unlimited access and DRM-free.
- **Web of Science.** Provides quick, powerful access to the world's leading citation databases. Current and retrospective coverage in the sciences, social sciences, arts, and humanities, dating from 1980.
- **Zoological Record.** Provides extensive coverage of the world's zoological and animal science literature, from biochemistry to veterinary medicine.

Based on this evaluation conducted by the Collection Development Librarian for this proposal, the College of Charleston Libraries' holdings in the subject areas relating to environmental and sustainability studies across monographs, databases, and journals are sufficient to support these new undergraduate program offerings in Environmental and Sustainability Studies, especially considering that these new programs only add 4 new courses and largely build upon courses that already support the minor in Environmental Studies.

The print collection is fairly large, and shows fair circulation (**~1.7** average checkouts per title). There are also a sizable amount of eBooks available to students to access across the classes and subclasses highlighted in section 1. The most well used print subclasses highlighted in this assessment include environmental protection (TD169-171.8; 3.13 avg. checkouts/title), special types of environment including air pollution (TD878-894; 3.15 avg. checkouts/title), and human ecology and anthropogeography (GF1-900).

Student Support Services

Explain how current academic support services will support the proposed program. Identify new services needed and provide any estimated costs associated with these services.

In addition to the library and learning resources, a number of academic and student support resources are available to students at the College of Charleston.

- **Information Technology:** A variety of computing resources are available to students, including a COUGARS email account and student computing system assistance. A dedicated student help desk is available to students via email or telephone.
- **Center for Disability Services:** The College of Charleston is committed to ensuring that all programs and services are accessible to a diverse student population. The center provides reasonable and effective accommodations to facilitate student learning, and offers educational opportunities to students, faculty, and staff that enhance understanding of a broad spectrum of disabilities and promotes an environment of institutional respect for disabilities.
- **Office of Research and Grants Administration (ORGA):** ORGA is the central resource for information and assistance regarding major government agencies, foundations, and corporations that support research and scholarship. Dedicated staff is available to provide assistance to faculty, students, and administrators in identifying extramural funding sources, developing funding and completing proposals, developing narratives and budgets, ensuring compliance with federal and state regulations, negotiating grant awards and contracts, and administering funded projects.
- **Center for Student Learning (CSL):** CSL provides students with academic assistance to facilitate effective learning strategies. Supplemental instruction, study groups and study skills seminars are scheduled throughout each semester.
- **Career Center:** The Career Center is a multifaceted resource center with a goal of educating and assisting students in preparing for transition to the dynamic work environment.
- **Bookstore:** Barnes & Noble College Booksellers manages the College of Charleston Bookstore, which houses an extensive selection of periodicals, best sellers, and feature titles that reflect the breadth and depth of scholarship at the college.
- **Cougar Card Services:** All students will receive a Cougar Card. This official College of Charleston identification card connects students to all campus resources.
- **Resource Coordinator:** The Resource Coordinator acts as an impartial party who gives guidance and/or explanations of policies and procedures for employees, faculty and students who encounter problems arising from the operation of the college and who request assistance in identifying the proper person, office, policy, or procedure that can best address their particular situation.
- **Dining Services:** A variety of dining options located throughout the College of Charleston campus are available to students.
- **Attorney Assistance Program:** Up to one hour of legal services are available on a pro bono basis to students who face a variety of financial or legal difficulties.
- **Campus Recreation Services:** A number of fitness facilities and a swimming pool are available to students to enhance their overall physical wellness.
- **Counseling and Substance Abuse Services:** The mission of the College's Counseling and Substance Abuse Services is to increase student psychological resilience and personal growth to support persistence and success in school.
- **Student Health Services:** Student Health Services provide quality primary health care in an ambulatory setting. The center provides students with access to early diagnosis and treatment of the conditions that they have or develop while in attendance at the College, and promotes awareness of the importance of regular health maintenance
- **Office of Victims Services:** Services are available to College of Charleston students regardless of whether the crime occurs on campus or the student elects to file an official police report or not. Certified victim assistance specialists provide support for both short and

long-term issues associated with trauma and victimization issues, and help students address issues related to the crime and its impact on the college experience.

- **Office of Institutional Diversity (OID):** The Office of Institutional Diversity offers education, training, resources, and support for all students, faculty, and staff. OID fosters and advocates for a globally diverse campus at the College of Charleston.

Physical Resources/Facilities

Identify the physical facilities needed to support the program and the institution's plan for meeting the requirements.

Existing facilities will accommodate all teaching and research requirements. Current teaching spaces are sufficient, as a large majority of courses in the major are already being offered. The new courses proposed will be taught in existing classrooms on campus. The new hire will be provided with an office in the School of Sciences, Mathematics, and Engineering Building.

Equipment

Identify new instructional equipment needed for the proposed program.

No unique equipment will be needed.

Impact on Existing Programs

Will the proposed program impact existing degree programs or services at the institution (e.g., course offerings or enrollment)? If yes, explain.

☒Yes

☐No

Current students in the Environmental and Sustainability Studies (ENSS) minor may wish to change their major to Environmental and Sustainability Studies, switching from one of the large diversity of majors currently subscribed by ENSS minors, i.e., Anthropology through Urban Studies. Because students in the minor are from a wide range of majors across campus, the impact on most existing majors is expected to be small. Majors with particularly high overlap of interest with ENSS may experience a more noticeable drop in the number of majors. However, individual courses within these programs are not expected to be affected, as the students who gravitated toward such a department in the absence of an ENSS major are likely to gravitate toward the courses offered by that department within the ENSS major. In addition, the interdisciplinary nature of the proposed ENSS major will make double majoring appealing and feasible for many students, particularly with the programs most closely aligned with ENSS. Thus, the number of students lost from other majors will be less than the number of students who declare the ENSS major. Finally, data from regional competitor institutions with similar programs suggests that the proposed major in Environmental and Sustainability Studies will also attract new students to the College of Charleston who otherwise would not have enrolled here (and, in some cases, would have instead enrolled in similar programs outside of South Carolina). With the new major, the increased visibility of environmental and sustainability studies as an academic focal point at the College may also attract new students who will ultimately opt for other, related majors or programs, further mitigating any potential effect on these programs.

Many of the courses included in the ENSS major are already included in the existing ENSS minor, and many faculty members in departments across campus participate in the existing minor through instruction of courses and student advising. Adding an Environmental and Sustainability major will be

manageable because of these existing relationships on campus. The addition of the proposed ENSS major is not expected to require additional course sections in any non-ENVT course. As mentioned above, many of the courses that students will take as ENSS majors are courses they would have taken as ENSS minors with a major in a related discipline. Increased demand on any one course will be minimal because the ENSS curriculum is composed of several pools of courses from which students may choose. In the cases where the ENSS major curriculum does not have strong overlap with the ENSS minor (i.e., the Economics Foundation requirement, the Qualitative/Spatial/Mixed Methods requirement for the ENSS BA, and the Social Sustainability requirement for the ENSS BA), an analysis of seats available in the included courses from Spring 2020 through Fall 2021 indicates more than enough capacity to satisfy the needs of ENSS students for these courses.

Financial Support

Sources of Financing for the Program by Year (B.A. and B.S.)												
	1st		2nd		3rd		4th		5th		Grand Total	
Category	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**
Tuition Funding	$59,719	$59,719	$238,874	$238,874	$418,030	$418,030	$597,186	$597,186	$716,623	$716,623	$2,030,433	$2,030,433
Program-Specific Fees	$0	$0	$0	$0	$0	$0	$1,313	$1,313	$3,938	$3,938	$5,250	$5,250
Special State Appropriation												
Reallocation of Existing Funds	$30,503	$30,503	$34,739	$34,739	$38,976	$38,976	$23,530	$23,530	$23,530	$23,530	$151,278	$151,278
Federal, Grant, or Other Funding												
Total	$90,222	$90,222	$273,614	$273,614	$457,006	$457,006	$622,029	$622,029	$744,091	$744,091	$2,186,961	$2,186,961
Estimated Costs Associated with Implementing the Program by Year (B.A. and B.S.)												
	1st		2nd		3rd		4th		5th		Grand Total	
Category	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**
Program Administration and Faculty/Staff Salaries	$26,503	$26,503	$30,739	$30,739	$34,976	$34,976	$109,680	$109,680	$109,680	$109,680	$311,578	$311,578
Facilities, Equipment, Supplies, and Materials	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$3,813	$3,813	$6,438	$6,438	$17,750	$17,750
Library Resources	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500
Other (specify)	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$3,000	$3,000	$3,000	$3,000	$10,500	$10,500
Total	$31,003	$31,003	$35,239	$35,239	$39,476	$39,476	$116,993	$116,993	$119,618	$119,618	$342,328	$342,328
Net Total (Sources of Financing Minus Estimated Costs)	$59,219	$59,219	$238,374	$238,374	$417,530	$417,530	$505,036	$505,036	$624,473	$624,473	$1,844,633	$1,844,633

Note: New costs - costs incurred solely as a result of implementing this program. Total costs - new costs; program's share of costs of existing resources used to support the program; and any other costs redirected to the program.

Budget Justification

Provide an explanation for all costs and sources of financing identified in the Financial Support table. Include an analysis of cost-effectiveness and return on investment and address any impacts to tuition, other programs, services, facilities, and the institution overall.

Sources of Financing

Tuition Funding—Enrollment projections based on degree conferrals at similar institutions suggest at least 240 majors (across BA and BS programs) at program maturity, with at least 60 (15/year beginning in year 2) being students who would not otherwise have attended the College of Charleston. **The table above only includes revenue from this conservative estimate of students who would not otherwise have attended the College, with 5 such students in year 1 and adding 15 per year in year 2 and beyond.** We expect a 64:36 ratio of in-state to out-of-state students, in keeping with current undergraduate enrollment, and an overhead rate of 41%, for an average net tuition revenue per student of $11,944.

Program-Specific Fees—Course fees of $50/credit hour will be assessed for the required 3-credit Capstone course, ENVT 490, and for the elective 3-credit Experiential Learning course, ENVT 460. In addition, a $75 per course fee will be assessed for the Experiential Learning course. 100% of majors will take the Capstone in their senior year and an estimated 50% of majors will take the Experiential Learning course, likely in their senior year, resulting in an average per student revenue from these fees of $225 (3 credits * $50 * 100% + [3 credits * $50 + $75]* 50% = $262.50). Estimates are based on expected number of seniors in the program who would not otherwise have attended the College, with 5 in year 4 and 15 in year 5.

Reallocation of Funds—The School of Humanities and Social Sciences and the School of Sciences, Mathematics, and Engineering have committed to supporting the new ENSS BA and BS programs through reallocation of funds to cover the costs of program administration, including admin effort, the associate director stipend, an increase to the program supply budget, travel, and the additional adjunct effort anticipated in years 1-3 of the program.

Estimated Costs

Program Administration and Faculty/Staff Salaries—A new tenure-track hire is requested in year 4, if warranted by enrollment. This hire will contribute to the Capstone course, ENVT 490, as well the required intro course, ENVT 200, and the Experiential Learning course, ENVT 460. As one of only two faculty dedicated to Environmental and Sustainability Studies, the new hire will provide crucial support in terms of student advising, mentoring student research through ENVT 350 and ENVT 499, and other service to the program. Compensation is estimated at $65,000 + fringe of 41% = $91,650 in year 4 and beyond.

With the expansion to a major, the administrative workload will increase significantly. The current Environmental and Sustainability Studies minor director receives 1 course release per year. The course release will be increased to 2/year (1/semester) given the increased demands of directing a major.

In addition, considering the projected program size, an associate director is essential to successfully manage the program (major and minor), beginning in year 1. Because Environmental and Sustainability Studies is not housed within a department, there is no department chair or associate chair to participate in program administration and development. In addition, with only one current roster faculty member assigned to the program, the program director and associate director will also be responsible for significant student advising, student support, and other service work for the program. Although the program is not expected to be at full capacity in year 1, significant effort will be required to establish the new program successfully. The associate director will receive a stipend

of $3,000/year + 1 course release per year. The associate director stipend represents a new cost of $3,000 + fringe of 31% = $3,930/year.

The 2 new course releases will be covered by adjunct faculty in years 1-3. In addition, in years 2 and 3 of the program, 1-2 sections of ENVT 200 will be covered by an adjunct to allow the director or associate director to teach the Capstone course. Assuming that these courses are covered by an adjunct who teaches 4+ courses/semester at the College and thus is paid $3,600/course, adjunct salary is estimated at $7,320 in Year 1, $10,980 in Year 2, $14,640 in Year 3 + fringe of 15.75% = $8,473, $12,709, and $16,946 in Years 1-3, respectively.

Administrative support for the program will be added to existing duties of an admin in the School of Sciences, Mathematics, and Engineering, compensated by a $10,000/year pay increase for additional duties + fringe of 41% = $14,100/year. As an interdisciplinary program that is not housed within a department, Environmental and Sustainability Studies currently has no administrative support. Because the major is expected to have a larger number of majors than many departments, at least ¼ FTE admin support will be crucial to allowing the program to function.

All other instructional needs will be covered by existing faculty offering existing courses, as described below.

Facilities, Equipment, Supplies, and Materials—The current ENSS minor budget will be increased by $2,500/year to support additional seminar speakers and supplies. Revenue from the $75/course fee attached to the Experiential course, ENVT 460, will be used to purchase equipment and supplies and to pay for field trips necessary to provide extensive experiential learning opportunities. Revenue from the $50/credit fee attached to ENVT 460 and ENVT 490 will support ongoing initiatives to which ENSS majors will have access through the School of Sciences, Mathematics, and Engineering (BS) and the School of Humanities and Social Sciences (BA), including summer research funding grants and internship scholarships.

Library Resources—As part of its assessment to support the proposed programs, the library has requested an additional $500/year to support the new BA and BS in Environmental and Sustainability Studies and continue to support of the graduate program and undergraduate minor in Environmental and Sustainability Studies.

Travel—To support conference travel and professional development for existing Senior Instructor and anticipated tenure track faculty member, $1,500 in Years 1-3 (1 faculty member) and $3,000 in Years 4 and 5 (2 faculty members).

Cost Effectiveness

New costs to the institution do not begin until Year 4, with $91,650 to cover salary ($65,000) and fringe (41%) for a new tenure-track hire. With an average net revenue of $12,000 per student after indirect, a total of 8 new students recruited to the program by year 4 (i.e., 2 new students/year) would more than cover the new cost. *The number of new students needed to break even is much lower than the potential to recruit new students, making the new major highly cost effective*.

The proposed interdisciplinary program leverages existing faculty expertise and existing courses to offer a high impact new program with minimal cost to the institution.

The only new required course is the Capstone, ENVT 490, which will be taught by an existing faculty member and the requested new hire.

Multiple sections of the required intro course, ENVT 200, are taught each semester. A recent change in the Public Health curriculum is reducing demand for ENVT 200 from Public Health majors, resulting in more than enough additional capacity (conservatively 30-40 additional seats available per

semester) for new students who declare the Environmental and Sustainability Studies major and would not otherwise have taken the course.

Most requirements for the major can be met with existing courses offered by various departments and programs. No additional sections of these courses should be needed. Existing students who opt for the new major likely would have taken many of these courses anyway (i.e., for their existing major and/or the Environmental and Sustainability Studies minor), resulting in little net change in course enrollments. New students attracted to the College by the new major will increase demand for some courses. However, most requirements for the major can be met with a variety of existing courses leading to minimal increased demand for any one course. For requirements that would be met primarily with courses that are not included in the existing Environmental and Sustainability Studies minor, an analysis of available seats over a 4-semester period from Spring 2020-Fall 2021 indicates adequate available seats for projected ENSS students. This analysis is attached to the proposal. Based on a high-end enrollment projection of 300 majors (150 BS, 150 BA), with the assumption that all represent new demand for these courses (unlikely to be the case, as some of these courses would have been taken to meet requirements for other majors and/or General Education requirements), there would be maximum demand of 37.5 seats/semester for the Economics Foundation requirement (BA and BS) and 17.25 seats/semester for the new Social Sustainability requirement and the new Qualitative, Spatial, or Mixed Methods course requirement (BA only). Over the analysis period, there were an average of 51.4 available seats/semester in courses for the Economics Foundation requirement (BA and BS), an average of 42.25 available seats/semester in courses for the Social Sustainability requirement (BA only), and an average of 40.75 seats/semester in courses for the Qualitative, Spatial, or Mixed Methods course requirement (BA only), in each case more than enough to meet the maximum increase in demand.

Each student in the major will be required to participate in experiential learning; an estimated 50% of students will meet this requirement through the new Experiential Learning course, ENVT 460, while the remaining students will meet the requirement through existing internship, independent study, and research opportunities (for credit through ENVT or another program/department, or not for credit) or through an existing study away or experiential course (through ENVT or another program/department). Although the new hire may contribute to ENVT 460, the Environmental and Sustainability Studies minor already offers several appropriate courses under the Special Topics course, ENVT 452, which will allow the program to meet much of the demand for the Experiential course. The Experiential Learning requirement may increase student interest in other experiential learning opportunities, including internships with credit through ENVT 355, independent study through ENVT 350, and Bachelor's Essay through the new ENVT 499A/499B. The ENSS director and associate director will serve as faculty of record for ENVT 355 as part of their administrative duties, and faculty affiliated with the program will supervise independent studies and Bachelor's Essays through ENVT 350/499 or through their home department. Because College of Charleston students in general, and Environmental and Sustainability Studies students in particular, already participate in experiential learning at a high rate, the increase in demand for such experiences is not expected to be excessive.

An existing faculty member will teach the new course, ENVT 210, which is an elective for the BS and BA, through reallocation of effort from ENVT 200, which will be taken up by the new hire.

All other new courses being proposed are formalizations of courses already being offered, either through Special Topics (e.g., ENVT 360, 460), through individual enrollments in other departments or HONS (i.e., ENVT 499A/B), or through including students in an existing course (i.e., COMM 336/ENVT 336).

Return on Investment

Considering that this new major should recruit many more students than needed to break even, and that the new costs can be delayed until year 4, this is an extremely low-risk proposition, with the potential for significant return on investment.

The new major will bring new revenue to the College by recruiting new undergraduate students who otherwise would have opted to attend other institutions as reflected in the "Financial Support" table, above. An analysis of degree conferrals in environmental- and sustainability-related bachelor's programs at regional competitors over the past 10 years suggests that 240-300 students will declare the new major within 4 years, significantly higher than the number of students in the existing Environmental and Sustainability Studies minor, thus indicating significant unmet demand for an Environmental and Sustainability Studies major at the College of Charleston. In support of this conclusion, many conversations with prospective students and parents indicate that the existence of a major in Environmental and Sustainability Studies is an important factor in deciding between CofC and other institutions for students with interest in this field. Finally, as a program that will be unique in the state of South Carolina, this major will help to retain talented students within the state and to attract additional students from out of state.

Impacts

Institution—The proposed program is an excellent fit for the College's institutional identity, mission, and strategic plan. Offering an undergraduate major in Environmental and Sustainability Studies will fill a gap in the College's otherwise strong profile in environmental and sustainability studies, with a thriving MS program, a very popular undergraduate minor, and the co-curricular offerings of the Center for Sustainable Development including the College's most recent QEP on Sustainability Literacy. The synergy between the new major and the College's existing identity and strengths will enhance the institution's reputation and attract more talented and engaged undergraduates to the College.

Other programs—A few majors that are highly relevant to Environmental and Sustainability Studies could experience a decrease in number of majors. However, individual courses within these programs are not expected to be affected, particularly those that overlap with the proposed major. In addition, double majoring in Environmental and Sustainability Studies will be feasible for students in these majors, further reducing any negative impact on these programs.

The new major will positively impact other programs in two ways. First, some courses may see increased enrollment, which will be welcomed by certain departments/programs, both to fill their courses and to increase the visibility of their programs. Second, with the new major, the increased visibility of environmental and sustainability studies as an academic focal point at the College may also attract new students who will ultimately opt for other, related majors or programs, potentially resulting in a net positive for these programs.

Contingency Plan

If enrollment projections are not met, the new hire can be deferred or eliminated, with responsibility for the capstone course and other teaching responsibilities being shifted to the existing Senior Instructor, the program director, and/or the associate director.

Evaluation and Assessment

Program Objectives	Student Learning Outcomes Aligned to Program Objectives	Methods of Assessment
Interdisciplinary Systems Thinking	Students will analyze and evaluate complex systems to identify connections and leverage points; students will identify interactions among social, environmental, and	Measure 1.1. Students in ENVT 200 (Introduction to Environmental and Sustainability Studies) will be evaluated on an assignment that includes identifying interactions among environmental, social, and economic systems within the context of a proposed policy related to an environmental or sustainability issue. Performance

	economic systems within the context of environmental and sustainability issues.	target: 80% of students will score at least 3 out of 4 on a standard rubric. Measure 1.2. Students in ENVT 352 (Special Topics in Environmental and Sustainability Studies), ENVT 363 (Race, Gender, and Environment), and ENVT 452 (Advanced Special Topics in Environmental and Sustainability Studies) will be evaluated on an assignment incorporating interdisciplinary analysis of a complex system, including identifying interconnections and leverage points. Performance target: 80% of students will score at least 3 out of 4 on a standard rubric.
Innovation for Sustainability	Students will design and evaluate effective and ethical interventions for sustainability; students will demonstrate innovative solutions-thinking in addressing sustainability issues in applied settings and will articulate their individual role in promoting sustainability.	Measure 2.1. Students will develop effective and ethical strategies to promote sustainability as evidenced in a portfolio of work prepared as part of ENVT 490 (Capstone). Performance target: 80% of students will score at least 3 out of 4 on a standard rubric item. Measure 2.2. Students will innovate solutions to sustainability issues in applied settings, as demonstrated in a portfolio of work prepared as part of ENVT 490 (Capstone). Performance target: 80% of students will score at least 3 out of 4 on a standard rubric item.
Sustainability and Society	Students will describe and analyze the interplay between societies and the environments within which they reside, from social, ethical, cultural, and economic perspectives; students will use various methods (quantitative, qualitative, and/or spatial) to understand and address environmental and sustainability issues.	Measure 3.1. Students in ENVT 200 will be evaluated on multiple exam questions related to environmental ethics, politics and the environment, environmental justice, economics, and sustainability. Performance target: 70% of students wills core 75% or better on relevant exam questions. Measure 3.2. Graduating seniors will be asked to reflect on their learning related to sustainability and society via survey questions. Performance Target: 80% of respondents agree or strongly agree with each statement.

Curriculum Map – Environmental and Sustainability Studies, B.A.

	SLO1: Interdisciplinary Systems Thinking	**SLO2: Innovation for Sustainability**	**SLO3: Sustainability and Society**
	Students will analyze and evaluate complex systems to identify connections and leverage points; students will identify interactions among social, environmental, and economic systems within the context of	Students will design and evaluate effective and ethical interventions for sustainability; students will demonstrate innovative solutions-thinking in addressing sustainability issues in applied settings	Students will describe and analyze the interplay between societies and the environments within which they reside, from social, ethical, cultural, and economic perspectives; students will use various methods (quantitative, qualitative, and/or

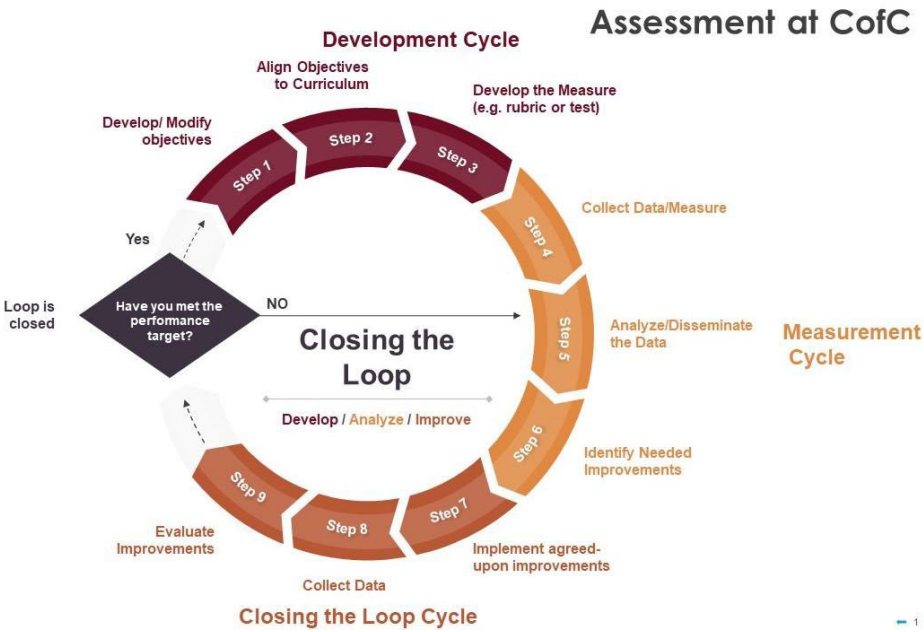
	environmental and sustainability issues.	and will articulate their individual role in promoting sustainability.	spatial) to understand and address environmental and sustainability issues.
ENSS CORE			
ENVT 200: Introduction to Environmental and Sustainability Studies (3)	I	I	I
Environmental Science Foundation (6+ credits from list)	I/R		
Environment and Society Foundation (6 credits from list)	I/R		I
Economics Foundation (3 credits from list)	I/R		I
ENVT 490: Capstone (3)	D	D	D
ENSS Experiential Requirement	R	R	R/D
ENSS B.A. Additional Requirements			
Quantitative Methods (6+ credits)		I/R	R
Qualitative, Spatial, or Mixed Methods (3 credits)		I/R	R
ENSS B.A. Electives			
Human-Environment Interactions (9+ credits from list)	R		R
Social Sustainability (3+ credits from list)	R	R	R
Additional Electives (up to 6 credits from list)	(R)	(R)	(R)

Explain how the proposed program, including all program objectives, will be evaluated, along with plans to track employment. Describe how assessment data will be used.

The College follows an annual assessment model for the systematic submission and review of program assessment plans and results. Key elements of this model include articulated student learning outcomes (SLOs) and multiple measures, performance targets, peer mentoring and review, and broad-based participation.

In 2019, the Office for Institutional Effectiveness and Strategic Planning (OIEP) was restructured. The new organizational change included the creation of the Center for Assessment and Continuous Improvement (CACI) that reports to the Provost. This change reiterates our Institution's commitment to assessment and continuous improvement. Before 2020, the OIEP conducted periodic workshops for assessment coordinators, Deans Assessment Committee (DAC) members, and DAC chairs to reinforce use of results to improve student learning. After the restructuring, CACI is partnering with the new Center for Excellence in Teaching and Learning to offer workshops in all parts of the

assessment cycle for DAC members as well as faculty in general. We continue to provide customized one-on-one sessions to assist academic programs that need additional help. In 2021, we started a new process called 3PAF (Three Period Assessment Feedback), in which we meet one-on-one with assessment coordinators for all academic programs to analyze their assessment reports for the past three years, provide training, and discuss ways to improve. During 3PAF meetings (performed every 3 years), we receive the assessment coordinator's concerns, questions and feedback about the process in general.



All academic programs use the assessment template to guide the required structure of the assessment plans and reports that are housed in Compliance Assist (an assessment planning and management system). These reports demonstrate that each program defines measurable SLOs (development cycle), assesses whether it has achieved those outcomes (measurement cycle), and outlines improvements that are made based on assessment results (closing the loop cycle) (Figure 1). In 2021, after obtaining feedback from assessment coordinators, the college decided to implement a new assessment cycle to guarantee a robust discussion of closing or use of results for improvement. In the new cycle, assessment data is collected every year (due May 15th) and the Analysis of Results and creation of Action Plans with 2 years of data is done every other year (due November 1st on Odd years). With this change, we expect a higher number of programs will reach the evaluation of improvements stage. This will be the implementation of the two-year cycle of closing the loop. We believe that a two-year cycle will provide the time needed to implement actions and assess the impact of those actions. Throughout this process, the Institutional Assessment Committee (IAC) coordinates with the DACs to provide feedback using the Reviewer assessment rubrics. The DACs consist of faculty across the varying disciplines. These committee members serve as mentors and work collaboratively with their programs to assist assessment coordinators in their efforts and to provide a review of the quality of their plans and reports.

Accreditation and Licensure/Certification

Will the institution seek program-specific accreditation (e.g., CAEP, ABET, NASM, etc.)? If yes, describe the institution's plans to seek accreditation, including the expected timeline.

☐Yes

☒No

Will the proposed program lead to licensure or certification? If yes, identify the licensure or certification.

☐Yes

☒No

Explain how the program will prepare students for this licensure or certification.

N/A

If the program is an Educator Preparation Program, does the proposed certification area require national recognition from a Specialized Professional Association (SPA)? If yes, describe the institution's plans to seek national recognition, including the expected timeline.

☐Yes

☒No

NEW PROGRAM PROPOSAL FORM

Name of Institution: College of Charleston

Name of Program (include degree designation and all concentrations, options, or tracks):

Environmental and Sustainability Studies, B.S./A.B.

Program Designation:

☐ Associate's Degree ☐ Master's Degree
☒ Bachelor's Degree: 4 Year ☐ Specialist
☐ Bachelor's Degree: 5 Year ☐ Doctoral Degree: Research/Scholarship (e.g., Ph.D. and DMA)
☐ Doctoral Degree: Professional Practice (e.g., Ed.D., D.N.P., J.D., Pharm.D., and M.D.)

Consider the program for supplemental Palmetto Fellows and LIFE Scholarship awards?

☒ Yes
☐ No

Proposed Date of Implementation: August 2023

CIP Code: 03.9999

Delivery Site(s): 50201

Delivery Mode:

☒ Traditional/face-to-face
*select if less than 25% online

☐ Distance Education
☐ 100% online
☐ Blended/hybrid (50% or more online)
☐ Blended/hybrid (25-49% online) ☐ Other distance education (explain if selected)

Program Contact Information (name, title, telephone number, and email address):

Allison Welch, Ph.D., Director of Environmental and Sustainability Studies Minor and Associate Professor of Biology, 843-953-5451, welcha@cofc.edu

Institutional Approvals and Dates of Approval (include department through Provost/Chief Academic Officer, President, and Board of Trustees approval):

Environmental and Sustainability Studies program	08/17/2022
Dean, School of Humanities and Social Sciences	08/18/2022
Dean, School of Sciences, Mathematics, and Engineering	08/21/2022
Office of Institutional Effectiveness	08/28/2022
Office of the Provost	09/06/2022
Academic Planning Committee	09/07/2022
Faculty Curriculum Committee	09/16/2022
Budget Committee	09/19/2022

Faculty Senate 10/11/2022
Board of Trustees 10/21/2022

Background Information

State the nature and purpose of the proposed program, including target audience, centrality to institutional mission, and relation to the strategic plan.

Sustainability is a defining issue of our time. Earth's systems are under increasing stress from accelerating rates of natural resource consumption, climate change, and weather-related stresses, resulting in ecological crises, social disruption, economic and political uncertainties, and disparate and unjust impacts to human health, security, and well-being. Today's generation of students will face increasing climate change, sea level rise, environmental pollution, and resource depletion, with resulting impacts on individuals, communities, and industries. Consequently, there is tremendous demand for innovative approaches that can help mitigate environmental problems, advance environmental justice, promote sustainable and regenerative use of resources, and stimulate individual and societal resilience. A new generation of students trained rigorously in environmental and sustainability studies will be needed to meet these 21st century challenges.

The aim of the proposed Environmental and Sustainability Studies major is to prepare students with the breadth of knowledge and interdisciplinary thinking skills to innovate solutions to intertwined environmental, social, and economic problems. The proposed program will therefore include an interdisciplinary core curriculum for both the BS and the BA, featuring foundational coursework in natural sciences, humanities and social sciences, economics, and interdisciplinary environmental and sustainability studies. To complement this interdisciplinary breadth, the BS degree will require more in-depth training in the natural sciences in order to equip students for science-based careers or graduate study in areas including environmental science and environmental management, while the BA degree will emphasize training in the social sciences and humanities to prepare students for socially-oriented careers or advanced study in areas including environmental policy and sustainability management. Experiential learning is a hallmark of the proposed program, with each student required to participate in a relevant internship, research experience, study abroad, or other form of experiential learning. This curriculum will prepare each graduate to apply specialized skills and knowledge from within either the natural sciences (BS) or the social sciences (BA) to help address multifaceted sustainability issues in complex real-world settings, with a full appreciation of how their approach interacts with other dimensions of the issue.

Over the past several years, sustainability has emerged as a strong feature of the College's institutional identity, making the proposed major an excellent fit for the institution. In its most recent mission statement, the College commits itself "to developing ethically centered, intellectually versatile and globally fluent citizens who create innovative solutions to social, economic and environmental challenges." The mission and core values of the College are reflected in both the content and the intellectual spirit of the proposed ENSS major, with its focus on interdisciplinary systems thinking (reflecting the College's Core Values *Liberal Arts Education* and *Academic Excellence*), student engagement (reflecting Core Values *Student Centeredness* and *Academic Excellence*), and innovative, future-oriented problem solving (reflecting Core Values *Innovation* and *Public Mission*) guided by values including justice and inclusion, ecological integrity, and intergenerational equity (reflecting Core Values *Integrity* and *Diversity, Equity, and Inclusion*). In support of the College of Charleston Strategic Plan's Pillar 2, *Academic Distinction*, launching BA and BS programs in Environmental and Sustainability Studies will attract highly qualified, engaged, and purpose-driven students to the College (*Pillar 2, Strategy 2: Attract and enroll more highly qualified, civic-minded and intellectually curious students*); increase student opportunities for experiential learning (*Pillar 2, Strategy 4: Make experiential learning a differentiator of the College of Charleston educational experience*); and enhance CofC's profile as a leader in sustainability through the addition of a new signature program (*Pillar 2, Strategy 3: Identify and develop signature undergraduate, master's and doctoral programs and institutes that will advance our profile as a national university*).

The proposed program will be the first undergraduate major in Environmental and Sustainability Studies to be offered in South Carolina and only the second in the Southeast. As such, the target audience includes new students, both in-state and out-of-state, whose interests in a broadly interdisciplinary environmental and sustainability program are not currently served within South Carolina. The College plans to feature the new program in its recruitment and marketing efforts to increase awareness of Environmental and Sustainability Studies to prospective students. The program will also appeal to existing College of Charleston students, particularly those within the existing Environmental and Sustainability Studies minor, some of whom affiliate more strongly with the minor than with their declared major. In addition, the program will welcome transfer students and military veterans, who will be able to satisfy some requirements for the major with transfer credit for certain foundational level courses in economics, mathematics, and natural sciences that are routinely offered at two-year colleges as well as for specialized coursework in environment- and sustainability-related topics that may be offered.

Assessment of Need

Provide an assessment of the need for the program for the institution, the state, the region, and beyond, if applicable.

As recognized by the College of Charleston's mission statement, our institutional calling is to serve the state of South Carolina, the nation, and the world by educating "globally fluent citizens who create innovative solutions to social, economic and environmental challenges." Some of the most vexing issues facing humanity today – from climate change to food and energy security to health disparities – represent intertwined environmental, economic, and social challenges. The complexity of these problems demands innovative solutions, grounded in an understanding of the interconnections among environmental, social, and economic factors. The Environmental and Sustainability Studies major engages with these complexities to prepare students to envision and pursue more sustainable future states through strategic, creative, and ethical thinking. Thus, the creation of this major aims to meet current needs by preparing students for meaningful work while providing the state, region, and world with professionals who are prepared to address complex sustainability challenges to secure the well-being of future generations.

The national and international focus on sustainability and the environment brings expanded job opportunities and increased student demand for relevant programs and skills. For example, the US Department of Labor projected that "Environmental Scientists and Specialists" jobs will grow 8% from 2020-2030.[1] In addition, sustainability and "green" initiatives are now infused throughout the economy, and projected growth for "Sustainability Specialists" by the US Department of Labor's Occupational Information Network from 2020-2030 is 6%.[2] Most of these jobs will require a four-year bachelor's degree. The number of major US companies with a strong commitment to sustainability has increased dramatically; in 2021, Andrew Winston wrote in the Harvard Business Review that "Virtually all of the world's largest companies now issue a sustainability report and set goals; more than 2,000 companies have set a science-based carbon target; and about one-third of Europe's largest public companies have pledged to reach net zero by 2050."[3] This evolving job market needs people trained to coordinate the private, public, and nonprofit sector industries' response to the changes to come in our ecological and social systems.

[1] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Information Network, Environmental Scientists and Specialists: https://www.onetonline.org/link/localtrends/19-2041.00?st=SC [accessed October 7, 2022]
[2] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Information Network, Sustainability Specialists: https://www.onetonline.org/link/localtrends/13-1199.05?st=SC [accessed October 7, 2022]
[3] Winston, Andrew, "Sustainable Business Went Mainstream in 2021," Harvard Business Review, January 6, 2022, https://hbr.org/2021/12/sustainable-business-went-mainstream-in-2021

No other institution in the state offers an undergraduate major in Environmental and Sustainability Studies, and only one institution in the southeast region currently offers this undergraduate major (George Mason University in Virginia). Although several institutions in South Carolina offer degrees in Environmental Science (University of South Carolina at Columbia, BS; Claflin University, BS; Lander University, BS; Winthrop University, BS) or Environmental Studies (USC- Columbia, BA; Winthrop, BA; Wofford, BA, BS), these programs do not focus on sustainability. Furman University offers BS degrees in Sustainability Science and in Earth and Environmental Sciences, and Coastal Carolina University's Honors College offers a Sustainability and Coastal Resilience (BA and BS) program. Clemson offers BS degrees in more specialized environmental programs (Environmental and Natural Resources; Environmental Engineering; Plant and Environmental Sciences; Forest Resources Management). Thus, the College of Charleston is uniquely positioned to offer an undergraduate degree program in Environmental and Sustainability Studies that will appeal not only to students interested in the environment, but also to those interested in sustainability more broadly. Further, only the College of Charleston offers both an interdisciplinary undergraduate minor in addition to an interdisciplinary Master of Science program in Environmental and Sustainability Studies. By capitalizing on extensive course offerings and faculty expertise spanning a range of disciplines at the College, the new major program in Environmental and Sustainability Studies will codify and clarify the campus-wide capacity of our faculty to serve students across the full breadth of Environmental and Sustainability Studies. In doing so, the new program will help the College recruit new students, including those whose interests in a broadly interdisciplinary sustainability program are not currently served within South Carolina.

The proposed program is projected to attract new students to the College and the state. Based on an analysis of degree conferrals in environmental- and sustainability-related bachelor's programs at regional competitors over the past 10 years,[4] we project an enrollment of 240-300 students across the BA and BS within 4 years of the program, with potential for further growth. While some students who declare the new major would have attended the College anyway and declared a different major, both the analysis above and many anecdotes of prospective students inquiring about an Environmental and Sustainability Studies major suggest that the new major will also attract new students to the College. The College of Charleston is distinctly positioned to appeal to prospective students interested in Environmental and Sustainability Studies. In a recent national survey, prospective college students interested in pursuing environmental studies expressed higher than average interest in study abroad opportunities, in undergraduate research with faculty, and in making a difference in the world, and were more likely to prioritize the academic and physical environment when deciding where to apply.[4] This prospective student profile is exceptionally well aligned with distinguishing strengths of the College of Charleston, suggesting a competitive advantage for the College in attracting such students. Nationally, degree conferrals in environmental and sustainability related programs have grown at a higher rate than overall bachelor's degree conferrals over the past decade, indicating growth in the demand for such programs.[4] Recent experience with rapid growth in the new Environmental Geosciences BS program also suggests robust and increasing demand for environment- and sustainability-related programs at the College. When the Environmental Geosciences major was launched in Fall 2021, the forecast population was 36 students by Fall 2023; with 40 students as of Summer 2022, the program is growing at a rate much faster than projected.

As additional evidence of the need for this new major, please see the accompanying industry support letters from Nucor Steel, Charleston County Economic Development, SC Department of Health and Environmental Control, SC Department of Natural Resources, City of Charleston Office of Resilience and Sustainability, The Sustainability Institute, SC Sea Grant, and the Hollings Marine Laboratory.

Transfer and Articulation

Identify any special articulation agreements for the proposed program. Provide the articulation agreement or Memorandum of Agreement/Understanding.

[4] "Environmental and Sustainability Studies: Market Assessment" produced by Eduventures for the College of Charleston, October 2021.

N/A

Employment Opportunities

Occupation	South Carolina		National		
	Projected Annual Job Openings	Projected Job Growth (2018-28)	Projected Annual Job Openings	Projected Job Growth (2020-30)	Median Earnings (2021)
Environmental Scientists and Specialists[a]	50	20%	9,400	8%	$76,530
Environmental Science and Protection Technicians[b]	20	13%	4,700	11%	$47,370
Conservation Scientists[c]	50	9%	2,500	6%	$63,750
Sustainability Specialists[d]	470	8%	141,900	6%	$74,670
Environmental Compliance Inspectors[e]	390	10%	30,000	6%	$71,650
Environmental Economists[f]	10	9%	1,600	13%	$105,630

[a] https://www.onetonline.org/link/summary/19-2041.00; https://www.onetonline.org/link/localtrends/19-2041.00?st=SC [accessed October 7, 2022]

[b] Identified as a "Bright Outlook" occupation by the US Bureau of Labor Statistics based on expected rapid growth; https://www.onetonline.org/link/summary/19-4042.00, https://www.onetonline.org/link/localtrends/19-4042.00?st=SC [accessed October 7, 2022]

[c] https://www.onetonline.org/link/summary/19-1031.00, https://www.onetonline.org/link/localtrends/19-1031.00?st=SC [accessed October 7, 2022]

[d] Job numbers are based on data for the more general category, "Project Management Specialists and Business Operations Specialists, All Other"; https://www.onetonline.org/link/summary/13-1199.05, https://www.onetonline.org/link/localtrends/13-1199.05?st=SC [accessed October 7, 2022]

[e] Job numbers are based on data for the more general category, "Compliance Officers"; https://www.onetonline.org/link/summary/13-1041.01, https://www.onetonline.org/link/localtrends/13-1041.01?st=SC [accessed October 7, 2022]

[f] Identified as a "Bright Outlook" occupation by the US Bureau of Labor Statistics based on expected rapid growth; https://www.onetonline.org/link/summary/19-3011.01, https://www.onetonline.org/link/localtrends/19-3011.01?st=SC [accessed October 7, 2022]

Supporting Evidence of Anticipated Employment Opportunities

Provide supporting evidence of anticipated employment opportunities for graduates.

SCWorks.org—There is a high demand for environmental and sustainability professionals in South Carolina. SCWorks.org is the State's largest workforce development database. A query, run on October 1, 2022 with "environmental" or "sustainability" keyword in the job yielded 776 open positions. Position titles available included: Environmental and Recycling Coordinator Health, Safety

and Environmental Coordinator, Director Safety Health Environmental, Environmental Project manager, Environmental Health Manager, Assistant Director of Environmental Services, Environmental Scientist, Supervisor of Environmental Services, Environmental Consultant, Environmental Services Tech, Environmental Services Aid, Associate Director of Operations and Sustainability Coordinator, Environmental Compliance and Sustainability Project Manager, Sustainability Projects Manager, Environmental Compliance and Sustainability Manager.

US Department of Labor's Occupational Information Network—According to O*NET (https://www.onetcenter.org/initiatives.html#green),

> "Growing emphasis on "green" or environmentally friendly activities has a widespread impact on the world-of-work. This goes beyond a specific subset of "green jobs." Instead, concepts such as sustainability, climate adaptation, conservation, energy efficiency, and transportation touch on a broad range of occupations across the U.S. economy."

This infusion of environmental and sustainability concerns throughout the economy is reflected in O*NET's extensive list of occupations that incorporate "green topics" (https://www.onetonline.org/search/green_topics/).

In addition to the systemic need for workers prepared to address environmental and sustainability issues, environmental and sustainability professionals are represented by several occupational categories, including two "Bright Outlook" occupations with particularly rapid job growth expected. Most of these occupations require a four-year bachelor's degree, although some require more advanced training. Detailed data are provided in the table above.

US Bureau of Labor Statistics—According to the US Bureau of Labor Statistics, demand for Environmental Scientists and Specialists and Conservation Scientists is projected to grow due to "growing public concern around the effects of climate change and the need to improve water and air quality" (https://www.bls.gov/emp/tables/factors-affecting-occupational-utilization.htm [accessed October 7, 2022]).

US Department of Labor's CareerOneStop—Increased focus on the environment and sustainability is shaping the career landscape in broad ways. The Department of Labor defines Green Careers as occupations that are "affected by activities such as conserving energy, developing alternative energy, reducing pollution, or recycling" and highlights more than 200 Green Careers within 12 sectors (https://www.careeronestop.org/GreenCareers/ExploreGreenCareers/explore-green-careers.aspx). Many of these occupations will require relevant training and skills, including many New Green Occupations, which are emerging because of increased interest in the environment and sustainability, and Changing Skill Green Occupations, which are adding new tasks or specialty areas due to increased demand for green goods and services (https://www.careeronestop.org/GreenCareers/WhatAreGreenCareers/what-are-green-careers.aspx).

Charleston Regional Development Alliance—The Charleston Regional Development Alliance highlights Sustainability as an asset associated with doing business in the Charleston region (https://www.crda.org/assets/pdf/esg.pdf), demonstrating the demand for sustainability among both employers and employees (https://www.crda.org/doing-business-here/esg/)

Description of the Program

Projected Enrollment, B.A. and B.S. combined*			
Year	Fall Headcount	Spring Headcount	Summer Headcount
2023-24	90	90	0
2024-25	150	150	0

2025-26	200	200	0
2026-27	230	230	0
2027-28	240	240	0

* Enrollment is expected to be equally divided between the BA and the BS. Thus, at maturity, we project 120 students enrolled in the BA and 120 in the BS.

Explain how the enrollment projections were calculated.

Projection is based on the following conservative estimates, with numbers divided equally between the BA and the BS. In year 1, we estimate 50 incoming students to declare the major, including 5 who would not otherwise have attended the College and 40 existing students to add the new major (some as a double major in addition to their existing major). With more prospective students aware of the new major, we estimate 60 incoming students will declare the major each year beginning in year 2, including 15/year who would not otherwise have attended the College. In years 2 and 3, we expect the students who declared as sophomores (30) and juniors (10) in year 1 to graduate. In years 4 and beyond we expect to graduate 60 students/year.

We project that the proposed Environmental and Sustainability Studies major at the College of Charleston, at maturity, could confer a total of 60-75 degrees annually, combined across the BA and BS, for a projected total enrollment of 240-300. This projection is based on average degrees conferred annually during the past 5 years,[5] relative to undergraduate enrollment, at top regional competitors (0.58%) and at highly similar institutions (0.72%). *The table above presents conservative estimates of 50 incoming students in year 1 and 60 incoming students/year beginning in year 2.*

In addition, based on the number of declared ENSS minors in Spring 2022 (189 students) and data suggesting that at least ¾ of current and recent ENSS minors would have declared an ENSS major had this option been available when they entered the College,[6] we estimate 140-180 students (35-45 students/year) will be recruited from within the population of CofC undergraduate students. *The table above presents the conservative scenario that most of the students who declare the new major are those who would have attended CofC regardless, with just 5 new recruits to the College in year 1 and 15/year beginning in year 2.*

The projected enrollment suggests that adding a major in Environmental and Sustainability Studies will allow the College to recruit new students who would not otherwise have enrolled. This projection is further supported by anecdotal evidence[7] that some students interested in the College of

[5] Ten years of data on bachelor's degree conferral in Environmental Studies, Environmental Science, and Sustainability Studies from top regional competitors and South Carolina programs were provided by Eduventures Research in Fall 2021.

[6] In a survey sent to 23 seniors graduating with the minor in Spring 2021, 8 of 8 respondents (100%) indicated that they would have been likely or very likely to declare the ENSS major, either as part of a double major (100%) or as their sole major (63%, 5/8). Similarly, in a survey sent to 135 ENSS minors enrolled in the Fall 2021 semester, 35 of 36 respondents (97%) indicated that they would have been likely or very likely to declare the ENSS major, either as part of a double major (83%, 30/36) or as their sole major (72%, 26/36). Together, these data suggest very strong interest among current and recent CofC ENSS minors in an ENSS major and that many of these students would be interested in majoring in ENSS along with another major.

[7] Anecdotal evidence is in the form of inquiries about an ENSS major by prospective students and their parents, discussions with students and/or parents considering the lack of an ENSS major in their deliberations, reports of students choosing other schools based on the lack of an ENSS major, and reports of students transferring to other schools that offer a major in Environmental Studies, Environmental Science, and/or Sustainability Studies.

Charleston and Environmental and Sustainability Studies opt instead to attend other institutions that offer a major in Environmental Studies, Environmental Science, and/or Sustainability.

Finally, recent rapid growth in the ENSS minor[8] and growing interest in this field regionally and nationally[9] indicates further potential for growth.

Besides the general institutional admission requirements, are there any separate or additional admission requirements for the proposed program? If yes, explain.

☐Yes

☒No

Curriculum

New Courses

List and provide course descriptions for new courses.

ENVT 210 Sustainable Humanities (3 credits) – This course introduces students to an exploration of sustainability from interdisciplinary environmental humanities perspectives. Students will apply, analyze, and evaluate knowledge from various humanities disciplines, including environmental ethics, ecocriticism, environmental psychology, and gender studies, covering various cultural contexts and geographic regions, past and present, to better understand sustainability and today's social, environmental, and economic problems and solutions to those problems. Students will examine how various worldviews, narratives, and understandings of humans inform both unsustainable and sustainable behaviors, from individual to community levels.

ENVT 336 Environmental Communication (3 credits) – This course introduces students to the interdisciplinary field of environmental communication and engages students in identifying, analyzing, and proposing solutions to communication problems related to the intersection of the environment, economics, and social justice. The course explores discourses around the environment and sustainability, including historical, legal, and technological context and rhetorical frames used by governments, corporations, social movements, and everyday people. Students will explore the role of communication in the public sphere and the power of cultural symbols and messages to shape discourses and practices related to the environment and sustainability.

ENVT 360 Sustainability Practices in Context (3-4 credits) – This course introduces students to an exploration of sustainability in an experiential setting. Students will apply knowledge from various disciplines to analyze complex environmental and/or sustainability problems and solutions in applied settings. Students will visit field sites, businesses, intentional communities, governmental agencies, and/or non-governmental organizations in various domestic or international contexts and interact with people in those settings, to learn about the challenges and successes they face in translating sustainability into lived behaviors and organizational shifts. Course includes a study away component. Topics will vary.

ENVT 460 Experiential Topics in Environmental and Sustainability Studies (3-4 credits) – An advanced interdisciplinary course investigating a particular topic within applied environmental and

[8] The ENSS minor has grown from 77 declared students in Spring 2012 to 189 declared students in Spring 2022 (245% growth), with an increase in 44% (from 131 in Spring 2019) in the past three years.
[9] Data on bachelor's degrees conferrals nationwide from 2012-2020 showed 6% annual growth in Environmental Studies and Environmental Science and 20% annual growth in Sustainability Studies. "Environmental and Sustainability Studies: Market Assessment" produced by Eduventures for the College of Charleston, October 2021.

sustainability studies. Includes a significant experiential learning component through community engagement or other forms of active participation in initiatives designed to address environmental or sustainability issues. Topics will vary.

ENVT 490 Capstone in Environmental and Sustainability Studies (3 credits) – This course provides a capstone experience in which Environmental and Sustainability Studies majors synthesize and apply their learning in the context of relevant theory in the field and engage in professional development to prepare for post-graduation plans. Students will complete readings, discussions, and a semester-long project as the culmination of their academic experience in Environmental and Sustainability Studies and will reflect on their experiences and accomplishments to develop a professional identity. Students will complete the capstone with an e-portfolio that articulates and demonstrates the competencies, skills, and knowledge they have mastered as an Environmental and Sustainability Studies major.

ENVT 499A Bachelor's Essay (3 credits) – Semester one of a two semester intensive research and writing course for accomplished and motivated upper-level students under the close supervision of a faculty member in the department or program. Students must take the initiative in seeking a faculty member to help in the design and supervision of the project. This is an individual enrollment course, and registration is carried out by the faculty mentor.

ENVT 499B Bachelor's Essay (3 credits) – Semester two of a two semester intensive research and writing course for accomplished and motivated upper-level students under the close supervision of a faculty member in the department or program. Students must take the initiative in seeking a faculty member to help in the design and supervision of the project. This is an individual enrollment course, and registration is carried out through consultation with the faculty mentor.

Total Credit Hours Required: 122

Curriculum by Year					
Course Name	**Credit Hours**	**Course Name**	**Credit Hours**	**Course Name**	**Credit Hours**
Year 1					
Fall		**Spring**		**Summer**	
Natural Science Foundation 1 of 2	4	Natural Science Foundation 2 of 2	4		
MATH 111 Pre-Calculus	4	**MATH 250 Statistics**	3		
(Gen Ed) ENGL 110 Intro to Academic Writing	4	**ENVT 200 Intro to Environmental and Sustainability Studies**	3		
(Gen Ed) Foreign Language 1 of 4	3	*(Gen Ed) Foreign Language 2 of 4*	3		
		First Year Experience Requirement	3		
Total Semester Hours	*15*	*Total Semester Hours*	*16*	*Total Semester Hours*	
Year 2					
Fall		**Spring**		**Summer**	
Environmental Science Foundation 1 of 2	3-4	Environmental Science Foundation 2 of 2	3-4		
Environment & Society Foundation 1 of 2	3	Environment & Society Foundation 2 of 2	3		
CHEM 111/L General Chemistry and Lab	4	Economics Foundation	3		
(Gen Ed) Humanities 1 of 4	3	*(Gen Ed) Humanities 2 of 4*	3		
(Gen Ed) Foreign Language 3 of 4	3	*(Gen Ed) Foreign Language 4 of 4*	3		
Total Semester Hours	*16-17*	*Total Semester Hours*	*15-16*	*Total Semester Hours*	
Year 3					
Fall		**Spring**		**Summer**	
Earth Systems, Ecology, & Environment Elective 1 of 3	3-4	Earth Systems, Ecology, & Environment Elective 2 of 3	3-4		
Environmental Science Methods Elective	3-5	Earth Systems, Ecology, & Environment Elective 3 of 3	3-4		
(Gen Ed) Humanities 3 of 4	3	*(Gen Ed) Humanities 4 of 4*	3		
(Gen Ed) Social Science 1 of 2	3	*(Gen Ed) Social Science 2 of 2*	3		
(Gen Ed) History 1 of 2	3	*(Gen Ed) History 2 of 2*	3		
Total Semester Hours	*15-18*	*Total Semester Hours*	*15-17*	*Total Semester Hours*	
Year 4					
Fall		**Spring**		**Summer**	
ENSS Experiential Learning	0-3	**ENVT 490 Capstone**	3		
ENSS BS Elective	3-4	Unrestricted Elective	3		
Founding Documents Requirement	3	Unrestricted Elective	3		
Unrestricted Elective	3	Unrestricted Elective	3		
Unrestricted Elective	3	Unrestricted Elective	3		

Curriculum by Year					
Course Name	**Credit Hours**	**Course Name**	**Credit Hours**	**Course Name**	**Credit Hours**
Total Semester Hours	*12-16*	*Total Semester Hours*	*15*	*Total Semester Hours*	

Natural Sciences Foundation (complete at least 7 credits)

BIOL 101/101L Concepts and Applications in Biology I (4)
BIOL 102/102L Concepts and Applications in Biology II (4)
BIOL 111/111L Introduction to Cell and Molecular Biology (4)
BIOL 112/112L Evolution, Form, and Function of Organisms (4)
CHEM 102/102L Organic and Biological Chemistry (4)
CHEM 112/112L Principles of Chemistry II (4)
GEOL 103/103L Environmental Geology (4)
GEOL 105/105L Earth History (4)
GEOL 250 Introduction to Geochemistry (4)
PHYS 101/101L Introductory Physics I (4)
PHYS 102/102L Introductory Physics II (4)
PHYS 105 Introduction to Meteorology (3)
PHYS 111/111L General Physics I (4)
PHYS 112/112L General Physics II (4)

Environmental and Sustainability Studies Foundation

Environmental Science Foundations (at least 6 credits from at least two different disciplines)
BIOL 204 Humans and the Environment (3)
BIOL 209 Marine Biology (4)
BIOL 211 Biodiversity, Ecology, and Conservation Biology (4)
BIOL 213 Marine Ecology, Biodiversity, and Conservation Biology (4)
GEOL 103/103L Environmental Geology (4)
GEOL 107 Introduction to Coastal and Marine Geology (3)
PHYS 105 Introduction to Meteorology (3)
PHYS 106L Exercises in Weather and Climate (2)

Environmental and Society Foundations (two courses, each from a different discipline)
ANTH 401 Environmental Anthropology (3)
ENVT 210 Sustainable Humanities (3)
ENVT 363 Race, Gender, and Environment (3)
GEOG 397 Environmental Geography (3)
INTL 350 Cross Regional Studies (3) *[when topic is Global Environmental Challenges]*
PHIL 155 Environmental Ethics (3)
PHIL 245 Environmental Philosophy (3)
POLI 294 Introduction to Sustainability (3)
POLI 307 Environmental Policy (3)
POLI 364 International Environmental Politics (3)
POLI 397 Environmental Geography (3)
PSYC 329 Environmental Psychology (3)
RELS 276 Religion and the Environment (3)
SOCY 323 Sociology of Sustainability and Consumption (3)
SOCY 346 Environmental Sociology (3)

Economics Foundation (one course)
ECON 101 Introduction to Economics (3)
ECON 200 Principles of Microeconomics (3)
ECON 201 Principles of Macroeconomics (3)
INTL 120 Economics of Globalization (3)
POLI 265 International Political Economy (3)

Electives (complete at least 18 credits)

Earth Systems, Environment, and Ecology Electives (at least 9 credits)
BIOL 209 Marine Biology (4)

BIOL 211 Biodiversity, Ecology, and Conservation Biology (4)
BIOL 213 Marine Ecology, Biodiversity, and Conservation Biology (4)
BIOL 304 Plant Physiology (4)
BIOL 341 General Ecology (4)
BIOL 342 Oceanography (4)
BIOL 406 Conservation Biology (3)
BIOL 410 Applied and Environmental Microbiology (4)
BIOL 413 Marine Conservation Genetics (3)
BIOL 413L Marine Conservation Genetics Laboratory (1)
BIOL 444 Plant Ecology (4)
CHEM 422 Environmental Chemistry (3)
CHEM 422L Environmental Chemistry Laboratory (1)
GEOL 107 Introduction to Coastal and Marine Geology (3)
GEOL 213 Natural Hazards (3)
GEOL 253 Earth Systems Science (4)
GEOL 288 Global Change: A Geological Perspective (3)
GEOL 291 Water Resources (4)
GEOL 313 Critical Zone Science (3)
GEOL 320 Earth Resources (3)
GEOL 438 Hydrogeology (4)
GEOL 441 Pollution in the Environment (4)
HEAL 345 Environmental Health (3)
PHYS 105 Introduction to Meteorology (3)
PHYS 106L Exercises in Weather and Climate (2)
PHYS 210 Introduction to Air Pollution (3)
PHYS 225 Climate (3)
PHYS 350 Energy Production (4)

<u>Environmental Science Methods Electives (at least 3 credits)</u>
BIOL 301 Plant Taxonomy (4)
BIOL 310 General Microbiology (4)
BIOL 360 Biometry (3)
CHEM 220/220L Fundamentals of Analytical Chemistry (5)
CHEM 231/231L Organic Chemistry (4)
CHEM 421/421L Instrumental Methods of Analysis (4)
DATA 101 Introduction to Data Science (3)
ENGR 321 Human Factors Engineering (3)
ENVT 350 Independent Study in Environmental and Sustainability Studies (1-4) *[with approval of ENSS director]*
ENVT 499A Bachelor's Essay (3) *[with approval of ENSS director]*
GEOL 239 Introduction to Seafloor Mapping (2)
GEOL 312 Environmental Field Methods (3)
GEOL 402 Geospatial Science (4)
GEOL 442 Geological Application of Remote Sensing (4)
GEOL 449 Geographical Information Systems (4)
GEOL 469 Advanced GIS - Environmental and Hazards Modeling (4)
HEAL 350/PBHL 350 Epidemiology (3)
HEAL 456 Biostatistics in Health Sciences (3)
MATH 350 Statistical Methods II (3)

<u>Additional Electives (additional credits, as needed)</u>
BIOL 300 Botany (4)
BIOL 333 Ornithology (4)
BIOL 334 Herpetology (4)
BIOL 336 Parasitology (4)
BIOL 338 Entomology (4)

BIOL 427 Marine Tetrapod Biology (3)
BIOL 432 Biology of Fishes (4)
BIOL 435 Marine Botany (4)
BIOL 437 Biology of Invertebrates (4)
BIOL 449 Biology of Coral Reefs (3)
COMM 336 Addressing Problems in Context (3) *[when topic is Environmental Communication]*
COMM 410 Analysis of Communication Practice (3) *[when topic is Science Communication]*
ECON 311 Environmental Economics (3)
ENTR 320 New Ventures Modeling (3)
ENTR 407 Ecopreneurship (3)
ENVT 336 Environmental Communication (3)
ENVT 350 Independent Study in Environmental and Sustainability Studies (1-4)
ENVT 352 Special Topics in Environmental and Sustainability Studies (1-4)
ENVT 355 Internship in Environmental and Sustainability Studies (1-3)
ENVT 360 Sustainability Practices in Context (3)
ENVT 363 Race, Gender, and Environment (3)
ENVT 395 Seminar in Environment and Sustainability Studies (1)
ENVT 452 Advanced Special Topics in Environmental and Sustainability Studies (1-4)
ENVT 460 Experiential Topics in Environmental and Sustainability Studies (3)
ENVT 499A Bachelor's Essay (3)
GEOG 101/POLI 104 World Regional Geography (3)
GEOL 275 Geomorphology (4)
GEOL 339 Seafloor Research (3)
HONS 250 Honors Colloquium: Special Topics in Diversity and Sustainability (3) *[with approval of ENSS director]*
MGMT 305/PHYS 305 The Nexus of Management and Weather (3)
PHYS 215 Synoptic Meteorology (3)
POLI 307 Environmental Policy (3)
POLI 331 Geography of Native Lands (3)
POLI 443 Governance of Social-Ecological Systems (3)
PSYC 332 Psychology of Social Change (3)
URST 361 Water Use Law (3)

- Must include at least 9 credits of coursework at the 300-level or above from BIOL, CHEM, ENGR, GEOL, HEAL, MATH, or PHYS.
- Must include at least 3 lab courses at the 200-level or above
- No more than 24 credits from any one discipline, with the exception of ENVT, may be applied to the ENSS major requirements.
- Credit may not be applied for both BIOL 211 and BIOL 213 toward the ENSS major requirements.
- No more than 3 credits of internship may be applied to the ENSS major requirements.
- No more than 3 credits of independent study, research, or Bachelor's Essay may be applied to the ENSS major requirements.
- Special topics, variable topics, and individual enrollment courses may be approved on a course-by-course basis.

***REACH Act**: As confirmed in the September 21, 2021 letter from College of Charleston's President Andrew T. Hsu as issued to Rusty Monhollon, CHE's President and Executive Director, this new program along with every current and future undergraduate degree program beginning with the entering freshman class of the 2021-22 academic year, will require the completion of a 3-credit hour course covering in its entirety the United States Constitution, the Declaration of Independence, the Emancipation Proclamation,

at least five *Federalist Papers* and at least one document that is foundational to the African American struggle among the following 16 courses that are currently offered regularly at the College of Charleston:

Political Science
POLI 101 American Government
HONS 165 Honors American Government
POLI 280 American Political Thought
POLI 320 Constitutional Law
POLI 321 Civil Liberties

History
HIST 201 United States to 1865
HIST 202 United States since 1865
HIST 213 American Jewish History: Colonial Times to the Present
HIST 216 African American History to 1865
HIST 217 African American History since 1865
HIST 304 History of the United States: Civil War and Reconstruction, 1845-1877

Jewish Studies
JWST 260 American Jewish History: Colonial Times to the Present

Philosophy
PHIL 209 Political Philosophy
PHIL 220 American Political Thought
PHIL 310 American Philosophy

Theatre
THTR 212 History of American Theatre

Similar Programs in South Carolina offered by Public and Independent Institutions

Identify the similar programs offered and describe the similarities and differences for each program.

Program Name and Designation	Total Credit Hours	Institution	Similarities	Differences
MOST SIMILAR PROGRAMS				
BS in Sustainability and Coastal Resilience, with Science and Ecosystems concentration	56	Coastal Carolina University	Both programs take a broadly interdisciplinary approach to sustainability, including natural sciences, social sciences/humanities, and economics perspectives, with an emphasis on natural sciences perspectives. Curricula have somewhat similar structures, with foundational courses, environmental sciences electives, and a required experiential learning component.	• Our program focuses on the breadth of environmental and sustainability studies, while their program includes a specific focus on coastal resilience, with natural sciences courses drawing heavily from marine sciences along with biology and physical geography. • Our program requires more math (2 semesters vs 1 semester) as well as a natural sciences foundation (1 semester of general chemistry + 2 additional semesters of introductory-level natural sciences), an environmental science methods requirement, and a requirement for multiple upper-level natural science labs that are not included in their program.
BS in Environmental Science	69	Francis Marion University	Both programs offer an interdisciplinary environmental degree, including natural sciences, social sciences/humanities, and economics perspectives, with an emphasis on natural sciences.	• Our proposed curriculum includes an overarching focus on sustainability and requires 1 year of math as well as an experiential learning requirement. • Our program also allows students to select from a greater range of relevant environmental sciences courses, drawing relevant courses from across the natural sciences (including biology, geology, physics, and chemistry).
BS in Environmental Studies	46	Wofford College	Both programs require foundational environmental sciences coursework, two environmental courses from social sciences/humanities perspectives, environmental science methods, and upper-level environmental science courses with labs.	• Our proposed curriculum includes an overarching focus on sustainability and includes one economics course (in addition to natural sciences and social sciences/humanities courses). • Our program also requires more math (2 semesters vs 1 semester) and a stronger natural sciences foundation (3 courses vs. 1 course).
SIMILAR PROGRAMS				
BA in Environmental Studies	36	Wofford College	Both programs offer an interdisciplinary environmental degree, with foundational coursework in environmental sciences and social sciences/humanities perspectives on the environment.	• Their program requires no math and no foundational natural sciences coursework, while our program requires 1 year of math and 3 semesters of foundational natural sciences. • Beyond the foundation level, their program allows students to opt entirely for electives from relevant social sciences/humanities courses if the student desires, while our

				program requires students to take a minimum of 12 credits of environmental sciences electives beyond the foundation level.
BS in Environmental and Natural Resources, with Natural Resources Management or Conservation Biology concentration	63/77	Clemson University	Both our program and theirs offer an interdisciplinary environmental degree, including natural sciences, social sciences, and economics perspectives, required experiential learning, and an emphasis on natural sciences.	• Our proposed curriculum includes a focus on sustainability and includes 6 credits of broadly interdisciplinary environmental and sustainability studies coursework. Our program requires more social sciences/humanities coursework than their Conservation Biology concentration (2 courses vs. 1 course). • Their programs draw heavily from biology with some geology coursework while our program allows students to take relevant course from across the natural sciences (geology, biology, physics, chemistry).
BS in Environmental Science	61	USC Columbia	Both programs require foundational natural sciences coursework and at least one environmental course from a social sciences perspective. Both programs allow students to select from a broad array of environmental science electives.	• Our proposed curriculum includes a focus on sustainability and requires an economics course and more social sciences/ humanities coursework (2 courses vs. 1 course). Our program also includes an experiential course requirement.
BS in Environmental Science	62	Claflin University	Both programs require foundational natural and environmental sciences coursework, 1 year of math, and at least one environmental course from a social sciences perspective.	• Our proposed curriculum includes a focus on sustainability and requires an economics course and more social sciences/ humanities coursework (2 courses vs. 1 course) plus 6 credits of broadly interdisciplinary environmental and sustainability studies.
BS in Environmental Sciences	62	Winthrop University	Both programs require foundational natural sciences coursework, 1 year of math, and upper-level natural sciences courses.	• Our proposed curriculum includes a focus on sustainability and requires economics and social sciences/humanities coursework. Their program does not require social sciences/humanities or economics coursework, although students may opt for such courses as environmental electives. • Our program requires students to select natural sciences electives from a list of courses with specific relevance to the environment, while their programs allows students to select natural sciences electives from among all upper-level natural sciences courses regardless of environmental relevance.
BS in Environmental Science	47	Anderson University	Both programs require foundational natural sciences coursework, 1 year of math, environmental science methods coursework, and an experiential learning component.	• Our proposed curriculum includes a focus on sustainability and requires economics and social sciences/humanities coursework plus 6 credits of broadly interdisciplinary environmental and sustainability studies. • Our program allows students to select from a greater range of relevant courses, primarily from biology, geology, physics, and

				chemistry. Their program includes only biology and chemistry courses, with a much smaller range of course options.
BS in Environmental Science	65	Lander University	Both programs require foundational natural and environmental sciences coursework and an experiential learning component.	• Our proposed curriculum includes a focus on sustainability and requires economics and social sciences/humanities coursework plus 6 credits of broadly interdisciplinary environmental and sustainability studies. • Our program also requires 1 year of math. Our program allows students to select from a greater range of relevant natural sciences courses.
BS in Environmental Studies	53	Southern Wesleyan University	Both programs require foundational natural sciences coursework and an experiential learning component as well as environmental science coursework.	• Their program is primarily composed of biology courses along with math and chemistry cognates plus three 1-credit interdisciplinary seminars. • Our proposed curriculum includes a focus on sustainability and is broadly interdisciplinary, including coursework from social sciences/ humanities and economics and drawing relevant courses from across the natural sciences (biology, geology, physics, and chemistry).
SOMEWHAT SIMILAR PROGRAMS				
BA in Sustainability and Coastal Resilience, with Policy and Culture or Business and Economics concentration	56	Coastal Carolina University	Both programs take a broadly interdisciplinary approach to sustainability, including natural sciences, social sciences/humanities, and economics perspectives.	• These programs are focused on social sciences/humanities perspectives, more similar to our proposed Environmental and Sustainability Studies BA.
BA in Environmental Studies	40	USC Columbia	Both programs offer an interdisciplinary environmental degree.	• This program is focused on social sciences/humanities perspectives. more similar to our proposed Environmental and Sustainability Studies BA.
BA in Environmental Studies	51	Winthrop University	Both programs offer an interdisciplinary environmental degree.	• This program is focused on social sciences/humanities perspectives, more similar to our proposed Environmental and Sustainability Studies BA.
BS in Environmental and Natural Resources, with Natural Resources and Economic Policy concentration	61	Clemson University	Both programs offer an interdisciplinary environmental degree, including natural sciences, social sciences, and economics perspectives.	• This program is more focused on economic/social sciences perspectives, more similar to our proposed Environmental and Sustainability Studies BA.
BA in Environmental Studies	53	Francis Marion University	Both programs offer an interdisciplinary environmental degree.	• This program is focused on social sciences/humanities perspectives, more similar to our proposed Environmental and Sustainability Studies BA.
BS in Sustainability Sciences	52	Furman University	Both programs take an interdisciplinary approach to sustainability, including	• This program is more focused on social sciences/humanities perspectives, more similar to our proposed Environmental and Sustainability Studies BA.

			social sciences/humanities and natural sciences perspectives.	
BS in Geography, with Physical/Environmental Geography concentration	24	USC Columbia	Both programs offer an interdisciplinary environmental degree.	• Their program allows students to choose various geography courses focusing on physical geography from natural sciences perspectives and environmental geography from a social and natural sciences perspectives.
BS in Geology, with Environmental Science concentration	105	Clemson University	Both programs focus on the environment from a natural sciences perspective.	• Their program is a geology degree with coursework concentrated in areas of geology more relevant to the environment and options for courses from other disciplines related to environmental science.
BS in Biology, with Environmental Remediation and Restoration concentration	55	USC Aiken	Both programs focus on the environment from a natural sciences perspective.	• Their program is a biology degree with coursework concentrated in areas of biology more relevant to the environment with cognate courses from chemistry, geology, and/or physics.
BS and BA in Earth and Environmental Sciences	52/36	Furman University	Both programs focus on the environment from a natural sciences perspective.	• Their programs are earth sciences (i.e., geology) degrees with courses relevant to the environment.
BS in Geological Sciences, with Environmental Geoscience concentration	39	USC Columbia	Both programs focus on the environment from a natural sciences perspective.	• Their program is a geology degree with coursework concentrated in areas of geology more relevant to the environment.
BS in Biology, with Environmental Science concentration	not in catalog	Allen University	Both programs focus on the environment from a natural sciences perspective.	• Their program is a biology degree with coursework concentrated in areas of biology more relevant to the environment.
BS in Applied Physics, with Environmental Physics concentration	66	Coastal Carolina University	Both programs focus on the environment from a natural sciences perspective.	• Their program is a physics degree with upper-level electives in areas of physics more relevant to the environment.
BA in Chemistry, with Environmental concentration	64	The Citadel	Both programs focus on the environment from a natural sciences perspective.	• This program is a chemistry degree with additional relevant coursework in biology and/or physics.
BS in Plant and Environmental Sciences, with Soil and Water Science concentration	74	Clemson University	Both programs focus on the environment from a natural sciences perspective.	• This program is focused on Soil and Water Science, with coursework from agriculture, geology, and biological sciences.
BS in Biology, with Animal and Environmental concentration	85	North Greenville University	Both programs address the environment from a natural sciences perspective.	• This program is a biology degree with upper-level electives relevant to animal science, earth science, and ecology.
BS in Environmental Health Sciences	45	Benedict College	Both programs offer an interdisciplinary natural sciences degree related to human environmental impacts.	• This program is focused on Environmental Health Science, a distinct field focused on environmental impacts on human

				health and disease through food, water, air, disease vectors, and occupational risks.
BS in Plant and Environmental Sciences, with Agronomy or Agricultural Biotechnology concentration	77	Clemson University	Both programs focus on natural sciences relevant to human-environment interactions.	• These programs are focused specifically on agriculture, with coursework primarily in biological sciences and agriculture.

Faculty

Rank and Full- or Part-time	Courses Taught for the Program	Academic Degrees and Coursework Relevant to Courses Taught, Including Institution and Major	Other Qualifications and Relevant Professional Experience (e.g., licensures, certifications, years in industry, etc.)
NEW HIRE IN YEAR 4 Assistant Professor, Environmental and Sustainability Studies; FT	**ENVT 200** **ENVT 460** **ENVT 490**	Ph.D., Environmental and Sustainability Studies or closely related field	
Senior Instructor, Environmental and Sustainability Studies; FT	**ENVT 200** **ENVT 210** **ENVT 360** **ENVT 363** **ENVT 490** RELS 276	Ph.D., Religion (focus on religion and nature), Univ of Florida; M.Sc., Centre for Human Ecology, Edinburgh, Scotland; Postgraduate Certificate in EcoPhilosophy and Practice, Murdoch University	Director, CofC Quality Enhancement Plan, "Sustainability Literacy as a Bridge to Addressing 21st Century Problems" (2016-2022); Advisory Council, Sustainability Curriculum Consortium (2020-2022); author of 2 scholarly books and 20+ scholarly articles and book chapters on sustainability, religion, and the environment
Associate Professor, Geology and Environmental Geosciences; FT	**ENVT 200** GEOL 253 GEOL 291 GEOL 313	Ph.D., Civil and Environmental Engineering, University of Maryland, College Park	
Professor, Biology; FT	**ENVT 200** BIOL 111 BIOL 304	Ph.D., Botany, Auburn University	$1m+ federal grants and 30+ peer-reviewed publications on effects of climate change on plant physiology
Associate Professor, Biology; FT	**ENVT 200** **ENVT 355** BIOL 211 BIOL 334	Ph.D., Biological Sciences, University of Missouri	multiple peer-reviewed publications on impacts of environmental change on amphibians
Assistant Professor, Religious Studies; FT	**ENVT 200** RELS 276	Ph.D., American Religions, Duke University	author of multiple peer-reviewed publications on intersections of religion and the environment
Associate Professor, Communication; FT	**ENVT 336** COMM 336 COMM 410	Ph.D., Communication, Northwestern University	
Senior Instructor, Biology; FT	**ENVT 352** BIOL 101 BIOL 102 BIOL 204	M.S., Biomimicry, Arizona State University; M.S. - Zoology, University of New Hampshire	Certified Biomimicry Professional (BPro)
Professor, Psychology; FT	**ENVT 360** **ENVT 460** PSYC 332	Ph.D., Experimental Psychology, University of Wyoming; M.A, Ethics, M.A., Experimental Psychology	

Professor, Geology and Environmental Geosciences; FT	**ENVT 395** GEOL 103 GEOL 253 GEOL 291 GEOL 313	Ph.D., Earth and Environmental Science (Hydrology), New Mexico Tech, Socorro	
Assistant Professor, Sociology and Anthropology; FT	ANTH 401	Ph.D., Anthropology, Cornell University	
Professor, Biology; FT	BIOL 211 BIOL 341 BIOL 444	Ph.D., Biology, University of Connecticut	
Professor, Biology; FT	BIOL 342 BIOL 406 BIOL 432	Ph.D., Biological Oceanography, Woods Hole Oceanographic Institution	
Assistant Professor, Biology; FT	BIOL 310 BIOL 410	Ph.D., Biology, Cornell University	
Professor, Biology; FT	BIOL 112 BIOL 213 BIOL 406 BIOL 413	Ph.D., Biology, University of North Carolina, Chapel Hill	
Associate Professor, Chemistry and Biochemistry; FT	CHEM 111 CHEM 220 CHEM 422	Ph.D., Chemistry, University of Delaware	
Professor, Economics; FT	ECON 200 ECON 201 ECON 311	Ph.D., Economics, University of New Mexico - Albuquerque, New Mexico	
Associate Professor, Entrepreneurship; FT	ENTR 320	Ph.D., Property, University of Aberdeen, Scotland	Director, Center for Entrepreneurship, College of Charleston
Professor, Geology and Environmental Geosciences; FT	GEOL 103 GEOL 250 GEOL 253 GEOL 291 GEOL 313 GEOL 441	Ph.D., Environmental Sciences, Swiss Federal Institute of Technology, Zurich	
Associate Professor, Geology and Environmental Geosciences; FT	GEOL 103 GEOL 213	Ph.D., Geological Sciences (Seismology), Columbia U., New York, N.Y.	
Professor, Geology and Environmental Geosciences; FT	GEOL 103 GEOL 402 GEOL 449 GEOL 469	Ph.D., Applied Geology, Purdue University	
Assistant Professor, Geology and Environmental Geosciences; FT	GEOL 288 GEOL 312	Ph.D., Geosciences, Virginia Tech, Blacksburg, VA	
Associate Professor, Health	HEAL 345 HEAL 350	M.P.H., Environmental Health, Emory University; Ph.D.,	

and Human Performance; FT		Geography, Florida State University	
Assistant Professor, International Studies; FT	INTL 350	Ph.D., History, University of Texas - Austin	author of 1 scholarly book and multiple peer-reviewed publications on Caribbean/ Latin American tourism and environmental history
Assistant Professor, Philosophy; FT	PHIL 155 PHIL 245	Ph.D., Philosophy, Duke University	
Professor, Physics; FT	PHYS 105 PHYS 106L PHYS 225 PHYS 305	Ph.D., Astrophysical, Planetary, and Atmospheric Sciences, University of Colorado, Boulder	
Associate Professor, Political Science; FT	POLI 294 POLI 364	J.D., Loyola University; Ph.D., Political Science, University of California, Irvine	
Associate Professor, Political Science; FT	POLI 307 POLI 443	Ph.D., Political Science, University of Oklahoma	
Associate Professor, Political Science; FT	POLI 331 POLI 397	Ph.D., Geography, University of Minnesota	
Associate Professor, Sociology and Anthropology; FT	SOCY 323 SOCY 346	Ph.D., Sociology and Anthropology, Northeastern University; M.U.A., Urban Affairs and Planning (Environmental Policy Concentration), Virginia Tech	

Total FTE needed to support the proposed program (B.A. and B.S.):
Faculty: 2 (1 existing, 1 new)
Staff: 0.25 (new)
Administration: 0.385 (0.125 existing, 0.25 new)

Faculty, Staff, and Administrative Personnel

Discuss the Faculty, Staff, and Administrative Personnel needs of the program.

ENVT courses

The College of Charleston has recently hired a Senior Instructor of Environmental and Sustainability Studies, who will contribute to teaching in this program. In addition, a number of faculty from departments across campus also contribute to teaching ENVT courses.

A new tenure-track assistant professor will be needed, beginning in year 4 of the program (AY2026-27), to cover expanded offerings of the new Capstone course (ENVT 490), the new Experiential Topics course (ENVT 460), and to contribute to teaching ENVT 200. As one of only two faculty dedicated solely to Environmental and Sustainability Studies, the new faculty hire will also provide crucial support in terms of student advising, mentoring student research through ENVT 350 and ENVT 499A/B, and other service to the program.

The only new required course is the Capstone, ENVT 490, which will be taught by the existing senior instructor and the requested new hire.

Multiple sections of the required intro course, ENVT 200, are taught each semester. A recent change in the Public Health curriculum is reducing demand for ENVT 200 from Public Health majors, resulting in additional capacity for new students who declare the Environmental and Sustainability Studies major and would not otherwise have taken the course.

Each student in the major will be required to participate in experiential learning; an estimated 50% of students will meet this requirement through the new Experiential Learning course, ENVT 460, while the remaining students will meet the requirement through existing internship, independent study, and research opportunities (for credit through ENVT or another program/department, or not for credit) or through an existing study away or experiential course (through ENVT or another program/department). Although the new hire may contribute to ENVT 460, the Environmental and Sustainability Studies minor already offers several appropriate courses under the Special Topics course, ENVT 452; these courses can be offered in the future as ENVT 460 and will allow the program to meet much of the demand for the Experiential course. The Experiential Learning requirement may increase student interest in other experiential learning opportunities, including internships with credit through ENVT 355, independent study through ENVT 350, and Bachelor's Essay through the new ENVT 499A/499B. The ENSS director and associate director will serve as faculty of record for ENVT 355 as part of their administrative duties, and faculty affiliated with the program will supervise independent studies and Bachelor's Essays through ENVT 350/499 or through their home department. Because College of Charleston students in general, and Environmental and Sustainability Studies students in particular, already participate in experiential learning at a high rate, the increase in demand for such experiences is not expected to be excessive.

An existing faculty member will teach the new course, ENVT 210, which is an elective for the BS and BA, through reallocation of effort from ENVT 200, which will be taken up by the new hire.

All other new courses being proposed are formalizations of courses already being offered, either through Special Topics (e.g., ENVT 360, 460), through individual enrollments in other departments or HONS (i.e., ENVT 499A/B), or through including students in an existing course (i.e., COMM 336/ENVT 336).

Other courses

The addition of the proposed ENSS major is not expected to require additional course sections in any non-ENVT course. Students who opt for the new major would have taken many of these courses as ENSS minors with a major in a related discipline, resulting in little net change in course enrollments. New students attracted to the College by the new major will increase demand for some courses. However, most requirements for the major can be met with a variety of existing courses leading to minimal increased demand for any one course. For requirements that can be met primarily with courses that are not included in the existing Environmental and Sustainability Studies minor, an analysis of available seats over a 4-semester period from Spring 2020-Fall 2021 indicates adequate available seats for projected ENSS students. Based on a high-end enrollment projection of 300 majors (150 BS, 150 BA), with the assumption that all represent new demand for these courses, there would be maximum demand of 37.5 seats/semester for the Economics Foundation requirement (BA and BS) and 17.25 seats/semester for the new Social Sustainability requirement and the new Qualitative, Spatial, or Mixed Methods course requirement (BA only). Over the analysis period, there were an average of 51.4 available seats/semester in courses for the Economics Foundation requirement (BA and BS), an average of 42.25 available seats/semester in courses for the Social Sustainability requirement (BA only), and an average of 40.75 seats/semester in courses for the Qualitative, Spatial, or Mixed Methods course requirement (BA only), in each case more than enough to meet the maximum increase in demand.

Staff and Administrative Personnel

Considering the projected program size, successful management of the program will expand the duties of the existing program director (existing 0.125 FTE + new 0.125) and will require a new associate program director (new 0.125 FTE). Together, the director and associate director will be responsible for program administration and development, supervising internships, student advising and support, and other service work for the program.

As a stand-alone interdisciplinary program that is not housed within a department, Environmental and Sustainability Studies currently has no administrative support. With the projected enrollment in the major, ¼ FTE admin support will be needed, which will be provided by reallocating/adding to the existing duties of an admin in the School of Sciences, Mathematics, and Engineering.

Resources

Library and Learning Resources

Explain how current library/learning collections, databases, resources, and services specific to the discipline, including those provided by PASCAL, can support the proposed program. Identify additional library resources needed.

The College of Charleston libraries are structured around one main facility, the Marlene and Nathan Addlestone Library, with smaller, more specialized libraries that support the diverse teaching and research needs of the institution. The Addlestone Library encompasses 140,000 square feet, accommodates one million volumes, seats 1,600 patrons, offers 20 study group rooms, and maintains over 239 computer workstations. The facility was designed to accommodate the technological needs of a contemporary academic library. The computer workstations are equipped with several web browsers, a suite of Microsoft Office software, statistical software packages, and other standard computer applications. These computers are networked to seven high-capacity laser printers; one color printer is also available. In addition to the desktop computers, students may borrow one of 20 laptops equipped with wireless internet hardware and software for use within the building and grounds, 3 flip cameras, and 2 iMac computers with video editing capabilities. There are 60 iPads to enhance student learning in the classroom, including 5 iPads that students can check out at any time. Wireless access is available throughout the library.

The library's collections consist of over 1,085,194 cataloged monographs, serials and other hard copy items, including 13,472 audiovisual items in the media collection, and 3,202 print subscriptions to journals and other periodicals. The print subscriptions are supplemented by 388,290 electronic books and 110,032 electronic journals, which are available online and 24/7/365. All faculty and students with a valid College of Charleston account may access these electronic resources from anywhere in the world.

The library is a member of the Partnership among South Carolina Academic Libraries (PASCAL), a consortium of the state's academic libraries together with their parent institutions and state agency partners. PASCAL fosters cooperation on a broad range of issues such as shared licensing of electronic resources (including unlimited access to over 200,000 e-book titles from major publishers and university presses) and universal borrowing.

Other significant materials can be found in the Lowcountry Digital Library. Established by the College in 2009, the Lowcountry Digital Library (LCDL) produces digital collections and projects that support research about the Lowcountry region of South Carolina and historically interconnected sites in the Atlantic World. LCDL is committed to a multifaceted approach that incorporates historical and anthropological scholarship, oral history, integrative archival practices, digital librarianship, and spatial, temporal, and environmental information. Together with its institutional partners, LCDL helps students, scholars, and a wide range of public audiences develop a better understanding of the history and culture of the South Carolina Lowcountry relative to the nation and the world. In order to provide a well-rounded digital collection, the library works with over 17 partner institutions across the

coastal region of South Carolina and Barbados to digitize and describe unique local resources while adhering to national best practices and standards, ensuring the overall quality, accessibility and sustainability of these digital resources.

The Addlestone Library completed a major renovation project in the summer of 2014, adding 200 seats for students, new outlets for charging laptops, tablets and other mobile devices, and a new high-tech lecture room that doubles as added study space for students.

Every College of Charleston student is required to enroll in a First-Year Experience course (FYE), which includes training regarding library and learning resources. These topics are also included in first-year orientation for all incoming students. Many of these resources are available online via the library portal, and the library main page includes resources to support students including chat, email, and phone contact information. All new faculty are required to attend a new faculty orientation session during which Library staff provide training on how to access and utilize library resources. In addition, the front Information Desk provides guidance for general research inquiries, support for student computing, help using the computer lab and equipment, and answers to general questions.

Library Resources specifically for supporting Environmental and Sustainability Studies

The current quantitative count of the College of Charleston Libraries' holdings in the subject areas associated with environmental and sustainability studies are ***43,043 print monographs***, access to ***28,356 eBooks***, and access to ***2,115 journals*** (relevant across agriculture, botany, ecology, environmental sciences, geology, meteorology, and oceanography disciplines), available in print or electronically through a number of databases that the College of Charleston Libraries subscribes to. The following table breaks down the monographic holdings in the subclasses of the Library of Congress classification areas identified for this assessment as relevant to the proposed curriculum.

Library of Congress Classification: Subclass Area	# of Print Titles	# of eBooks
GB: Physical Geography (GB3-5030)	**1,726**	**1,284**
Geomorphology, landforms, terrain (GB400-649)	874	551
Hydrology, water (GB651-2998)	580	420
Natural disasters (GB5000-5030)	82	189
GC: Oceanography (QC1-1581)	**3,219**	**758**
GE: Environmental Sciences (GE1-350)	**1,577**	**2,480**
Environmental education (GE70-90)	69	138
Environmental policy (GE170-190)	447	464
Environmentalism, green movement (GE195-199)	314	657
Environmental management (GE300-350)	74	167
GF: Human ecology, anthropogeography (GF1-900)	**867**	**1,117**
Environmental influences on humans (GF51)	29	19
Human influences on the environment (GF75)	115	106
By region or country (GF500-900)	183	288
K: Law in General		
Environmental law (K3581-3598)	72	297
Public policy (K3220)	0	2
QC: Physics		
General (QC1-75)	1,363	1,761
Meteorology, climatology (QC851-999)	45	77
QD: Chemistry		
Organic chemistry (QD241-441)	1,268	2,263
QE: Geology (QE1-996.5)	**5,519**	**2,468**
QH: Natural History (General)		
General, including nature conservation (QH1-199.5)	3,504	4,117
Biology (general)	5,740	5,142
QK: Botany (QK1-989)	**3,093**	**2,221**
QP: Physiology		

General, including influence of the environment (QP1-345)	1,473	1,793
S: Agriculture (General)		
Agriculture and the environment (S589.75-589.76)	21	41
Agricultural meteorology, crops, and climate (S600-600.7)	20	57
Agricultural conservation (S604.5-604.64)	1	11
Conservation of natural resources, including land conservation (S900-972)	137	121
SH: Aquaculture, fisheries, angling		
Aquaculture (SH20.3-191)	8,771	186
Fisheries (SH201-399)	3,736	597
TD: Environmental Technology, Sanitary Engineering		
Environmental protection (TD169-171.8)	101	190
Environmental pollution (TD172-193.5)	247	395
Environmental effects of industries and plants (TD194-195)	317	437
Special types of environment including soil pollution, noise pollution (TD878-894)	226	541

Core Books

Published in 2011 by the Association for College and Research Libraries (ACRL), the Standards for Libraries in Higher Education states that "libraries are encouraged to use existing institutional peer groups, where available, for comparisons" (ACRL, 2018). However, it can be quite difficult to compare the collection of an entire subject area from one institution to another. Therefore, for the purposes of this proposal, the holdings of the College of Charleston Libraries have been compared to both a select list of recommended academic titles in the field as well as the holdings of two peer institutions (University of South Carolina, a state peer with a BA in Environmental Studies and a BS in Environmental Sciences, and Appalachian State University, who offers similar Environmental Studies programs as well as Sustainable Development degrees, including one with a focus on Environmental Studies). The select list of titles (**88**) were recommended by *Choice* magazine as Outstanding Academic Titles in the subject area of environmental studies were published between 2019 and 2021. *Choice* is published by ACRL and is a well-known quality resource for book selection in academic libraries.

Currently, the College of Charleston Libraries holds, or has access to, **86.4%** of the titles (**76**), either in print or as an eBook, recommended by *Choice* in their Outstanding Academic Titles series in environmental studies. Comparatively, University of South Carolina holds **33%** and Appalachian State University holds **58%** of the Outstanding Academic Titles in environmental studies identified published between 2019 and 2021.

Core Journals

Access to quality journal titles is essential to any academic research. The College of Charleston Libraries currently has access to ***15 of 20*** titles ranked by SCImago Journal & Country Rank (2021) as the top twenty journal titles in the field of Environmental Science. Additionally, the College of Charleston Libraries has access to ***14 of 20*** titles ranked by SCImago Journal & Country Rank (2021) as the top twenty journal titles in the field of Renewable Energy, Sustainability, and the Environment. These are available through a mix of subscription and open access databases through the library's website, and in some cases print. The following is a sample of the SCImago top ranked journals held by the College of Charleston and the coverage available across the subject areas of environmental science and energy, sustainability, and the environment:

- **Annual Review of Ecology, Evolution, and Systematics** (Print: 1970-2002 ADL, 2003-2010 (MRL); Electronic: 1970-present)
- **Chem** (Electronic: 2016-present)
- **Nature Ecology and Evolution** (Electronic: 2017-1 year ago)
- **Annual Review of Environment and Resources** (Electronic: 1997-2005)

- **Applied Catalysis B: Environmental** (Electronic: 1995-present)
- **Current Climate Change Reports** (Electronic: 2015-2017)
- **Energy and Environmental Materials** (Electronic: 2018-present)
- **Global Change Biology** (Electronic: 1997-present)
- **Journal of Environmental Economics and Management** (Print: 1989-1991 MRL, 1995-2004 ADL; Electronic: 1993-present)
- **Frontiers in Ecology and the Environment** (Electronic: 2003-present)
- **IEEE Transactions of Sustainable Energy** (Electronic: 2010-present)
- **Renewable and Sustainable Energy Reviews** (Electronic: 1997-present)
- **Environmental Innovations and Societal Transitions** (Electronic: 2011-present)
- **Environmental Research Letters** (Electronic: 2006-present)

A complete listing of journals accessible at the College of Charleston Libraries in the field of **Earth & Environmental Sciences** can be found **here**.

Core Databases

The Library Research Guide for **Environmental and Sustainability Studies Research** does an excellent job pointing undergraduate, graduate students, and faculty and staff to the most commonly used titles and resources in the field. Core databases for environmental and sustainability studies include the following:

- **Academic Search Complete.** Includes thousands of full-text journals, access to magazines, thousands of peer-reviewed journals, access to over 1,400 journals without an embargo, over 2,000 journals indexed in Web of Science and Scopus, and more.
- **American Energy Society.** Provides membership-level access to the AES publications, *Energy Matters* and *Energy Today* plus their archives, as well as access to AES reports, white papers, and podcasts.
- **Agricultural and Environmental Science Collection.** Provides abstracts, citations, and full-text offerings drawn from thousands of scientific journals, conference proceedings, reports, monographs, and government publications. Subject coverage includes agriculture, animal sciences, biodiversity, climate science, and more.
- **ASFA: Aquatic Sciences and Fisheries Abstracts.** This database provides extensive coverage of research on aquatic organisms for scientists researching the world's living aquatic resources.
- **Chatham House Online Archive Module 1: 1920-1979.** The research, publications, speeches and archives of the leading international affairs think tank, The Royal Institute of International Affairs, Chatham House, London. High level analysis and research on almost 100 years of global events and issues. Includes 'behind the doors' insight into the real movers and shakers, influencers and deal brokers. For researchers of international affairs, economics, law, and business, diplomacy, security and terrorism, environment, development, war and peace studies.
- **CQ Researcher.** In-depth, unbiased coverage of health, social trends, criminal justice, international affairs, education, the environment, technology and the economy. Each single-themed, 12,000-word report is researched and written by a seasoned journalist and includes bibliographies of key sources.
- **Ecological Society of America Publications.** The Ecological Society of America publishes six journals with its publishing partner, John Wiley & Sons. Includes the most widely read and cited in the field of ecology.

- **Environmental Impact Statements: Digest.** Detailed abstracts of hundreds of environmental impact statements issued by the U.S. government. Database coverage is from 1985 to present.
- **Environmental Studies (Gale in Context).** Focuses on the academic study of sustainability and the environment. Covers physical, social, and economic aspects of environmental issues.
- **GeoRef.** Comprehensive geoscience database includes references to geoscience maps, serial, and non-serial literature, all publications of the U.S. Geological Survey, master's theses and doctoral dissertations from US and Canadian universities. North American resources from 1669; worldwide coverage from 1933.
- **GreenFILE.** Scholarly, government and general-interest titles covering content about the environmental effects of individuals, corporations and local/national governments.
- **Philosopher's Index with Full Text.** Provides hundreds of full-text philosophy journals from around the world, many of which are available with no embargo.
- **ProQuest Dissertations & Theses Global.** World's most comprehensive international collection of dissertations and theses, spanning from 1743 to the present day.
- **Roper iPoll.** Includes survey results from academic, commercial, and media survey organizations such as ABC News, Gallup, Pew Research Center, Kaiser Family Foundation, and many more.
- **ScienceDirect Journals.** Full-text database offering journal articles and book chapters from nearly 2,500 journals and more than 30,000 books.
- **SpringerLink.** Includes scientific, technological, and medical eBooks and journals, including reference works, with unlimited access and DRM-free.
- **Web of Science.** Provides quick, powerful access to the world's leading citation databases. Current and retrospective coverage in the sciences, social sciences, arts, and humanities, dating from 1980.
- **Zoological Record.** Provides extensive coverage of the world's zoological and animal science literature, from biochemistry to veterinary medicine.

Based on this evaluation conducted by the Collection Development Librarian for this proposal, the College of Charleston Libraries' holdings in the subject areas relating to environmental and sustainability studies across monographs, databases, and journals are sufficient to support these new undergraduate program offerings in Environmental and Sustainability Studies, especially considering that these new programs only add 4 new courses and largely build upon courses that already support the minor in Environmental Studies.

The print collection is fairly large, and shows fair circulation (**~1.7** average checkouts per title). There are also a sizable amount of eBooks available to students to access across the classes and subclasses highlighted in section 1. The most well used print subclasses highlighted in this assessment include environmental protection (TD169-171.8; 3.13 avg. checkouts/title), special types of environment including air pollution (TD878-894; 3.15 avg. checkouts/title), and human ecology and anthropogeography (GF1-900).

Student Support Services

Explain how current academic support services will support the proposed program. Identify new services needed and provide any estimated costs associated with these services.

In addition to the library and learning resources, a number of academic and student support resources are available to students at the College of Charleston.

- **Information Technology:** A variety of computing resources are available to students, including a COUGARS email account and student computing system assistance. A dedicated student help desk is available to students via email or telephone.
- **Center for Disability Services:** The College of Charleston is committed to ensuring that all programs and services are accessible to a diverse student population. The center provides reasonable and effective accommodations to facilitate student learning, and offers educational opportunities to students, faculty, and staff that enhance understanding of a broad spectrum of disabilities and promotes an environment of institutional respect for disabilities.
- **Office of Research and Grants Administration (ORGA):** ORGA is the central resource for information and assistance regarding major government agencies, foundations, and corporations that support research and scholarship. Dedicated staff is available to provide assistance to faculty, students, and administrators in identifying extramural funding sources, developing funding and completing proposals, developing narratives and budgets, ensuring compliance with federal and state regulations, negotiating grant awards and contracts, and administering funded projects.
- **Center for Student Learning (CSL):** CSL provides students with academic assistance to facilitate effective learning strategies. Supplemental instruction, study groups and study skills seminars are scheduled throughout each semester.
- **Career Center:** The Career Center is a multifaceted resource center with a goal of educating and assisting students in preparing for transition to the dynamic work environment.
- **Bookstore:** Barnes & Noble College Booksellers manages the College of Charleston Bookstore, which houses an extensive selection of periodicals, best sellers, and feature titles that reflect the breadth and depth of scholarship at the college.
- **Cougar Card Services:** All students will receive a Cougar Card. This official College of Charleston identification card connects students to all campus resources.
- **Resource Coordinator:** The Resource Coordinator acts as an impartial party who gives guidance and/or explanations of policies and procedures for employees, faculty and students who encounter problems arising from the operation of the college and who request assistance in identifying the proper person, office, policy, or procedure that can best address their particular situation.
- **Dining Services:** A variety of dining options located throughout the College of Charleston campus are available to students.
- **Attorney Assistance Program:** Up to one hour of legal services are available on a pro bono basis to students who face a variety of financial or legal difficulties.
- **Campus Recreation Services:** A number of fitness facilities and a swimming pool are available to students to enhance their overall physical wellness.
- **Counseling and Substance Abuse Services:** The mission of the College's Counseling and Substance Abuse Services is to increase student psychological resilience and personal growth to support persistence and success in school.
- **Student Health Services:** Student Health Services provide quality primary health care in an ambulatory setting. The center provides students with access to early diagnosis and treatment of the conditions that they have or develop while in attendance at the College, and promotes awareness of the importance of regular health maintenance
- **Office of Victims Services:** Services are available to College of Charleston students regardless of whether the crime occurs on campus or the student elects to file an official police report or not. Certified victim assistance specialists provide support for both short and long-term issues associated with trauma and victimization issues, and help students address issues related to the crime and its impact on the college experience.
- **Office of Institutional Diversity (OID):** The Office of Institutional Diversity offers education, training, resources, and support for all students, faculty, and staff. OID fosters and advocates for a globally diverse campus at the College of Charleston.

Physical Resources/Facilities

Identify the physical facilities needed to support the program and the institution's plan for meeting the requirements.

Existing facilities will accommodate all teaching and research requirements. Current teaching spaces are sufficient, as a large majority of courses in the major are already being offered. The new courses proposed will be taught in existing classrooms on campus. The new hire will be provided with an office in the School of Sciences, Mathematics, and Engineering Building.

Equipment

Identify new instructional equipment needed for the proposed program.

No unique equipment will be needed.

Impact on Existing Programs

Will the proposed program impact existing degree programs or services at the institution (e.g., course offerings or enrollment)? If yes, explain.

☒Yes

☐No

Current students in the Environmental and Sustainability Studies (ENSS) minor may wish to change their major to Environmental and Sustainability Studies, switching from one of the large diversity of majors currently subscribed by ENSS minors, i.e., Anthropology through Urban Studies. Because students in the minor are from a wide range of majors across campus, the impact on most existing majors is expected to be small. Majors with particularly high overlap of interest with ENSS may experience a more noticeable drop in the number of majors. However, individual courses within these programs are not expected to be affected, as the students who gravitated toward such a department in the absence of an ENSS major are likely to gravitate toward the courses offered by that department within the ENSS major. In addition, the interdisciplinary nature of the proposed ENSS major will make double majoring appealing and feasible for many students, particularly with the programs most closely aligned with ENSS. Thus, the number of students lost from other majors will be less than the number of students who declare the ENSS major. Finally, data from regional competitor institutions with similar programs suggests that the proposed major in Environmental and Sustainability Studies will also attract new students to the College of Charleston who otherwise would not have enrolled here (and, in some cases, would have instead enrolled in similar programs outside of South Carolina). With the new major, the increased visibility of environmental and sustainability studies as an academic focal point at the College may also attract new students who will ultimately opt for other, related majors or programs, further mitigating any potential effect on these programs.

Many of the courses included in the ENSS major are already included in the existing ENSS minor, and many faculty members in departments across campus participate in the existing minor through instruction of courses and student advising. Adding an Environmental and Sustainability major will be manageable because of these existing relationships on campus. The addition of the proposed ENSS major is not expected to require additional course sections in any non-ENVT course. As mentioned above, many of the courses that students will take as ENSS majors are courses they would have taken as ENSS minors with a major in a related discipline. Increased demand on any one course will be minimal because the ENSS curriculum is composed of several pools of courses from which students may choose. In the cases where the ENSS major curriculum does not have strong overlap with the ENSS minor (i.e., the Economics Foundation requirement, the Qualitative/Spatial/Mixed Methods requirement for the ENSS BA, and the Social Sustainability requirement for the ENSS BA),

an analysis of seats available in the included courses from Spring 2020 through Fall 2021 indicates more than enough capacity to satisfy the needs of ENSS students for these courses.

Financial Support

Sources of Financing for the Program by Year (B. A. and B.S.)												
	1st		2nd		3rd		4th		5th		Grand Total	
Category	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**
Tuition Funding	$59,719	$59,719	$238,874	$238,874	$418,030	$418,030	$597,186	$597,186	$716,623	$716,623	$2,030,433	$2,030,433
Program-Specific Fees	$0	$0	$0	$0	$0	$0	$1,313	$1,313	$3,938	$3,938	$5,250	$5,250
Special State Appropriation												
Reallocation of Existing Funds	$30,503	$30,503	$34,739	$34,739	$38,976	$38,976	$23,530	$23,530	$23,530	$23,530	$151,278	$151,278
Federal, Grant, or Other Funding												
Total	$90,222	$90,222	$273,614	$273,614	$457,006	$457,006	$622,029	$622,029	$744,091	$744,091	$2,186,961	$2,186,961
Estimated Costs Associated with Implementing the Program by Year (B.A. and B.S.)												
	1st		2nd		3rd		4th		5th		Grand Total	
Category	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**	**New**	**Total**
Program Administration and Faculty/Staff Salaries	$26,503	$26,503	$30,739	$30,739	$34,976	$34,976	$109,680	$109,680	$109,680	$109,680	$311,578	$311,578
Facilities, Equipment, Supplies, and Materials	$2,500	$2,500	$2,500	$2,500	$2,500	$2,500	$3,813	$3,813	$6,438	$6,438	$17,750	$17,750
Library Resources	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500	$500
Other (specify)	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$3,000	$3,000	$3,000	$3,000	$10,500	$10,500
Total	$31,003	$31,003	$35,239	$35,239	$39,476	$39,476	$116,993	$116,993	$119,618	$119,618	$342,328	$342,328
Net Total (Sources of Financing Minus Estimated Costs)	$59,219	$59,219	$238,374	$238,374	$417,530	$417,530	$505,036	$505,036	$624,473	$624,473	$1,844,633	$1,844,633

Note: New costs - costs incurred solely as a result of implementing this program. Total costs - new costs; program's share of costs of existing resources used to support the program; and any other costs redirected to the program.

Budget Justification

Provide an explanation for all costs and sources of financing identified in the Financial Support table. Include an analysis of cost-effectiveness and return on investment and address any impacts to tuition, other programs, services, facilities, and the institution overall.

Sources of Financing

Tuition Funding—Enrollment projections based on degree conferrals at similar institutions suggest at least 240 majors (across BA and BS programs) at program maturity, with at least 60 (15/year beginning in year 2) being students who would not otherwise have attended the College of Charleston. **The table above only includes revenue from this conservative estimate of students who would not otherwise have attended the College, with 5 such students in year 1 and adding 15 per year in year 2 and beyond.** We expect a 64:36 ratio of in-state to out-of-state students, in keeping with current undergraduate enrollment, and an overhead rate of 41%, for an average net tuition revenue per student of $11,944.

Program-Specific Fees—Course fees of $50/credit hour will be assessed for the required 3-credit Capstone course, ENVT 490, and for the elective 3-credit Experiential Learning course, ENVT 460. In addition, a $75 per course fee will be assessed for the Experiential Learning course. 100% of majors will take the Capstone in their senior year and an estimated 50% of majors will take the Experiential Learning course, likely in their senior year, resulting in an average per student revenue from these fees of $225 (3 credits * $50 * 100% + [3 credits * $50 + $75]* 50% = $262.50). Estimates are based on expected number of seniors in the program who would not otherwise have attended the College, with 5 in year 4 and 15 in year 5.

Reallocation of Funds—The School of Humanities and Social Sciences and the School of Sciences, Mathematics, and Engineering have committed to supporting the new ENSS BA and BS programs through reallocation of funds to cover the costs of program administration, including admin effort, the associate director stipend, an increase to the program supply budget, travel, and the additional adjunct effort anticipated in years 1-3 of the program.

Estimated Costs

Program Administration and Faculty/Staff Salaries—A new tenure-track hire is requested in year 4, if warranted by enrollment. This hire will contribute to the Capstone course, ENVT 490, as well the required intro course, ENVT 200, and the Experiential Learning course, ENVT 460. As one of only two faculty dedicated to Environmental and Sustainability Studies, the new hire will provide crucial support in terms of student advising, mentoring student research through ENVT 350 and ENVT 499, and other service to the program. Compensation is estimated at $65,000 + fringe of 41% = $91,650 in year 4 and beyond.

With the expansion to a major, the administrative workload will increase significantly. The current Environmental and Sustainability Studies minor director receives 1 course release per year. The course release will be increased to 2/year (1/semester) given the increased demands of directing a major.

In addition, considering the projected program size, an associate director is essential to successfully manage the program (major and minor), beginning in year 1. Because Environmental and Sustainability Studies is not housed within a department, there is no department chair or associate chair to participate in program administration and development. In addition, with only one current roster faculty member assigned to the program, the program director and associate director will also be responsible for significant student advising, student support, and other service work for the program. Although the program is not expected to be at full capacity in year 1, significant effort will be required to establish the new program successfully. The associate director will receive a stipend of $3,000/year + 1 course release per year. The associate director stipend represents a new cost of $3,000 + fringe of 31% = $3,930/year.

The 2 new course releases will be covered by adjunct faculty in years 1-3. In addition, in years 2 and 3 of the program, 1-2 sections of ENVT 200 will be covered by an adjunct to allow the director or associate director to teach the Capstone course. Assuming that these courses are covered by an adjunct who teaches 4+ courses/semester at the College and thus is paid $3,600/course, adjunct salary is estimated at $7,320 in Year 1, $10,980 in Year 2, $14,640 in Year 3 + fringe of 15.75% = $8,473, $12,709, and $16,946 in Years 1-3, respectively.

Administrative support for the program will be added to existing duties of an admin in the School of Sciences, Mathematics, and Engineering, compensated by a $10,000/year pay increase for additional duties + fringe of 41% = $14,100/year. As an interdisciplinary program that is not housed within a department, Environmental and Sustainability Studies currently has no administrative support. Because the major is expected to have a larger number of majors than many departments, at least ¼ FTE admin support will be crucial to allowing the program to function.

All other instructional needs will be covered by existing faculty offering existing courses, as described below.

Facilities, Equipment, Supplies, and Materials—The current ENSS minor budget will be increased by $2,500/year to support additional seminar speakers and supplies. Revenue from the $75/course fee attached to the Experiential course, ENVT 460, will be used to purchase equipment and supplies and to pay for field trips necessary to provide extensive experiential learning opportunities. Revenue from the $50/credit fee attached to ENVT 460 and ENVT 490 will support ongoing initiatives to which ENSS majors will have access through the School of Sciences, Mathematics, and Engineering (BS) and the School of Humanities and Social Sciences (BA), including summer research funding grants and internship scholarships.

Library Resources—As part of its assessment to support the proposed programs, the library has requested an additional $500/year to support the new BA and BS in Environmental and Sustainability Studies and continue to support of the graduate program and undergraduate minor in Environmental and Sustainability Studies.

Travel—To support conference travel and professional development for existing Senior Instructor and anticipated tenure track faculty member, $1,500 in Years 1-3 (1 faculty member) and $3,000 in Years 4 and 5 (2 faculty members).

Cost Effectiveness

New costs to the institution do not begin until Year 4, with $91,650 to cover salary ($65,000) and fringe (41%) for a new tenure-track hire. With an average net revenue of $12,000 per student after indirect, a total of 8 new students recruited to the program by year 4 (i.e., 2 new students/year) would more than cover the new cost. *The number of new students needed to break even is much lower than the potential to recruit new students, making the new major highly cost effective*.

The proposed interdisciplinary program leverages existing faculty expertise and existing courses to offer a high impact new program with minimal cost to the institution.

The only new required course is the Capstone, ENVT 490, which will be taught by an existing faculty member and the requested new hire.

Multiple sections of the required intro course, ENVT 200, are taught each semester. A recent change in the Public Health curriculum is reducing demand for ENVT 200 from Public Health majors, resulting in more than enough additional capacity (conservatively 30-40 additional seats available per semester) for new students who declare the Environmental and Sustainability Studies major and would not otherwise have taken the course.

Most requirements for the major can be met with existing courses offered by various departments and programs. No additional sections of these courses should be needed. Existing students who opt for the new major likely would have taken many of these courses anyway (i.e., for their existing major and/or the Environmental and Sustainability Studies minor), resulting in little net change in course enrollments. New students attracted to the College by the new major will increase demand for some courses. However, most requirements for the major can be met with a variety of existing courses leading to minimal increased demand for any one course. For requirements that would be met primarily with courses that are not included in the existing Environmental and Sustainability Studies minor, an analysis of available seats over a 4-semester period from Spring 2020-Fall 2021 indicates adequate available seats for projected ENSS students. This analysis is attached to the proposal. Based on a high-end enrollment projection of 300 majors (150 BS, 150 BA), with the assumption that all represent new demand for these courses (unlikely to be the case, as some of these courses would have been taken to meet requirements for other majors and/or General Education requirements), there would be maximum demand of 37.5 seats/semester for the Economics Foundation requirement (BA and BS) and 17.25 seats/semester for the new Social Sustainability requirement and the new Qualitative, Spatial, or Mixed Methods course requirement (BA only). Over the analysis period, there were an average of 51.4 available seats/semester in courses for the Economics Foundation requirement (BA and BS), an average of 42.25 available seats/semester in courses for the Social Sustainability requirement (BA only), and an average of 40.75 seats/semester in courses for the Qualitative, Spatial, or Mixed Methods course requirement (BA only), in each case more than enough to meet the maximum increase in demand.

Each student in the major will be required to participate in experiential learning; an estimated 50% of students will meet this requirement through the new Experiential Learning course, ENVT 460, while the remaining students will meet the requirement through existing internship, independent study, and research opportunities (for credit through ENVT or another program/department, or not for credit) or through an existing study away or experiential course (through ENVT or another program/ department). Although the new hire may contribute to ENVT 460, the Environmental and Sustainability Studies minor already offers several appropriate courses under the Special Topics course, ENVT 452, which will allow the program to meet much of the demand for the Experiential course. The Experiential Learning requirement may increase student interest in other experiential learning opportunities, including internships with credit through ENVT 355, independent study through ENVT 350, and Bachelor's Essay through the new ENVT 499A/499B. The ENSS director and associate director will serve as faculty of record for ENVT 355 as part of their administrative duties, and faculty affiliated with the program will supervise independent studies and Bachelor's Essays through ENVT 350/499 or through their home department. Because College of Charleston students in general, and Environmental and Sustainability Studies students in particular, already participate in experiential learning at a high rate, the increase in demand for such experiences is not expected to be excessive.

An existing faculty member will teach the new course, ENVT 210, which is an elective for the BS and BA, through reallocation of effort from ENVT 200, which will be taken up by the new hire.

All other new courses being proposed are formalizations of courses already being offered, either through Special Topics (e.g., ENVT 360, 460), through individual enrollments in other departments or HONS (i.e., ENVT 499A/B), or through including students in an existing course (i.e., COMM 336/ENVT 336).

Return on Investment

Considering that this new major should recruit many more students than needed to break even, and that the new costs can be delayed until year 4, this is an extremely low-risk proposition, with the potential for significant return on investment.

The new major will bring new revenue to the College by recruiting new undergraduate students who otherwise would have opted to attend other institutions, as reflected in the "Financial Support" table, above. An analysis of degree conferrals in environmental- and sustainability-related bachelor's

programs at regional competitors over the past 10 years suggests that 240-300 students will declare the new major within 4 years, significantly higher than the number of students in the existing Environmental and Sustainability Studies minor, thus indicating significant unmet demand for an Environmental and Sustainability Studies major at the College of Charleston. In support of this conclusion, many conversations with prospective students and parents indicate that the existence of a major in Environmental and Sustainability Studies is an important factor in deciding between CofC and other institutions for students with interest in this field. Finally, as a program that will be unique in the state of South Carolina, this major will help to retain talented students within the state and to attract additional students from out of state.

Impacts

Institution—The proposed program is an excellent fit for the College's institutional identity, mission, and strategic plan. Offering an undergraduate major in Environmental and Sustainability Studies will fill a gap in the College's otherwise strong profile in environmental and sustainability studies, with a thriving MS program, a very popular undergraduate minor, and the co-curricular offerings of the Center for Sustainable Development including the College's most recent QEP on Sustainability Literacy. The synergy between the new major and the College's existing identity and strengths will enhance the institution's reputation and attract more talented and engaged undergraduates to the College.

Other programs—A few majors that are highly relevant to Environmental and Sustainability Studies could experience a decrease in number of majors. However, individual courses within these programs are not expected to be affected, particularly those that overlap with the proposed major. In addition, double majoring in Environmental and Sustainability Studies will be feasible for students in these majors, further reducing any negative impact on these programs.

The new major will positively impact other programs in two ways. First, some courses may see increased enrollment, which will be welcomed by certain departments/programs, both to fill their courses and to increase the visibility of their programs. Second, with the new major, the increased visibility of environmental and sustainability studies as an academic focal point at the College may also attract new students who will ultimately opt for other, related majors or programs, potentially resulting in a net positive for these programs.

Contingency Plan

If enrollment projections are not met, the new hire can be deferred or eliminated, with responsibility for the capstone course and other teaching responsibilities being shifted to the existing Senior Instructor, the program director, and/or the associate director.

Evaluation and Assessment

Program Objectives	Student Learning Outcomes Aligned to Program Objectives	Methods of Assessment
Interdisciplinary Systems Thinking.	Students will analyze and evaluate complex systems to identify connections and leverage points; students will identify interactions among social, environmental, and economic systems within the context of environmental and sustainability issues.	Measure 1.1. Students in ENVT 200 (Introduction to Environmental and Sustainability Studies) will be evaluated on an assignment that includes identifying interactions among environmental, social, and economic systems within the context of a proposed policy related to an environmental or sustainability issue. Performance target: 80% of students will score at least 3 out of 4 on a standard rubric. Measure 1.2. Students in ENVT 352 (Special Topics in Environmental and Sustainability Studies), ENVT 363 (Race, Gender, and Environment), and ENVT 452

		(Advanced Special Topics in Environmental and Sustainability Studies) will be evaluated on an assignment incorporating interdisciplinary analysis of a complex system, including identifying interconnections and leverage points. Performance target: 80% of students will score at least 3 out of 4 on a standard rubric.
Innovation for Sustainability	Students will design and evaluate effective and ethical interventions for sustainability; students will demonstrate innovative solutions-thinking in addressing sustainability issues in applied settings and will articulate their individual role in promoting sustainability.	Measure 2.1. Students will develop effective and ethical strategies to promote sustainability as evidenced in a portfolio of work prepared as part of ENVT 490 (Capstone). Performance target: 80% of students will score at least 3 out of 4 on a standard rubric item. Measure 2.2. Students will innovate solutions to sustainability issues in applied settings, as demonstrated in a portfolio of work prepared as part of ENVT 490 (Capstone). Performance target: 80% of students will score at least 3 out of 4 on a standard rubric item.
Environmental Science	Students will describe and analyze human impacts on the environment from physical, chemical, biological, and geological perspectives; students will conduct scientific study of the natural environment, including anthropogenic impacts.	Measure 3.1. Students in ENVT 200 will be evaluated on multiple exam questions related to the natural science of climate change, agriculture, and pollution. Performance target: 70% of students will score 75% or better on relevant exam questions. Measure 3.2. Graduating seniors will be asked to reflect on their learning related to environmental science via survey questions. Performance Target: 80% of respondents agree or strongly agree with each statement.

Curriculum Map – Environmental and Sustainability Studies, B.S.

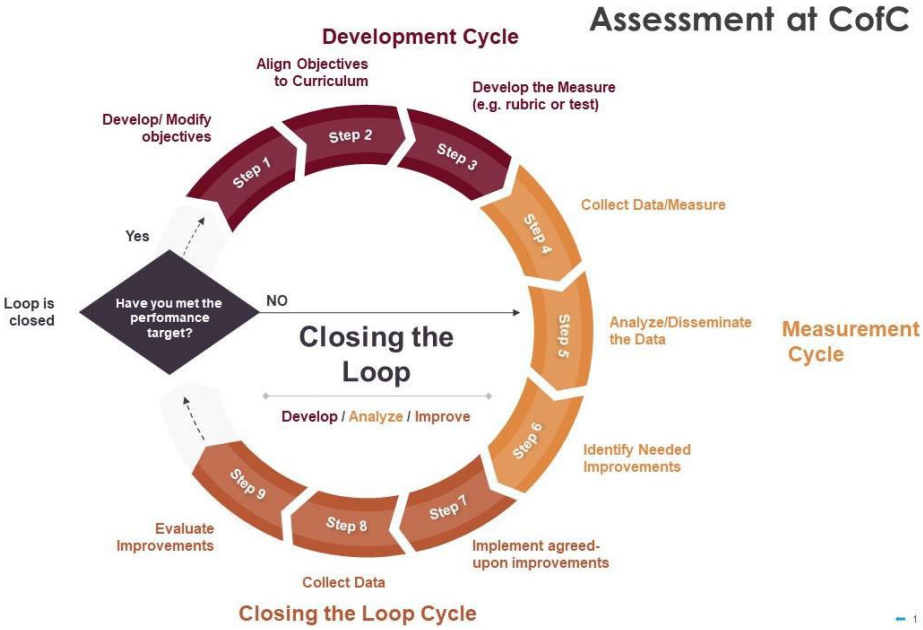
	SLO1: Interdisciplinary Systems Thinking	**SLO2: Innovation for Sustainability**	**SLO3: Environmental Science**
	Students will analyze and evaluate complex systems to identify connections and leverage points; students will identify interactions among social, environmental, and economic systems within the context of environmental and sustainability issues.	Students will design and evaluate effective and ethical interventions for sustainability; students will demonstrate innovative solutions-thinking in addressing sustainability issues in applied settings and will articulate their individual role in promoting sustainability.	Students will describe and analyze human impacts on the environment from physical, chemical, biological, and geological perspectives; students will conduct scientific study of the natural environment, including anthropogenic impacts.
ENSS CORE			
ENVT 200: Introduction to Environmental and Sustainability Studies (3)	I	I	I

Environmental Science Foundation (6+ credits from list)	I/R		I
Environment and Society Foundation (6 credits from list)	I/R		
Economics Foundation (3 credits from list)	I/R		
ENVT 490: Capstone (3)	D	D	D
ENSS Experiential Requirement	R	R	R/D
ENSS B.S. Additional Requirements			
MATH 111 or MATH 120 (4)			I
MATH 250 (3)		I	I
Natural Sciences Foundation (8+ credits including CHEM 111/111L or HONS 190/190L)			I
ENSS B.S. Electives			
Earth Systems, Ecology, and Environmental Science (9+ credits from list)	R		R
Environmental Science Methods (3+ credits from list)		R	R
Additional Electives (up to 6 credits from list)	(R)	(R)	(R)

Explain how the proposed program, including all program objectives, will be evaluated, along with plans to track employment. Describe how assessment data will be used.

The College follows an annual assessment model for the systematic submission and review of program assessment plans and results. Key elements of this model include articulated student learning outcomes (SLOs) and multiple measures, performance targets, peer mentoring and review, and broad-based participation.

In 2019, the Office for Institutional Effectiveness and Strategic Planning (OIEP) was restructured. The new organizational change included the creation of the Center for Assessment and Continuous Improvement (CACI) that reports to the Provost. This change reiterates our Institution's commitment to assessment and continuous improvement. Before 2020, the OIEP conducted periodic workshops for assessment coordinators, Deans Assessment Committee (DAC) members, and DAC chairs to reinforce use of results to improve student learning. After the restructuring, CACI is partnering with the new Center for Excellence in Teaching and Learning to offer workshops in all parts of the assessment cycle for DAC members as well as faculty in general. We continue to provide customized one-on-one sessions to assist academic programs that need additional help. In 2021, we started a new process called 3PAF (Three Period Assessment Feedback), in which we meet one-on-one with assessment coordinators for all academic programs to analyze their assessment reports for the past three years, provide training, and discuss ways to improve. During 3PAF meetings (performed every 3 years), we receive the assessment coordinator's concerns, questions and feedback about the process in general.



All academic programs use the assessment template to guide the required structure of the assessment plans and reports that are housed in Compliance Assist (an assessment planning and management system). These reports demonstrate that each program defines measurable SLOs (development cycle), assesses whether it has achieved those outcomes (measurement cycle), and outlines improvements that are made based on assessment results (closing the loop cycle) (Figure 1). In 2021, after obtaining feedback from assessment coordinators, the college decided to implement a new assessment cycle to guarantee a robust discussion of closing or use of results for improvement. In the new cycle, assessment data is collected every year (due May 15th) and the Analysis of Results and creation of Action Plans with 2 years of data is done every other year (due November 1st on Odd years). With this change, we expect a higher number of programs will reach the evaluation of improvements stage. This will be the implementation of the two-year cycle of closing the loop. We believe that a two-year cycle will provide the time needed to implement actions and assess the impact of those actions. Throughout this process, the Institutional Assessment Committee (IAC) coordinates with the DACs to provide feedback using the Reviewer assessment rubrics. The DACs consist of faculty across the varying disciplines. These committee members serve as mentors and work collaboratively with their programs to assist assessment coordinators in their efforts and to provide a review of the quality of their plans and reports.

Accreditation and Licensure/Certification

Will the institution seek program-specific accreditation (e.g., CAEP, ABET, NASM, etc.)? If yes, describe the institution's plans to seek accreditation, including the expected timeline.

☐Yes

☒No

Will the proposed program lead to licensure or certification? If yes, identify the licensure or certification.

☐Yes

☒No

Explain how the program will prepare students for this licensure or certification.

N/A

If the program is an Educator Preparation Program, does the proposed certification area require national recognition from a Specialized Professional Association (SPA)? If yes, describe the institution's plans to seek national recognition, including the expected timeline.

☐Yes

☒No