

New Program Proposal

Date Submitted: 02/08/23 3:02 pm

Viewing: **ENRSGC : Environmental Resiliency**

Sustainability Graduate Certificate

Last edit: 02/12/23 12:40 pm

Changes proposed by: jkvamme

Submitter:	User ID:	jkvamme	Phone:
479-575-6603			
Program Status	Active		
Academic Level	Graduate		
Type of proposal	Certificate		
Select a reason for this new program	Adding New Graduate Certificate (12-21 semester hours)--(LON)		
Effective Catalog Year	Spring 2024		
College/School Code	Graduate School and International Education (GRAD)		
Department Code	Environmental Dynamics (ENDY)		
Program Code	ENRSGC		
Degree	Graduate Certificate		
CIP Code			

In Workflow

1. GRAD Dean Initial
2. GRAD Dean Initial
3. Provost Initial
4. Director of Curriculum Review and Program Assessment
5. Registrar Initial
6. Institutional Research
7. ENDY Chair
8. GRAD Dean
9. ARCH Dean
10. Global Campus
11. Provost Review
12. Graduate Council
13. Faculty Senate
14. Provost Final
15. Provost's Office-- Documentation sent to System Office
16. Higher Learning Commission
17. Board of Trustees
18. ADHE Final
19. Provost's Office-- Notification of Approval
20. Registrar Final
21. Catalog Editor Final

Approval Path

1. 02/08/23 9:47 am
Christa Hestekin
(chesteki): Rollback to Initiator

2. 02/08/23 12:35 pm
Christa Hestekin
(chesteki): Rollback
to Initiator
3. 02/08/23 6:32 pm
Christa Hestekin
(chesteki):
Approved for GRAD
Dean Initial
4. 02/09/23 8:49 am
Christa Hestekin
(chesteki):
Approved for GRAD
Dean Initial
5. 02/09/23 10:58 am
Jim Gigantino
(jiganti): Approved
for Provost Initial
6. 02/10/23 3:48 pm
Alice Griffin
(agriffin): Approved
for Director of
Curriculum Review
and Program
Assessment
7. 02/12/23 12:40 pm
Gina Daugherty
(gdaugher):
Approved for
Registrar Initial
8. 02/14/23 1:22 pm
Doug Miles
(dmiles): Approved
for Institutional
Research
9. 02/14/23 9:08 pm
Christa Hestekin
(chesteki):
Approved for ENDY
Chair

10. 02/14/23 9:09 pm
Christa Hestekin
(chesteki):
Approved for GRAD
Dean
11. 03/15/23 4:43 pm
Melinda Smith
(melindas):
Approved for ARCH
Dean
12. 03/15/23 4:46 pm
Suzanne Kenner
(skenner): Approved
for Global Campus
13. 03/15/23 4:48 pm
Jim Gigantino
(jgiganti): Approved
for Provost Review
14. 04/05/23 2:44 pm
Christa Hestekin
(chesteki):
Approved for
Graduate Council

03.0101 - Natural Resources/Conservation, General.

Program Title
Environmental Resiliency Sustainability Graduate Certificate

Program Delivery
Method
Online/Web-based

Is this program interdisciplinary?

Yes

College(s)/School(s)

College/School Name
Graduate School (GRAD)
Fay Jones School of Architecture (ARCH)

Does this proposal impact any courses from another College/School?

No

What are the total 15
hours needed to
complete the
program?

On-line/Web-based Information

Reason for offering

Web-based Program

The Environmental Resiliency Sustainability Graduate Certificate is targeting professionals in the workforce who are either increasing their skills and understanding of sustainability issues and how this differs from resilience or they are taking courses to aid them in a promotion. These individuals need to be able to take meaningful courses at a time that works for their busy work/home schedules.

Maximum Class Size 25
for Web-based
Courses

Course delivery
mode

Method(s)
Online

Class interaction
mode

Method(s):
Electronic Bulletin Boards

Percent Online

100% with No Required Campus Component

Provide a List of
Services Supplied by
Consortia Partners or
Outsourced
Organization

Global Campus is a supporting unit that provides assistance in course development and maintenance, technical support for both faculty and students, quality assurance, and compliance with interstate regulatory requirements to all online programs across the campus.

The only service outsourced is the online proctoring service. The University of Arkansas partners with ProctorU for online test proctoring services for some online exams.

Estimate Costs of the Program over the The costs will be
covered by the

First 3 Years tuition

List Courses Taught
by Adjunct FacultyUpload
Memorandum of
Understanding Forms
(if required)

Program Requirements and Description

Requirements

The Environmental Resiliency Sustainability Graduate Certificate provides students with a foundation in the five pillars of sustainability: people, profit, planet, peace, and partnerships. The courses have critical knowledge germane to all aspects of sustainability. The certificate can be a foundation for ensuing certificates related to specific aspects of sustainability and it is a precursor to studies in resilience.

Students enter the program with a minimum of a BS/BA from an accredited university. Students must have a 3 point GPA, or better, and for non-native speakers must have language test scores acceptable for admission by the University of Arkansas graduate school standards.

<u>SUST 5103</u>	Foundations of Sustainable and Resilient Systems	3
<u>SUST 5203</u>	Decision Making, Analysis and Synthesis in Sustainability	3
<u>SUST 5303</u>	Sustainable Global Food, Energy and Water Systems	3
<u>ENRE 5123 FOUNDATIONS OF ENVIRONMENTAL RESILIENCY</u>	<u>Course ENRE 5123 FOUNDATIONS OF ENVIRONMENTAL RESILIENCY Not Found</u>	3
Electives (below are recommended courses)		3
<u>SUST 6913</u>	Sustainable Design and Construction: Remediation and Plants on Structure	
<u>BUSI 5023</u>	Sustainability in Business	
Total Hours		15

Program Costs

The costs of the program will be covered by tuition.

Library Resources

The University of Arkansas Libraries provides access to information resources that support the educational objectives and outcomes of the University of Arkansas, including the College of Engineering. The libraries house more than 2 million print volumes and over 5.5 million microforms. The annual reports can be found at <http://libinfo.uark.edu/info/annualreport.asp>. All electronic resources purchased by the libraries, including databases, are accessible from anywhere in the world on a 24 hour/7 days per week basis.

There are over 42,000 current journals and serials maintained by the libraries. The journal, book and conference publications, and other engineering societies are well represented in the libraries. Most of the current subscriptions for science and technology journals are in electronic format. The libraries also provide access to full text of newspapers, trade journals magazines, and interdisciplinary scholarly journal articles through Academic Search Complete and Business Source Complete (EbscoHost), ABI Inform (ProQuest), and Academic Universe (Lexis Nexis).

The Libraries maintain a subscription to appropriate portions of Knovel, which enriches access to interactive texts and data sources. Other texts and textbook materials may be purchased as e-books. ASTM, ASCE, and IEEE standards are fully accessible through online venues. A selected number of standards from organizations such as AASHTO, ASME, and ISO are available in the print collection.

Instructional

Facilities

The courses are 100% online and no new or amended facilities will be needed.

Faculty Resources

Global Campus is a supporting unit that provides assistance in course development and maintenance, technical support for both faculty and students, quality assurance, and compliance with interstate regulatory requirements to all online programs across the campus.

List Existing Certificate or Degree Programs that Support the Proposed Program

Program(s)
ENREMS - Environmental Resiliency, Master of Science

Are Similar Programs available in the area?

No

Estimated Student Demand for Program 10

Scheduled Program 2030-2031

Review Date

Program Goals and Objectives

Program Goals and Objectives

- Students will demonstrate knowledge of and be able to discuss the five pillars of sustainability, including an understanding of triple-bottom-line metrics
- Students will demonstrate systems thinking ability
- Students will be aware of decision-making frameworks in sustainability problems and be able to use contextual thinking to critically position and create solutions to sustainability problems.
- Students will understand the critical issues in food, water, and energy systems and be able to discuss them to provide sustainable solutions.

Learning Outcomes

Learning Outcomes

The learning outcomes from this graduate certificate are:

- Students will demonstrate knowledge of and be able to discuss the five pillars of sustainability, including an understanding of triple-bottom-line metrics
- Students will demonstrate systems thinking ability
- Students will be aware of decision-making frameworks in sustainability problems and be able to use contextual thinking to critically position and create solutions to sustainability problems.
- Students will understand the critical issues in food, water, and energy systems and be able to discuss them to provide sustainable solutions.
- Demonstrate the ability to discuss the definition of resilience and show knowledge of the vocabulary of common terms used with it.
- Demonstrate the differences and similarities between resilience and sustainability, including the use of systems thinking and basic knowledge of socio-ecological systems.
- Demonstrate an understanding of the science and policy related to sustainability and be able to apply it to resilience thinking.
- Explore economic externalities and their influence on sustainability.
- Recognize general applicability of laws of physics to sustainability (e.g., conservation of energy, conservation of mass, water cycle).
- Define what an ecosystem is and relate the carrying capacity of an ecosystem to sustainability.
- Describe the applicability of accounting for resources in measuring progress in resource use efficiency and conservation.

Description and Justification for this request

Description of request	Justification for request
These courses were suggested by members of the professional community. The courses offer expertise often lacking in employees and/or applicants and growth opportunities for early to mid-career employees.	Two workforce analyses were conducted by UA Global Campus to assess the need for this program. The types of jobs in both Workforce Analysis reports tended toward included: program and project managers,

Description of request	Justification for request
	<p>compliance officers, and analysts. Communication ranks at the top of employer desired skills (underreported on applicant resumes). To be successful in this new hiring area the employee needs to understand sustainable practices and resiliency. Other skills that employers desire often not reported in resumes are data analysis, problem-solving, planning, and risk management. The Sustainability Graduate Certificate proposes to address these needs of employers, by giving a foundation in sustainability and resilience.</p>

Upload attachments

[ENRSGC - New Graduate Certificate - Curriculum.docx](#)

[ENRSGC - New Graduate Certificate - Ltr of Notification.pdf](#)

Reviewer Comments

Christa Hestekin (chesteki) (02/08/23 9:47 am): Rollback: Please enter courses in correct manner.

Christa Hestekin (chesteki) (02/08/23 12:35 pm): Rollback: I changed the layout of the program requirements and description section significantly. Please review that there are no errors or omissions.

Alice Griffin (agriffin) (02/10/23 3:17 pm): Added "Sustainability" to reason for offering web-based program for consistency.

Alice Griffin (agriffin) (02/10/23 3:21 pm): Removed duplicated use of "Certificate" in first line of program requirements.

Alice Griffin (agriffin) (02/10/23 3:24 pm): Replaced ENRE 5123 Foundations of Resiliency with ENRE 5123 Foundations of Environmental Resiliency to match course title submitted in CourseLeaf.

Alice Griffin (agriffin) (02/10/23 3:26 pm): Changed scheduled program review date to an academic year.

Alice Griffin (agriffin) (02/10/23 3:47 pm): Revised LON, inserted anticipated approval dates, revised title, addressed typos in justification, and inserted curriculum.

Gina Daugherty (gdaugher) (02/12/23 12:40 pm): Removed Undergraduate Council from workflow.