New Program Proposal

Date Submitted: 02/08/23 3:10 pm

Viewing: ENREGC : Environmental Resiliency Graduate Certificate

Last edit: 02/12/23 12:39 pm

Changes proposed by: jkvamme

Submitter:	User ID:	jkvamme	Phone:
479-571-2312			

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 — ENREGC

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 12:37 pm Christa Hestekin (chesteki): Rollback to Initiator
2. 02/09/23 8:51 am Christa Hestekin

(chesteki):
Approved for GRAD
Dean Initial

3. 02/09/23 8:56 am
Christa Hestekin
(chesteki):
Approved for GRAD
Dean Initial

4. 02/09/23 10:55 am
Jim Gigantino
(jgiganti): Approved
for Provost Initial

5. 02/10/23 3:18 pm
Alice Griffin
(agriffin): Approved
for Director of
Curriculum Review
and Program
Assessment

6. 02/12/23 12:39 pm
Gina Daugherty
(gdaugher):
Approved for
Registrar Initial

7. 02/14/23 1:22 pm
Doug Miles
(dmiles): Approved
for Institutional
Research

8. 02/14/23 9:08 pm
Christa Hestekin
(chesteki):
Approved for ENDY
Chair

9. 02/14/23 9:09 pm
Christa Hestekin
(chesteki):
Approved for GRAD
Dean

10. 03/15/23 4:44 pm
Melinda Smith
(melindas):

Approved for ARCH Dean

11. 03/15/23 4:46 pm Suzanne Kenner (skenner): Approved for Global Campus

12. 03/15/23 4:48 pm Jim Gigantino (jgiganti): Approved for Provost Review

13. 04/05/23 3:36 pm Christa Hestekin (chesteki): Approved for Graduate Council

03.0101 - Natural Resources/Conservation, General.

Program Title

Environmental Resiliency 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 hours needed to complete the program?   15

On-line/Web-based Information

Reason for offering
Web-based Program

The Environmental Resiliency Graduate Certificate is targeting professionals in the workforce who are either increasing their skills and understanding of resiliency 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

Method(s)
Online

mode

Class interaction

Method(s):
Electronic Bulletin Boards

mode

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   the costs will be
Program over the   covered by tuition
First 3 Years

List Courses Taught
by Adjunct Faculty

Upload
Memorandum of
Understanding Forms
(if required)

Program Requirements and Description

Requirements

The Environmental Resiliency Graduate Certificate will create a foundation in earth systems with a focus on understanding and how resilient practices are created. In this certificate students will explore what resiliency is and how it differs from sustainability. Students will also explore hydrology and water resource management, learn about various types of measurement tools and when they should be used. Students will delve into how the environment influences business and society and learn what businesses and organizations may do to support the environment gaining skills to discuss solutions with executives.

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.

ENRE 5123 FOUNDATIONS OF RESILIENCY	Course ENRE 5123 FOUNDATIONS OF RESILIENCY Not Found	3
ENRE 5223 YOU CANNOT MANAGE WHAT YOU DO NOT MEASURE	Course ENRE 5223 YOU CANNOT MANAGE WHAT YOU DO NOT MEASURE Not Found	3
ENRE 5323 SURVEY OF WATERSHED HYDROLOGY AND WATER RESOURCE MANAGEMENT	Course ENRE 5323 SURVEY OF WATERSHED HYDROLOGY AND WATER RESOURCE MANAGEMENT Not Found	3
ENRE 5423 BUSINESS AND THE ENVIRONMENT	Course ENRE 5423 BUSINESS AND THE ENVIRONMENT Not Found	3
Choose one elective from approved ENRE MS courses		3

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   10
Demand for Program

Scheduled Program   2030-2031
Review Date

Program Goals and
Objectives

Program Goals and Objectives

The goals and objectives for the resiliency certificate culminate:

Students will learn the differences and similarities between resilience and sustainability, including the use of systems thinking and basic knowledge of socio-ecological systems.

Students will understanding of methods, theoretical frameworks, and diagnostic uses of tools related to resilience.

Students will understand the science and policy related to sustainability and be able to apply it to resilience thinking.

Students will explore the dynamic aspects of resilience related to hazards and disasters, including tipping points, cascades, and planetary boundaries.

Students will understand applied resilience responses, including adaptive management, cycles, and adaptive capacity.

Students will understand applied resilience strategies, including mitigation, adaptation, and transformation.

Students will learn about various government agencies and what they are responsible for with regards to water quality

Students will learn key legislation protecting our waterways

Students will learn the difference between ground and surface water and the different issues

Students will learn how public and private sectors may work together to protect water quality

Students will learn how supply chains affect the environment and how to use tools to measure those effects.

Students will demonstrate awareness of key environmental issues and the ways in which businesses are addressing environmental concerns;

Students will learn to critique different analyses of business and environmental interactions;

Students will gain an understanding of the complexity of environmental and regulatory issues and business responses;

Program Goals and Objectives

Students will be able to define the concepts related to sustainability, resiliency, and the ways in which some businesses are adopting and implementing these concepts

Students will learn about communication strategies focusing on the differences and similarities between internal and external audience engagement

Students will gain comprehension of how significant a role communication plays in the ESG landscape and the primary factors for sustainability professionals in leading the efforts for more transparent and timely action.

Learning Outcomes

Learning Outcomes

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 methods, theoretical frameworks, and diagnostic uses of tools related to resilience.

Demonstrate an understanding of applied resilience strategies, including mitigation, adaption, and transformation.

Demonstrate the ability to apply the objectives above through the analysis and evaluation of case studies in resilience.

Students should be able to describe the hydrologic cycle, compute recurrence interval of precipitation events, derive a storm hydrograph and its components

Students should be familiar with the Clean Water Act, understand drinking water quality standards, and familiar with conventional units of measurement and basic water quality computations

Students should be familiar with common tools used in hydrology and water resources management and show the ability to execute simple computations and data processing tasks.

Students will know the types of tools and frameworks available to them for measuring and managing their organization's impacts and how to access them.

Students will be able to determine which tools are most relevant to their business needs.

Students will be able to use measurement to demonstrate the opportunity for businesses to lead bold change in

Learning Outcomes
sustainability and resiliency. Students will be able to explain the complexity of environmental and regulatory issues and business responses; Students will understand communication strategies focusing on the differences and similarities between internal and external audience engagement Students will be prepared for the types of questions and discussions that come up in executive-level decisions. Students will demonstrate a comprehension of how significant a role communication plays in the ESG landscape and the primary factors for sustainability professionals in leading the efforts for more transparent and timely action.

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, compliance officers, and analysts. To be successful in this area the employee needs to understand sustainability and resiliency. Other skills that employers desire often not reported in resumes are data analysis, problem-solving, planning, and risk management. The Resiliency Graduate Certificate proposes to address these needs of employers, by giving a background and foundation in resilience and provide an understanding of our environment including watersheds, how to measure data needed, understanding and analyze business and environmental interactions, and how business may work to create more resilient systems that work for the environment, people, and business.

Upload attachments

    ENREGC - New Graduate Certificate - Curriculum.docx

    ENREGC - New Graduate Certificate - Ltr of Notification.pdf

Reviewer Comments

    Christa Hestekin (chesteki) (02/08/23 12:37 pm): Rollback: Please edit course entry.

Alice Griffin (agriffin) (02/10/23 11:28 am): Changed course listing of "Choose one elective from approved ENRE MS courses" to a comment. This action removed the red box error.

Alice Griffin (agriffin) (02/10/23 11:31 am): Changed scheduled program review date to an academic year, as well as to match the MS program.

Alice Griffin (agriffin) (02/10/23 12:20 pm): Revised attachments due to changes in required documentation for ADHE. New graduate certificates only require the curriculum and the LON. Inserted approval dates and corrected typos in LON.

Alice Griffin (agriffin) (02/10/23 3:18 pm): ATTENTION REGISTRAR: Please remove the Undergraduate Council from the approval workflow.

Gina Daugherty (gdaugher) (02/12/23 12:39 pm): Removed Undergraduate Council from workflow.

Key: 946