

SUSTAINABILITY AND CLIMATE ACTION:

In Workflow

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Approval Path

1. Thu, 29 Apr 2021 14:55:00 GMT
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2. Thu, 06 May 2021 22:22:39 GMT
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3. Wed, 12 May 2021 16:49:53 GMT
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New Program Proposal

Date Submitted: Wed, 28 Apr 2021 19:42:25 GMT

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Changes proposed by: James Boulter (boulteje)

Preparer(s)

Preparer Name:

James Boulter

Program Level

Undergraduate

Program Type

Certificate (Credit-Bearing)

Name of Program

Sustainability and Climate Action

Administrative Department

Public Health and Environmental Studies

College

Arts and Sciences

Effective Catalog Year

2022-2023

Is this content intended to be shared across multiple programs/catalog pages?

No

Catalog Placement Notes

Catalog placement should be in the Public Health & Environmental Studies Program section. An introductory paragraph for the catalog page follows:

This certificate is for students who are concerned about the escalating climate crisis and who seek the foundational understanding and skills to lead societal and technological transitions necessary to achieve a sustainable world. It is designed to complement students' primary field(s) of study so that they can apply their learning from these five courses to whatever future academic studies and/or career paths they follow. All enrolled students will gain curricular breadth, essential to developing their interdisciplinary thinking to address this 21st century problem.

Program Requirements (Includes Course Lists):

Program Requirements (Includes Course Lists):

Minimum of 15 credits with at least 9 credits at the 300-level or above.

Code	Title	Credits
Climate science fundamentals – take 1 of the following		
BIOL 180	Environmental Biology and Conservation	
CHEM 127	Chemistry and Climate	
CHEM 304	Environmental Chemistry	
GEOG 340	Climatology	
GEOL 304	Global Environmental Change	
Climate policies and systems – take 1 of the following		
ECON 268	Environmental Economics	
ENPH 115	Global Environmental and Public Health	
ENV 101	Sustainability Basics and Beyond	
ENV/GEOG 377	U.S. Environmental and Sustainability Policy	
GEOG 369	Geography of Food	
GEOG/ENV 378	International Environmental Problems and Policy	
SOC 301	Environmental Sociology	
Scientific/technological solutions – take 1 of the following		
BIOL 328	Conservation Biology	
GEOG 338	Remote Sensing of the Environment	
GEOL 122	The Future of Global Energy	
MSE 221	Living in a Materials World	
PHYS 205	Physics of Renewable Energy	
Societal transitions – take 2 of the following		
AIS 343	Contemporary American Indian Communities	
CJ 318	Topics in Communication and Social Advocacy (when offered as Environmental Communication)	
ENPH/NRSG 225	Introduction to Public Health	
ENV 310	Sustainable Cities	
ENV 330	Waste & Society: Energy, Food, and Efficiency	
HNRS 389	Honors Colloquium (when offered as Taking the Measure of Sustainability)	
MGMT 494	Topics in Leadership (when offered as Environmental Sustainability in Businesses for a minimum of 2 credits)	

Note: A minimum of 48 unique credits must be earned between the student's major and this certificate for purposes of meeting graduation requirements for first- and second-degree programs.

Additional Program Requirements (If Applicable)

Additional Admission Requirements Unique to Program (If Applicable)

Other Catalog Notes/Restrictions (If Applicable)

Learning Outcomes

Please state the Learning Outcomes for this New Program:

	Description
Outcome 1	Explain in an easily accessible manner the fundamental basis of climate change from a scientific viewpoint and exclude false narratives.
Outcome 2	Identify connections between physical changes in climate systems and changes in social systems: this includes how climate threatens human social systems in addition to how policy decisions affect climate change.
Outcome 3	Illustrate how both technological advances and changes to policy and behavior can either mitigate the severity of climate change and/or improve adaptation of human and natural systems in a changing climate.

Summary and Rationale

Target Audience(s)

There is a strongly increasing interest in and commitment to climate action, both among our current students and our prospective students. It will fit comfortably into the program array of the Public Health & Environmental Studies (PHES) program, which currently covers the range from public health to environmental studies with an emphasis on sustainable relationships between human and environmental health.

Evidence of long-term need

Unquestionably, our students' generation will experience climate effects more than University faculty and staff. This certificate is designed not just to highlight the existential challenges of climate change but also means of addressing them. It has been designed to utilize currently offered courses to provide the mindset and the tools for our graduates to be effective in responding to climate change in whatever career their majors have prepared them to follow. Offering an academic program in climate change and sustainability, broadly accessible to students in all majors, is an imperative at this time.

Anticipated Enrollment

This program may enroll perhaps 20-60 students. This estimate is acknowledged to be little more than a guess, but is based on the range of current enrollments of the similarly interdisciplinary Environment, Society, and Culture minor and the new Public Health minor. As a smaller academic program (a 15 credit certificate rather than a 24 credit minor), it's possible that the enrollment may settle toward the upper end of the anticipated range.

Alignment with university mission

It strongly supports the recommendations of the Chancellor's task force on Sustainability and Climate Action and of the 2025 draft Strategic Plan. It is an ideal complement in the academic realm to the changes in university infrastructure and culture that are necessary to meet our institutional commitment to climate neutrality by 2050. This will be a program that PHES and the University can highlight during recruitment and admissions to reach prospective students who are concerned, motivated and passionate about this issue. As universities across the country develop major in sustainability studies, this certificate may help establish whether there is a need for such an academic major in the future.

Statement of benefits to students

Students enrolled in this certificate would form a cohort across departments and colleges who share a commitment to respond to the climate crisis. The solutions-focus of the certificate will equip graduates with skills to be used in a wide variety of careers to contribute toward systemic climate responses. A certificate in sustainability and climate action will also complement a wide variety of majors across colleges ranging from management and marketing to communications and chemistry that currently do not have such emphases to meet student interests.

Department(s), program(s), college(s), and university predecessor programs

n/a

Relationship to existing programs

The most closely related program in terms of target audience and course overlap is likely the Environment, Society, and Culture minor. While both programs are in PHES, this fills a very different niche – both as a certificate and also by its unique emphasis on sustainable approaches to respond to climate change rather than a broadly interdisciplinary study of the environment in general.

Resources

Does the department have the necessary staffing to offer this program?

Yes

Explain need for student support, library resources, etc.:

n/a

Describe funding needs to initiate and maintain the program, including source(s) of funding and any needed resource reallocation:

n/a

Proposed frequency of offering for courses included in the program:

Most are offered yearly, but because a diverse group of classes is included for most categories, course offering frequency should not significantly impede students' progress to complete certificate requirements.

Proposed arrangements for ongoing faculty advising for students in the program

Primary advising will occur in ARCC; departmental advising will be done by faculty in the Public Health & Environmental Studies program: Drs. James Boulter, Karen Mumford, Crispin Pierce, Briana Rockler, David Soll, and Laura Suppes will serve as program advisors.

Provide justification that this program is not a duplication of another program that is currently being offered

This certificate is new and unique in its overall coursework, structure, and purpose.

If applicable, select impacted departments:

Departments
American Indian Studies
Biology
Chemistry and Biochemistry
Communication and Journalism
Economics
Geography and Anthropology
Geology
Honors Program
Management and Marketing
Materials Science and Biomedical Engineering
Nursing
Physics and Astronomy
Sociology

Describe impacted courses or programs in other areas of the university:

The departments and programs listed have agreed to have one or more of their courses included in the certificate course options. Some courses may gain in enrollment depending on enrollment in this certificate. Relevant department chairs and program directors have been consulted and have indicated support for the inclusion of their course(s) in the new certificate program.

Key: 374