

## New Proposal

Date Submitted: 09/05/23 5:19 pm

Viewing: : **Wetland Science and Conservation, CERT (online)**

Last edit: 11/17/23 11:58 am

Changes proposed by: Debra Korte

### In Workflow

1. **U Program Review**
2. **1875 Committee Chair**
3. **1875 Head**
4. **KL Committee Chair**
5. **KL Dean**
6. **University Librarian**
7. **Grad\_College**
8. **COTE Programs**
9. **Provost**
10. **Senate EPC**
11. Senate
12. U Senate Conf
13. Board of Trustees
14. IBHE
15. HLC
16. DOE
17. DMI

### Approval Path

1. 09/06/23 10:47 am  
Donna Butler (dbutler): Approved for U Program Review
2. 09/06/23 12:16 pm  
James Miller (jrmillr): Approved for 1875 Committee Chair
3. 09/06/23 1:50 pm  
Robert Schooley (schooley): Approved for 1875 Head
4. 09/08/23 11:10 am

- Brianna Gregg  
(bjgray2):  
Approved for KL  
Committee Chair
5. 09/08/23 11:10  
am  
Anna Ball (aball):  
Approved for KL  
Dean
6. 09/11/23 6:47 pm  
Claire Stewart  
(clairest):  
Approved for  
University  
Librarian
7. 09/26/23 9:45 am  
Allison McKinney  
(agrindly):  
Rollback to KL  
Committee Chair  
for Grad\_College
8. 10/11/23 2:21 pm  
Brianna Gregg  
(bjgray2):  
Approved for KL  
Committee Chair
9. 10/11/23 2:55 pm  
Anna Ball (aball):  
Approved for KL  
Dean
10. 10/15/23 1:18 pm  
Claire Stewart  
(clairest):  
Approved for  
University  
Librarian
11. 11/08/23 4:09 pm  
Allison McKinney  
(agrindly):  
Approved for  
Grad\_College
12. 11/08/23 4:28 pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE Programs
13. 11/09/23 12:29  
pm

Brooke Newell  
(bsnewell):  
Approved for  
Provost

## Proposal Type

Proposal Type:  
Major (ex. Special Education)

## Administration Details

Official Program Name	Wetland Science and Conservation, CERT (online)	
Diploma Title	Certificate in Wetland Science and Conservation	
Sponsor College	Agr, Consumer, & Env Sciences	
Sponsor Department	Natural Res & Env Science	
Sponsor Name	Anna Ball, Associate Dean of Academic Programs	
Sponsor Email	aball@illinois.edu	
College Contact	Debra Korte	College Contact Email
	dskorte@illinois.edu	
College Budget Officer	Nichole Isaac	
College Budget Officer Email	nmisaac@illinois.edu	

List the role for rollbacks (which role will edit the proposal on questions from EPC, e.g., Dept Head or Initiator) and/or any additional stakeholders. Purpose: List here who will do the editing work if proposal needs rolled back. And any other stakeholders.

Debra Korte, dskorte@illinois.edu; Brianna Gregg, bjgray2@illinois.edu; Piper Hodson, phodson@illinois.edu

Does this program have inter-departmental administration?  
No

## Proposal Title

Effective Catalog Term  
Fall 2024

Proposal Title (either Establish/Revise/Eliminate the Degree Name in Program Name in the College of XXXX, i.e., Establish the Bachelor of Science in Entomology in the College of Liberals Art and Sciences, include the Graduate College for Grad Programs)

Establish the Campus Graduate Certificate in Wetland Science and Conservation in the College of Agricultural, Consumer and Environmental Sciences and the Graduate College

Does this proposal have any related proposals that will also be revised during the next 6 weeks? Consider Majors, Minors, Concentrations & Joint Programs in your department. Please know that this information is used administratively to move related proposals through workflow efficiently. Example: If you are revising the BS proposal and one related concentration within the next 6 weeks, "This BS proposal (key 567) is related to the Concentration A proposal (key 145)."

## Program Justification

Provide a brief justification of the program, including highlights of the program objectives, and the careers, occupations, or further educational opportunities for which the program will prepare graduates, when appropriate.

This proposal seeks the approval of a Campus Graduate Certificate in Wetland Science and Conservation.

The Graduate Certificate in Wetland Science and Conservation provides students with an in-depth understanding of wetland ecosystems by examining their biological, chemical, and physical aspects. Students will explore the impact of U.S. regulations on wetlands, assess the consequences of human activities on wetland ecosystem services, and master techniques for wetland delineation and restoration planning. The curriculum extends its focus beyond national borders, delving into global wetland conservation through exploration of international agreements, non-governmental organizations, and national regulations. Finally, students will gain insight into the diverse stakeholder landscape that influences successful wetland management, enabling them to make informed decisions that balance ecological preservation and human needs.

Professions with high demand for this Certificate include: environmental scientists and ecologists, natural resource managers, environmental consultants, conservation biologists, land use planners, government officials and regulators, employees of non-governmental organizations, wildlife and water resource managers, civil engineers, and educators and researchers of biology, ecology, agriculture, and environmental science.

The Graduate Certificate in Wetland Science and Conservation is designed for a non-traditional, adult learner audience of prospective students who do not have time or the ability to take coursework on-campus. This coursework will be offered 100% online through a combination of asynchronous (self-paced) and synchronous sessions that allow learners to learn at their own pace, earn academic credit, and complete a graduate certificate. All courses will be taught by existing faculty.

Students who complete the Certificate in Wetland Science and Conservation may apply the coursework as elective hours toward the Natural Resources & Environmental Sciences, MS (non-thesis) degree program.

Note: NRES 417, 517 and 527 have been approved, effective Fall 2024, and will show as course not found until the Academic Catalog rolls to the next Academic Year, in early 2024. See CIM Course approval documents in the Program of Study section.

## Instructional Resources

Will there be any reduction in other course offerings, programs or concentrations by your department as a result of this new program/proposed change?

No

Does this new program/proposed change result in the replacement of another program?

No

Does the program include other courses/subjects outside of the sponsoring department impacted by the creation/revision of this program?

No

## Program Regulation and Assessment

### Plan to Assess and Improve Student Learning

*Illinois Administrative Code: 1050.30(b)(1)(D) Provision is made for guidance and counseling of students, evaluations of student performance, continuous monitoring of progress of students toward their degree objectives and appropriate academic record keeping.*

List the program's student learning outcomes. Each outcome should identify what students are expected to know and/or be able to do upon completing this program.

As a result of this programs, students will be able to:

- Assess the biological, chemical, and physical components of wetlands.
- Explain how current U.S. laws and regulations govern human impacts to wetlands
- Evaluate the impact that human activity has on wetland ecosystem services and functions
- Identify wetlands and delineate wetland boundaries based on vegetation, soil, and hydrological indicators
- Create a wetland restoration plan capable of restoring/replacing ecosystem services and functions
- Apply ecosystem stewardship concepts and technological tools to wetland restoration and conservation
- Evaluate the role of national regulations, international agreements, and non-governmental organizations in global wetland conservation
- Assess the impact that different stakeholder groups can have on successful wetland management

Describe how, when, and where these learning outcomes will be assessed.

Describe here:

The student learning outcomes will be assessed through each course. Frequent formative assessments (e.g., quizzes, discussion forums, live discussions, short-answer essays, and written reflections) will be used to assess student comprehension at the conclusion of each module/objective of each course.

Students will complete summative assessments (e.g., case studies, individual projects, and team projects) at the conclusion of each major course component. Lower-level Bloom's taxonomy assessments will primarily be used to assess learning for the asynchronous course content, while high-level Bloom's taxonomy, high engagement assessments will be used in the synchronous live sessions. Assessments used as part of the synchronous sessions will encourage learners to interact with one another (i.e., Social Learning Theory, Bandura; Zone of Proximal Development, Vygotsky) to solve problems, create potential solutions, and develop strategic plans to solve complex global issues in wetland conservation and restoration.

Identify faculty expectations for students' achievement of each of the stated student learning outcomes. What score, rating, or level of expertise will signify that students have met each outcome? Provide rating rubrics as necessary.

The goal is for 90% of students enrolled in the certificate to successfully complete (i.e., meet or exceed) the required thresholds of the assessments and earn their Graduate Certificate. The following rating rubric will be used to assess student learning on a fail, meet, or exceed scale.

0-79.9%: Below Expectations

80-89.9%: Meets Expectations

90-100%: Exceeds Expectations

Faculty will provide oversight of individual measures of student outcomes specific to each course and each assessment used within the course. Faculty will consult with college instructional designers to ensure assessments used throughout the course align with intended learning outcomes of the course and the certificate. Each assessment used to measure student learning outcomes will include an evaluation instrument (i.e., rubric).

Explain the process that will be implemented to ensure that assessment results are used to improve student learning.

The assessment data from each course will be used internally to assess the overall course, determine necessary adjustments to content or assignments, and modify content/assignments as needed to improve course quality and the student experience.

Program

Description and

Requirements

Attach Documents

Is the career/profession for graduates of this program regulated by the State of Illinois?

No

## Program of Study

*Baccalaureate degree requires at least 120 semester credit hours or 180 quarter credit hours and at least 40 semester credit hours (60 quarter credit hours) in upper division courses" (source: <https://www.ibhe.org/assets/files/PublicAdminRules2017.pdf>). For proposals for new bachelor's degrees, if this minimum is not explicitly met by specifically-required 300- and/or 400-level courses, please provide information on how the upper-division hours requirement will be satisfied.*

Attach Program of Study-related information such as sample sequences (for undergraduate programs) or college-level forms.

[WETLAND SbS.xlsx](#)  
[NRES 417 Principles of Wetland Science and Conservation.pdf](#)  
[NRES 527 Wetland Science and Conservation in Context.pdf](#)  
[NRES 517 Advanced Wetland Theory and Techniques.pdf](#)

Description of program for the catalog page. This is not official content, it is used to help build the new catalog page for the program. Can be edited in the catalog by the college or department.

The Wetland Science and Conservation Graduate Certificate provides students with an in-depth understanding of wetland ecosystems by examining their biological, chemical, and physical aspects. Students will explore the impact of U.S. regulations on wetlands, assess the consequences of human activities on wetland ecosystem services, and master techniques for wetland delineation and restoration planning. The curriculum extends its focus beyond national borders, delving into global wetland conservation through exploration of international agreements, non-governmental organizations, and national regulations. Finally, students will gain insight into the diverse stakeholder landscape that influences successful wetland management, enabling them to make informed decisions that balance ecological preservation and human needs.

Statement for  
Programs of  
Study Catalog

**Graduation Requirements**  
**Minimum Cumulative GPA: 3.0**

**Minimum hours required for certificate completion:** 12 hours

Students who have successfully completed this certificate may use the certificate courses to satisfy the following degree requirements, provided they apply and are admitted to the degree program:

12 hours of elective coursework requirements of the Natural Resources & Environmental Sciences, MS (non-thesis) degree program

The required courses for this certificate are listed below.

#### Course List

Code	Title	Hours
NRES 417	Course NRES 417 Not Found	
NRES 517	Course NRES 517 Not Found	
NRES 527	Course NRES 527 Not Found	
Total Hours		12

Corresponding Degree      CERT Campus Graduate Certificate

## Program Features

Academic Level      Graduate

Does this major have transcripted concentrations?      No

What is the typical time to completion of this program?  
1 year

What are the minimum Total Credit Hours required for this program?  
12

What is the required GPA?      3.0

CIP Code 030205 - Water, Wetlands, and Marine Resources Management.

Is This a Teacher Certification Program?  
No

Will specialized accreditation be sought for this program?  
No

## Delivery Method

This program is available:

Online Only - The entire program is delivered online, students are not required to come to campus.

Describe the use of this delivery method:

Courses are delivered fully online through the Canvas and Coursera learning management systems. Each course is comprised of two structural components -- an asynchronous component on Coursera and a synchronous component through Canvas.

The asynchronous, self-directed component for each course will include pre-recorded lectures, panel discussions, complimentary readings, demonstration videos, and quizzes. The asynchronous portion provides learners with foundational content for the course.

The second structural component is the high engagement synchronous online session. This session will be offered each week. Students can interact with the instructor(s) and with one another to complete (high-level Bloom's taxonomy) in-depth projects and interactive exercises that build upon the foundational knowledge they previously learned through the asynchronous portion of the course.

## Admission Requirements

Desired Effective Admissions Term Fall 2024

Provide a brief narrative description of the admission requirements for this program. Where relevant, include information about licensure requirements, student background checks, GRE and TOEFL scores, and admission requirements for transfer students.

Prospective students must apply for admission to the Campus Graduate Certificate specifically through the Graduate College admissions process. Graduate and professional admissions minimum requirements will apply: <https://grad.illinois.edu/admissions/apply/requirements>

## Enrollment

Number of Students in Program (estimate)

Year One Estimate	20	5th Year Estimate (or when fully implemented)	70
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Estimated Annual Number of Degrees Awarded

Year One Estimate	10	5th Year Estimate (or when fully implemented)	55
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What is the matriculation term for this program?  
Fall

## Budget

Will the program or revision require staffing (faculty, advisors, etc.) beyond what is currently available?

No

Additional Budget Information

NRES has a search for an instructor position in process, and the responsibilities will include, among other classes, serving as lead instructor on these certificate courses. No additional faculty, advisors, or staffing will be needed for implementation of this program.

Attach File(s)

## Financial Resources

How does the unit intend to financially support this proposal?

Current academic and administrative staff in the College of ACES Online Programs and the Department of Natural Resources and Environmental Sciences will have the capacity to serve as advisors, maintain records, and support students with registration/enrollment for the Graduate Certificate and related coursework.

NRES has a search for an instructor position in process, and the responsibilities will include, among other classes, serving as lead instructor on these certificate courses.

The College of ACES will provide funding over three years to support the NRES instructional team in the development of course content and delivery of courses that are associated with this certificate. Funds generated from this tuition revenue of this program will be re-invested into faculty and support staff for this program.

Will the unit need to seek campus or other external resources?

No

Attach letters of support

[\\_Wetland Science and Conservation\\_Budget\\_CIM.pdf](#)  
[WETLAND\\_SelfSupporting\\_GradCERT.pdf](#)  
[SS-program-designation-form-WETLAND\\_.pdf](#)

What tuition rate do you expect to charge for this program? e.g, Undergraduate Base Tuition, or Engineering Differential, or Social Work Online (no dollar amounts)

necessary)

Base + Differential

Is this program requesting self-supporting status?

Yes

## IBHE

### Degree Program Title and Overview

What is the specific title of the proposed degree program as it would be listed in the IBHE Program Inventory? The name should be what typically is used for similar programs nationally. Provide a short description of the program, including highlights of the program objectives, and the careers, occupations, or further educational opportunities for which the program will prepare graduates.

Graduate Certificate in Wetland Science and Conservation

The Wetland Science and Conservation Graduate Certificate equips students with an in-depth understanding of wetland ecosystems by examining their biological, chemical, and physical aspects. Students will explore the impact of U.S. regulations on wetlands, assess the consequences of human activities on wetland ecosystem services, and master techniques for wetland delineation and restoration planning. The curriculum extends its focus beyond national borders, delving into global wetland conservation through exploration of international agreements, non-governmental organizations, and national regulations. Finally, students will gain insight into the diverse stakeholder landscape that influences successful wetland management, enabling them to make informed decisions that balance ecological preservation and human needs.

Professions with high demand for this Certificate include: environmental scientists and ecologists, natural resource managers, environmental consultants, conservation biologists, land use planners, government officials and regulators, employees of non-governmental organizations, wildlife and water resource managers, civil engineers, and educators and researchers of biology, ecology, agriculture, and environmental science.

The Graduate Certificate in Wetland Science and Conservation is designed for a non-traditional, adult learner audience of prospective students who do not have time or the ability to take coursework on-campus. This coursework will be offered 100% online through a combination of asynchronous (self-paced) and synchronous sessions that allow learners to learn at their own pace, earn academic credit, and complete a graduate certificate. All courses will be taught by existing faculty.

Upon completion, students can stack the Certificate in Wetland Science and Conservation toward an online Master of Science degree in the Department of Natural Resources and Environmental Sciences.

*Illinois Administrative Code: 1050.30(a)(1): A) The objectives of the unit of instruction, research or public service are consistent with the mission of the college or university; B) The objectives of the unit of instruction, research or public service are consistent with what the unit title implies.*

### Institutional Context

University of Illinois at Urbana-Champaign

Describe the historical and university context of the program's development. Include a short summary of any existing program(s) upon which this program will be built.

Explain the nature and degree of overlap with existing programs and, if such overlap exists, document consultation with the impacted program's home department(s).

The University of Illinois recently approved Campus Graduate Certificates to reach a new population of learners.

The priorities of the College of ACES are to expand our portfolio of online education programs to new audiences of learners who are interested in up-skilling or re-skilling to earn credentials. This certificate program also strives to fulfill the land-grant mission of providing accessible education to all.

Professions with high demand for this Certificate include: environmental scientists and ecologists, natural resource managers, environmental consultants, conservation biologists, land use planners, government officials and regulators, employees of non-governmental organizations, wildlife and water resource managers, civil engineers, and educators and researchers of biology, ecology, agriculture, and environmental science.

Although other programs and departments offer tangentially related coursework and programs to wetland science and conservation, the faculty expertise, research, and curriculum of wetland science is solely offered by the Department of Natural Resources and Environmental Sciences.

Students can apply coursework from the Certificate in Wetland Science and Conservation toward an online Master of Science degree in the Department of Natural Resources and Environmental Sciences.

#### University of Illinois

Briefly describe how this program will support the University's mission, focus and/or current priorities. Demonstrate the program's consistency with and centrality to that mission.

This certificate program responds directly to Campus Strategic Plan Goal 2C: "Provide new educational pathways and enhance current programs to increase flexibility and to foster education across disciplines."

The Wetland Science and Conservation Graduate Certificate will expand access to University of Illinois credentials. The impact is threefold:

1. new market of students gain flexibility in obtaining a standalone credential;
2. current students across campus to gain a complimentary credential; and
3. provide a new pathway to degree programs.

The Certificate allows more accessibility for continuing education for diverse populations, thus providing them with credentials to meet their career and personal goals.

Discuss projected future employment and/or additional educational opportunities for graduates of this program. Compare estimated demand with the estimated supply of graduates from this program and existing similar programs in the state. Where appropriate, provide documentation by citing data from such sources as employer surveys, current labor market analyses, and future workforce projections. (Whenever possible, use state and national labor data, such as that from the Illinois Department of Employment Security at <http://lmi.ides.state.il.us/> and/or the U.S. Bureau for Labor Statistics at <http://www.bls.gov/>).

Given the non-degree, graduate level format of this content as well as the working professional target audience, the expectation is that most learners will be seeking career advancement opportunities and/or new career paths in some capacity. The courses in the certificate program will provide learners with the knowledge and skills necessary for such opportunities.

Research indicates that the top reason learners choose a graduate certificate is a quick return on their investment that will potentially yield opportunities for salary increases, an expanded professional network, and basic preparation for a future graduate degree program. Furthermore, job seekers of the Great Resignation indicate a desire to increase their professional network while also obtaining skills, academic coursework, and value-added credentials that are transferable to other careers (Fox, M., 2022).

This Graduate Certificate will provide benefits to the learners that it services and to the State of Illinois at large. The employees, the Illinois workforce, and employers will benefit from the upscaling of the workforce. This Graduate Certificate can also attract learners who will later return to the University for a graduate degree program.

What resources will be provided to assist students with job placement?

ACES career services and academic advisors in the Department of Natural Resources and Environmental Sciences and College of ACES will provide resources to students as needed. Due to the nature of the certificate program and intended target audience, we expect most students will be currently employed working professionals who are seeking additional credentialing for their chosen career paths.

If letters of support are available attach them here:

## Comparable Programs in Illinois

*Illinois Administrative Code: 1050.30(a)(6): B) The unit of instruction, research or public service meets a need that is not currently met by existing institutions and units of instruction, research or public service. For additional information about similar programs, check the Degree Program Inventory on the IBHE website ([https://www.ibhe.org/ProgInv\\_Prog.aspx](https://www.ibhe.org/ProgInv_Prog.aspx)) and review the Notice of Intent website for programs being planned (<http://legacy.ibhe.org/ODA/tracking/NOI/NOISearch.asp>).*

Identify similar programs and sponsoring institutions in the state, at both public and private colleges and universities. Compare the proposed program with these programs, and discuss its potential impact upon them. Provide complete responses, do not reference website links.

While graduate-level programs within the content areas of natural resources and environmental sciences are offered at other public and private colleges and universities, there are no known programs specifically offered in wetland science and conservation that compare to the level of expertise needed, and provided by, the faculty and industry experts who will design the courses that comprise this certificate.

Comparable  
Programs in  
Illinois Attach  
Documents

## A Thriving Illinois: Higher Education Paths to Equity, Sustainability, and Growth

IBHE is charged to develop a strategic plan to address the present and future aims and needs and requirements of higher education in Illinois (110 ILCS 205/6) (from Ch. 144, par. 186) Sec. 6). Illinois Administrative Code:

1050.30(a)(6): A) The unit of instruction, research or public service is educationally and economically justified based on the educational priorities and needs of the citizens of Illinois Respond to the following questions about how the proposed program will support the three goals of A Thriving Illinois: Higher Education Paths to Equity, Sustainability, and Growth Strategic Plan.

## Equity

Describe institutional-level plans to close equity gaps in access, progression, completion, and attainment and the implications for the proposed program. More specifically, provide institutional-level plans for attracting, recruiting, retaining, and completing a diverse group of students including working adults, students of color, transfer and low-income students and implications for the proposed program. Explain how progress will be monitored.

The College of ACES recognizes the need to attract, recruit, retain, and complete a diverse group of students for this certificate program. The intent of this certificate program is to provide accessible, affordable fully online education to working adults, students of color, and low-income students. To that end, we provide flexible learning options as part of this program, targeted outreach and support services to students of color. We also ensure cultural awareness and diversity throughout our instructional content and marketing materials. Our support services will help students connect with financial assistance through the university and provide them with support services to navigate the registration/enrollment process for courses.

Describe program and institution-based high-impact practices and wrap-around student support services ensuring equitable access and success for students enrolled in the proposed program.

College and departmental support services will be provided to students in this certificate program. Specifically, support will be provided for students to:

1. Connect with their learning community of fellow students who are enrolled in associated coursework and the certificate program;
2. Assist with answering questions related to admissions, enrollment, and registration; and
3. Provide them with resources/links to navigate questions related to tuition and student services.
4. Offer adult learning strategies and support resources/links to contribute to student success

Explain institutional strategies being implemented to increase and retain faculty, staff, and administrators of color and the implications for the proposed program. Explain how progress will be monitored.

The College of ACES has an active job search for a new Associate Dean for Diversity, Equity, and Inclusion. As part of this new appointment, intentional strategies will be implemented to increase and retain faculty, staff, and administrators who represent diverse populations. Specific to this certificate program, we strive to recruit diverse faculty and instructors to ensure a sense of belonging and representation for all prospective students. We will also recruit faculty, staff and administrators to serve as lead instructors, subject matter experts, and student support for this certificate.

## Sustainability

Describe strategies and initiatives the institution plans to implement that makes the proposed program and college more generally affordable for students and their families, including those who have been historically underserved.

This graduate certificate is designed for adult learners (working professionals). Our desire is to create an affordable, accessible, flexible online educational certificate. The content is focused on knowledge and skill development in targeted areas of interest. Graduate certificates are more affordable with less time commitment for learners as compared to a master's degree. This certificate is in alignment with current workforce demands.

ACES Online Programs have dedicated staff to support students from underrepresented and first gen populations to help foster a sense of belonging and community. Staff also provide technical support in navigating the admissions/enrollment processes.

Provide tuition cost analysis for comparable programs and institutions in Illinois.

This proposed certificate will have self-supporting status at the Base + Differential rate. Students will be eligible to apply for financial aid through the university. Furthermore,

the College of ACES is in the process of hiring a Coordinator of Educational Programs and Partnerships who will seek out corporate agreements with external stakeholders to help fund individual student's access to this certificate.

## Growth

Provide a supply and demand analysis for the proposed program that, at minimum, does the following: a) Provides evidence of student interest in the proposed program including any strategies to incentivize students to stay in Illinois. b) Identifies and provides evidence of a high-quality credential with viability for future careers.

With an intended audience of adult learners (professionals in the workforce), this certificate aims to increase awareness and address concerns about environmental conservation and ecosystem preservation. Recent data from the U.S. Bureau of Labor Statistics projects a faster-than-average growth rate for careers related to environmental science and conservation.

To incentivize interest, staff and faculty will strive to establish partnerships with local environmental organizations, government agencies, and private firms to collaborate on relevant content, create job placement pipelines for program graduates, showcase meaningful and impactful careers associated with the certificate program.

The course curriculum included in this certificate is designed in consultation with leading experts in wetland science and conservation, ensuring a rigorous and up-to-date education. The content and objectives align with industry standards and best practices, thus preparing graduates to excel in a competitive job market.

This certificate program will have strong demand for individuals who are seeking specialized knowledge in wetland science and conservation, particularly in roles related to environmental consulting, natural resource management, regulatory compliance, and ecosystem restoration.

Explain how the program engaged with business and industry in its development and how it will spur the state's economy by leveraging partnerships with local, regional, and state industry, business leaders and employers.

Faculty and staff engaged with government, non-profit, and for profit organizations engaged in wetland science and conservation in developing the courses that comprise this certificate. Professionals and researchers provided input in the design of the curriculum and advised the skills and knowledge objectives that are most sought by employers. In the design and development of course content, the instructional teams have collaborated with scientists and conservation specialists in the field. As such, these stakeholder interactions will promote community engagement and economic innovation nurturing a pipeline of skilled professionals who understand the intricacies of wetland science and conservation. As a result of this certificate, students can contribute to the development of new business ventures, consulting firms, and start-ups that focus on environmental sustainability and conservation.

Describe how the proposed program will expand access and opportunities for students through high-impact practices including research opportunities, internships, apprenticeships, career pathways, and other field experiences.

The knowledge and skills provided through this certificate, in addition to the credential of a Graduate Certificate, can be used by students to apply for promotions or pivot to new careers. Furthermore, they will expand their professional networks with other students in the course, and connect with industry experts through synchronous online sessions.

This certificate program is part of a larger effort from the College of ACES to expand its educational portfolio of online, flexible learning opportunities. As a result, ACES is continuing to strive toward the land-grant mission of education for all by providing online, flexible, affordable learning options for a global audience of learners.

Explain how the proposed program will expand its models of teaching and learning, research, and/or public service and outreach that provide opportunity for students to succeed in the work of the future.

To meet the diverse learning needs of students, this certificate will offer a combination of asynchronous online and synchronous online learning models. This approach allows students to access course materials at their own convenience, promotes flexibility, and allows students to personalize their learning experience. Furthermore, students who successfully complete the certificate will be stack their coursework toward a Natural Resources & Environmental Sciences, MS (non-thesis) degree.

Beyond workforce need, describe how the program broadly addresses societal needs (e.g., cultural or liberal arts contribution, lifelong learning of Illinois residents, or civic participation).

Beyond addressing workforce needs, the Wetland Science and Conservation certificate contributes significantly to broader societal needs and aspirations. Specifically, this certificate is inherently interdisciplinary, drawing from fields such as ecology, biology, geology, hydrology, and policy. Wetlands have deep cultural significance and historical relevance in many societies. Exploring their ecological importance and the impact of human activities through a cultural lens can lead to a deeper appreciation of the environment and its preservation.

Furthermore, by promoting lifelong learning among Illinois residents, the certificate empowers individuals with the knowledge and skills needed to make informed decisions about pressing environmental challenges in their communities and regions. This certificate equips learners with tools to adapt to evolving environmental issues and enhances their ability to actively participate in local and regional conservation efforts. Graduates of the program can take on roles as environmental advocates and stewards within their communities, promoting sustainable practices and encouraging fellow citizens to participate in conservation efforts that benefit both present and future generations.

A Thriving Illinois:  
Higher Education  
Paths to Equity,  
Sustainability, and

## Program Description and Requirements

### Illinois Administrative Code:

*1050.30(b)(1) A) The caliber and content to the curriculum assure that the objectives of the unit of instruction will be achieved; B) The breadth and depth of the curriculum are consistent with what the title of the unit of instruction implies; C) The admission and graduation requirements for the unit of instruction are consistent with the stated objectives of the unit of instruction.*

*1050.30(b)(3): Appropriate steps shall be taken to assure that professional accreditation needed for licensure or entry into a profession as specified in the objectives of the unit of instruction is maintained or will be granted in a reasonable period of time.*

*1050.50 (a)(2)(C) Requirement for Programs in which State Licensure is Required for Employment in the Field: In the case of a program in which State licensure is required for employment in the field, a program can be found to be in good standing if the institution is able to provide evidence that program graduates are eligible to take the appropriate licensure examination and pass rates are maintained as specified in the objectives of the unit of instruction. If there is no such evidence, the institution shall report the program as flagged for review.*

## Program Description

Provide a description of the proposed program and its curriculum, including a list of the required core courses and short ("catalog") descriptions of each one. (This list should identify all courses newly developed for the program).

Provide Program Description here:

The Wetland Science and Conservation Graduate Certificate provides students with an in-depth understanding of wetland ecosystems by examining their biological, chemical, and physical aspects. Students will explore the impact of U.S. regulations on wetlands, assess the consequences of human activities on wetland ecosystem services, and master techniques for wetland delineation and restoration planning. The curriculum extends its focus beyond national borders, delving into global wetland conservation through exploration of international agreements, non-governmental organizations, and national regulations. Finally, students will gain insight into the diverse stakeholder landscape that influences successful wetland management, enabling them to make informed decisions that balance ecological preservation and human needs.

The uniqueness of this certificate lies in its combination of asynchronous, self-paced content in addition to the synchronous, high engagement live sessions where learners can engage in problem-solving and discussion with other students in the learning community. Adult learners enrolled in this certificate will be encouraged to share their real-world experiences and apply new knowledge and skills gained from the coursework toward their professional endeavors.

This is a fully online certificate program that includes asynchronous and high-impact, high-engagement synchronous components.

The certificate includes three required courses that equate to 12 credit hours.

The three new courses that will be developed for this certificate program.

The three new courses are:

**NRES 417: Principles of Wetland Science and Conservation (4 credit hours)**

Students undertaking this course will gain a foundational understanding of all aspects of wetlands. In the first four weeks, the students will be introduced to wetlands, their formation, and hydrology. Students will explore soil types and the role of nutrient cycling, and the intrinsic connection to the resulting vegetation. Students will learn about the plants and animals utilizing wetlands habitats and their adaptations to this environment. All these elements will give the students an understanding of the structure and function of wetlands and the importance of the resulting ecosystem services. The second half of the course will focus on anthropogenic impacts on wetlands and the efforts to conserve and restore these systems. Students will gain knowledge of the role of laws and regulations in conservation efforts over time. Students will be able to critique restoration management and planning techniques. Using case studies, students will learn to identify key elements for success and constraints in real-world restoration efforts.

**NRES 517: Advance Wetland Theory and Techniques (4 credit hours)**

This course will lead students through a deep investigation of the science behind conservation, restoration, and monitoring of wetlands, examining the studies that guide current practices and open scientific questions that could help guide future improvements. The first 4 weeks of the course will focus on the theory and techniques used during wetland delineation of hydrology, hydric soils, and vegetation. Students

will gain an understanding of the typical field indicators used to delineate wetlands based on USACE guidelines. A combination of self-guided field activities and group discussions will be used to assess how these field indicators can change based on wetland type and location. The second 4 weeks of the course will focus on wetland management for conservation and restoration. Students will learn about best practices regarding the conservation, restoration and monitoring of wetlands along with the methods/techniques that can be employed to deal with constraints and uncertainty.

#### NRES 527: Wetland Science and Conservation in Context (4 credit hours)

This course deepens students' understanding of the complex policy, economic, community, and cultural factors that empower and constrain wetland protection, conservation, and restoration. The first four weeks of the course, students will concentrate on wetland regulation and management in the U.S. (including recent court cases), in other countries, and internationally. Students will explore adapting global wetland conservation and restoration to environmental change within those policy contexts. The second four weeks focuses on competing management and conservation priorities, social aspects of wetland conservation, restoration, and management, and developing skills in the effective and culturally sensitive engagement of stakeholders. The course, the final requirement of the Wetland Science and Conservation Certificate, culminates in student presentations on wetland case studies.[]

Attach Program Description Files if needed [CIM-C CourseDescriptions WetlandCERT.pdf](#)

## Graduation Requirements

Provide a brief narrative description of all graduation requirements, including, but not limited to, credit hour requirements, and, where relevant, requirements for internship, practicum, or clinical. For a graduate program, summarize information about the requirements for completion of the thesis or dissertation, including the thesis committees, and the final defense of the thesis or dissertation. If a thesis or dissertation is not required in a graduate program, explain how the functional equivalent is achieved.

To earn a Certificate in Wetland Science and Conservation, students must complete three required courses (12 credit hours) with a 3.0 grade point average or higher. Due to the nature of the certificate program, no thesis, dissertation, internship, or practicum is required.

## Specialized Program Accreditation

Describe the institution's plan for seeking specialized accreditation for this program. Indicate if there is no specialized accreditation for this program or if it is not applicable.

NA

## Licensure or Certification for Graduates of the Program

If this program prepares graduates for entry into a career or profession that is regulated by the State of Illinois, describe how it is aligned with or meets licensure, certification, and/or entitlement requirements.

NA

## Plan to Evaluate and Improve the Program

Describe the program's evaluation plan.

The ACES Online Program administration will use key performance indicators to evaluate the certificate program. The key performance indicators that will be used to measure and evaluate viability and success of the Graduate Certificate are:

- number of applications received
- number of students enrolled
- retention rate percentage (within each course and online degree)
- learner experience rating (Likert-scale will be used to assess learner experience with the application, admissions, and enrollment processes, in addition to communication, course quality, live and asynchronous courses/sessions, access to faculty/instructors, and technical support)
- ICES course evaluations
- ACES Online Programs course evaluations (Likert scale used to rate each major component of the course, including asynchronous and synchronous components and assessments)
- time to certificate completion

The data collected will be evaluated by the teaching and learning team at the conclusion of each iteration of the course. Revisions will be made prior to the next course offering.

Plan to Evaluate  
and Improve the  
Program  
Attachments

## Budget Narrative

### Fiscal and Personnel Resources

*Illinois Administrative Code: 1050.30(a)(5): A) The financial commitments to support the unit of instruction, research or public service are sufficient to ensure that the faculty and staff and support services necessary to offer the unit of instruction, research or public service can be acquired and maintained; B) Projections of revenues necessary to support the unit of instruction, research or public service are based on supportable estimates of state appropriations, local tax support, student tuition and fees, private gifts, and/or governmental grants and contracts.*

#### Budget Rationale

Provide financial data that document the university's capacity to implement and sustain the proposed program and describe the program's sources of funding.

Is the unit's (Department, College, School) current budget adequate to support the program when fully implemented? If new resources are to be provided to the unit to support the program, what will be the source(s) of these funds? Is the program requesting new state funds? (During recent years, no new funds have been available from the state (IBHE) to support new degree programs).

The initial development of this certificate is funded by the College of ACES and the FY23 Investment for Growth Program from the Office of the Provost. Through college and campus support, the college developed a grant program wherein faculty teams applied to receive funding to develop new online courses that comprised a new online Graduate Certificate. The revenue generated from the courses will be re-invested into the certificate program, faculty, content revision, and student support services.

## Faculty Resources

Will current faculty be adequate to provide instruction for the new program or will additional faculty need to be hired? If additional hires will be made, please elaborate.

NRES has a search for an instructor position in process, and the responsibilities will include, among other classes, serving as lead instructor on these certificate courses.

Please address the impact on faculty resources including any changes in numbers of faculty, class size, teaching loads, student-faculty ratios, etc.

NRES has a search for an instructor position in process, and the responsibilities will include, among other classes, serving as lead instructor on these certificate courses. No additional support is needed at this time. Should demand for the courses exceed expectations and more sessions of the courses need to be offered, one or two new faculty may need to be hired to maintain an appropriate teacher-student ratio.

Describe how the unit will support student advising, including job placement and/or admission to advanced studies. Will current staff be adequate to implement and maintain the new program or will additional staff be hired? Will current advising staff be adequate to provide student support and advisement, including job placement and or admission to advanced studies? If additional hires will be made, please elaborate.

Current administration in ACES Online Programs will provide student support in admissions and enrollment services.

Are the unit's current facilities adequate to support the program when fully implemented? Will there need to be facility renovation or new construction to house the program?

Yes, the current facilities are adequate to support the program. Faculty have the necessary computer and video/audio equipment available to provide a high quality online learning experience. Additionally, faculty have full access to use the ACES Media Studio, equipped with the latest technology, to host their live synchronous online sessions and record asynchronous content. Faculty also have full access to the suite of CITL media studios to record video content and create materials for the course.

The courses that comprise this certificate will be offered 100% online. No classroom space is needed.

Physical address locations for the above mentioned facilities include:

ACES Media Studio is located in Room 028, ACES Library, Information and Alumni Center, 1101 South Goodwin Avenue, Urbana, IL 61801

CITL Studios are located in Room 069, Literatures, Cultures, and Linguistics Building, 707 S. Mathews Ave., Urbana, IL 61801

## Library Resources

Describe your proposal's impact on the University Library's resources, collections, and services. If necessary please consult with the appropriate disciplinary specialist within the University Library.

The courses for this program will be 100% online. Library collections, resources and services are adequate to meet needs.

Summarize information about library resources for the program, including a list of key textbooks, a list of key text and electronic journals that will support this program, and a short summary of general library resources of the University that will be used by the program's faculty, students, and staff.

Electronic journals will be used for required readings for the courses. Sources for the electronic journals include the University of Illinois U of I collection, EBSCO Discovery database, and Online Journals database. Open source, peer-reviewed journals will also be included as readings in the course.

Required readings for the courses may come from a variety of peer-reviewed, academic journals, including but not limited to the Journal of Environmental Quality, Journal of Applied Ecology, Natural Areas Journal, Wetlands Ecology and Management, and Ecological Restoration.

No textbooks will be used for this course.

Are any sources of funding temporary (e.g., grant funding)? If so, how will the program be sustained once these funds are exhausted?

No funding will be needed for library services.

If this is a graduate program, please discuss the intended use of graduate tuition waivers. If the program is dependent on the availability of waivers, how will the unit compensate for lost tuition revenue?

The program is self-supporting. No graduate tuition waivers will be used for the courses associated with this program.

Budget Narrative

Fiscal and

Personnel

Resources

Attachments

## Personnel Budget

Please complete all lines below; all fields are required. For fields where there is no anticipated cost or need, enter 0 or NA.

Category	Year One	Year Five	Notes
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Faculty (FTE)

Faculty FTE Year1	Faculty FTE Year 5	Faculty FTE Notes
0	0	existing faculty resources will be employed, no new resource allocation required

Faculty (\$)

Faculty Year 1	Faculty Year 5	Faculty Notes
0	0	existing faculty resources will be employed, no new resource allocation required

Advising Staff (\$)

Advising Staff Year 1	Advising Staff Year 5	Advising Staff Notes
0	0	existing staff resources will be employed, no new resource allocation required

Graduate

Students (\$)

Graduate Students Year 1	Graduate Students Year 5	Graduate Students Notes
0	0	NA

Other Personnel

Costs

Other Personnel Costs Year 1	Other Personnel Costs Year 5	Other Personnel Costs Notes
0	0	NA

Budget Narrative

Attachments

## Facilities and Equipment

*Illinois Administrative Code: 1050.30(a)(4): A) Facilities, equipment and instructional resources (e.g., laboratory supplies and equipment, instructional materials, computational equipment) necessary to support high quality academic work in the unit of instruction, research or public service are available and maintained;*

*B) Clinical sites necessary to meet the objectives of the unit of instruction, research or public service;*

*C) Library holdings and acquisitions, owned or contracted for by the institution, that are necessary to support high quality instruction and scholarship in the unit of instruction, research and public service, are conveniently available and accessible, and can be maintained.*

Describe the facilities and equipment that are available, or that will be available, to develop and maintain high quality in this program. Summarize information about buildings, classrooms, office space, laboratories and equipment, and other instructional technologies for the program.

The faculty and instructional designers who are developing content for this certificate have full access to services provided by two instructional media producers from CITL (embedded in ACES), three CITL video/media studios, one newly renovated ACES Media Studio, two ACES instructional designers, and CITL digital media and graphic design specialists.

The courses that comprise this certificate will be offered 100% online. No classroom space is needed.

Physical address locations for the above mentioned facilities include:

ACES Media Studio is located in Room 028, ACES Library, Information and Alumni Center, 1101 South Goodwin Avenue, Urbana, IL 61801

CITL Studios are located in Room 069, Literatures, Cultures, and Linguistics Building, 707 S. Mathews Ave., Urbana, IL 61801

Will the program require new or additional facilities or significant improvements to already existing facilities?

No

Will the program need additional technology beyond what is currently available for the unit?

No

Are there other costs associated with implementing the program?

No

Facilities and  
Equipment  
Attachments

## Faculty and Staff

*Illinois Administrative Code: 1050.30(a)(3): A) The academic preparation and experience of faculty and staff ensure that the objectives of the unit of instruction, research or public service are met; B) The academic preparation and experience of faculty and staff, as evidenced by level of degrees held, professional experience in the field of study and demonstrated knowledge of the field, ensure that they are able to fulfill their academic responsibilities; C) The involvement of faculty in the unit of instruction, research or public service is sufficient to cover the various fields of knowledge encompassed by the unit, to sustain scholarship appropriate to the unit, and to assure curricular continuity and consistency in student evaluation; D) Support personnel, including but not limited to counselors, administrators, clinical*

*supervisors, and technical staff, which are directly assigned to the unit of instruction, research or public service, have the educational background and experience necessary to carry out their assigned responsibilities.*

Describe the personnel resources available to develop and maintain a high quality program, including faculty (full- and part-time, current and new), staff (full- and part-time, current and new), and the administrative structure that will be in place to oversee the program. Also include a description of faculty qualifications, the faculty evaluation and reward structure, and student support services that will be provided by faculty and staff.

Current staff and faculty who will support this program include:

- Piper Hodson, Director of Online M.S. Program; Natural Resources and Environmental Sciences. Piper is the team leader for the certificate program development and assists with course development, design, and digital asset development.

- Dr. Robert Hudson, Associate Professor, Natural Resources and Environmental Sciences. Dr. Hudson assists with course development, design, and digital asset development.

- Dr. Jeffrey Matthews, Associate Professor, Natural Resources and Environmental Sciences. Dr. Matthews assists with course development, design, and digital asset development.

- Dr. Jocelyn Curtis-Quick, Adjunct Lecturer, Natural Resources and Environmental Sciences. Dr. Curtis-Quick assists with course development, design, and digital asset development.

- Dr. Clark Dennis, Adjunct Instructor, Natural Resources and Environmental Sciences. Dr. Dennis assists with course development, design, and digital asset development.

- New NRES instructor; NRES has a job search in process for a new instructor position. This person's responsibilities will include teaching undergraduate NRES courses and serving as lead instructor on the courses that comprise the Wetland Science and Conservation Certificate.

- Dr. Anna Ball, associate dean of academic programs, ACES, full-time faculty and staff

- Dr. Debra Korte, assistant dean for learning innovation, ACES (oversee student support services and ACES Online staff), full-time faculty

Dr. Anna Ball and Dr. Debra Korte will provide oversight of the certificate and the ACES Online Staff who are supporting the development of the certificate. Drs. Ball and Korte each have doctoral degrees in agricultural education and served as teacher educators and curriculum experts in their respective higher education appointments and land-grant universities.

- Kasey Murphy, instructional designer, ACES, full-time staff

- Jennifer Banda, visiting teaching and learning specialist, ACES, full-time staff

Kasey Murphy and Jennifer Banda are former educators (secondary and post-secondary education) and hold degrees in education and curriculum design.

- Kevin Southworth, instructional media producer, CITL (embedded in ACES), full-time staff

- Adam Ruud, instructional media producer, CITL (embedded in ACES), full-time staff

Adam Ruud and Kevin Southworth each have more than 14 years of experience in media development.

- Dr. Elissa Thomann Mitchell, online education consultant, ACES, part-time faculty  
Dr. Thomann Mitchell is a Teaching Associate Professor in Human Development and Family Studies. She is a certified online course evaluator for Quality Matters and is an accomplished author of several peer-reviewed publications on the scholarship of teaching and learning in online and hybrid modalities of instruction.

Summarize the major accomplishments of each key faculty member, including research/scholarship, publications, grant awards, honors and awards, etc. Include an abbreviated curriculum vitae or a short description.

Please see attached CVs for key faculty members.

Faculty and Staff Attachments [WETLAND\\_CVs\\_faculty.pdf](#)

## HLC Section

### Credit Hours

Existing or repackaged curricula (Courses from existing inventory of courses):	Number of Credit Hours: 0	0 Percent of Total:
Revised or redesigned curricula (Courses for which content has been revised for the new program):	Number of Credit Hours: 0	0 Percent of Total:
New curricula (Courses developed for the new program that have never been offered):	Number of Credit Hours: 100	12 Percent of Total:
Total Credit Hours of the Program: 100	Number of Credit Hours:	12 Percent of Total:

### New Faculty Required

Will new faculty expertise or new faculty members be needed to launch this program?

Yes

Please explain new needs, indicating whether the institution will need to hire new faculty members for this program in order to secure appropriately credentialed people or to have enough faculty members to appropriately support the program.

NRES has a search for an instructor position in process, and the responsibilities will include, among other classes, serving as lead instructor on these certificate courses.

### Additional Funds

Will the proposed program require a large outlay of additional funds by the institution?

No

## Institutional Funding

Please explain institutional funding for proposed program:

The funding provided for the development of this certificate is part of a grant developed from the FY23 Investment for Growth initiative and funding support provided by the College of ACES. Each instructional team is provided funding over 3 years to design, develop, and implement the courses for the certificate program. The funding generated from the courses will be reinvested in the program to sustain this certificate.

## EP Documentation

EP Control Number            EP.24.050

Attach Rollback/Approval Notices

This proposal requires HLC inquiry            No

## DMI Documentation

Attach Final Approval Notices

Banner/Codebook Name

Program Code:

Minor Code	Conc Code	Degree Code	Major Code
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Senate Approval Date

Senate Conference Approval Date

BOT Approval Date

IBHE Approval Date

HLC Approval

Date

DOE Approval

Date

Effective Date:

Attached

Document

Justification for

this request

Program Reviewer

Comments

**Brooke Newell (bsnewell) (08/30/23 9:49 am):** Rollback: Requested revisions sent to Debra, Brianna, and Piper Hodson

**Brooke Newell (bsnewell) (08/31/23 11:24 am):** Rollback: Per request from Debra

**Robert Schooley (schooley) (09/05/23 4:15 pm):** Rollback: There may be unclear language as to whether new staffing is needed for the proposed certificate.

**James Miller (jrmillr) (09/05/23 4:21 pm):** Rollback: staffing issues

**Allison McKinney (agrindly) (09/26/23 9:45 am):** Rollback: Where are the courses for this program in process?

Key: 1217

## Viewing: **NRES 517 : Advanced Wetland Theory and Techniques**

Changes proposed by: Piper Hodson

### General Information

Effective Term: Fall 2024  
College: Agr, Consumer, & Env Sciences  
Department/Unit Name (ORG Code): Natural Res & Env Sci (1875)  
Course Subject: Natural Resources & Environ Sc (NRES)  
Course Number: 517  
Course Title: Advanced Wetland Theory and Techniques  
Abbreviated Title: Adv Wetland Theory & Technique  
Course Description:

### Completed Workflow

1. **U Course Review**
2. **1875 Committee Chair**
3. **1875 Head**
4. **KL Committee Chair**
5. **KL Dean**
6. **Grad Dean**
7. **COTE**
8. **Provost**
9. **Registrar**
10. **Banner**

### Approval Path

1. 09/28/23 9:03 am  
Brooke Newell (bsnewell):  
Approved for U Course Review
2. 09/28/23 9:44 am  
James Miller (jrmillr): Approved for 1875  
Committee Chair
3. 09/29/23 9:11 am  
Robert Schooley (schooley):  
Approved for 1875 Head
4. 10/11/23 2:21 pm  
Brianna Gregg (bjgray2):  
Approved for KL Committee Chair
5. 10/11/23 2:55 pm  
Anna Ball (aball):  
Approved for KL Dean
6. 10/19/23 10:31 am

- Mary Lowry  
(lowry): Approved  
for Grad Dean
- 7. 10/20/23 12:22  
pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE
- 8. 10/20/23 12:59  
pm  
Brooke Newell  
(bsnewell):  
Approved for  
Provost
- 9. 10/26/23 3:29 pm  
Brianna Vargas-  
Gonzalez (bv4):  
Approved for  
Registrar
- 10. 10/28/23 4:00 am  
\*system\*:  
Approved for  
Banner

## History

1. **Oct 28, 2023 by  
Piper Hodson  
(phodson)**

Students will investigate the science behind the conservation, restoration, and monitoring of wetlands. The first part of the course will focus on the theory and techniques used during wetland delineation of hydrology, hydric soils, and vegetation. The second part of the course will focus on wetland management with a focus on best practices regarding the conservation, restoration and monitoring of wetlands.

## Justification

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Justification for change:

This course is one of three new online courses that will comprise the proposed Wetland Science and Conservation graduate certificate (key 1217). NRES, together with the Illinois Natural History Survey, has deep expertise in wetland ecology, management, and restoration, but our teaching capacity to this point has been limited to NRES 418 Wetland Ecology & Management. With the June 2023 Supreme Court decision (Sackett v. USEPA), there is much more need for natural resource managers with a deep understanding of wetlands, and our current course offerings simply cannot meet that

demand, hence the proposed certificate and the need for NRES 517.

The intended audience for 517 is adult learners who are employed by or who are seeking employment in environmental science, natural resources, ecology, or conservation biology. The new content in this course will help prepare students for success in these areas of employment. While this course is unique from other courses in NRES, it provides essential subject matter content necessary for students who have interest in pursuing advanced credentials such as a graduate certificate or graduate degree.

Please Note: a syllabus is required for General Education review:

[NRES 517.pdf](#)

## Course Information

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### Course Credit

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Course credit:

Undergraduate:

Graduate: 4

Professional:

Justification for  
Change in  
Graduate Credit:

This graduate level course designed for a non-traditional, adult learner audience of prospective students who do not have time or the ability to take coursework on-campus. This coursework will be offered 100% online through a combination of asynchronous (self-paced) and synchronous sessions that allow learners to learn at their own pace to earn academic credit. The rigor expected of a graduate level course will be integrated through the formative and summative assessments required of students. Students will complete frequent formative assessments throughout the courses, and high-engagement, high-level Bloom's taxonomy summative assessments (e.g., case studies, individual assignments, final exam) will be required elements to pass the course. To ensure application of critical thinking, students will solve problems, create potential solutions, and develop strategic plans to manage and restore wetlands.

## Registrar Use

### Only:

Banner Credit: 4

Billable Hours: 4

## Grading Type

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Grading type: Letter Grade

Alternate Grading  
Type (optional):

Available for DFR: No

## Repeatability

---

May this course  
be repeated? No

## Credit Restrictions

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Credit  
Restrictions:

## Advisory Statements

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Prerequisites:  
NRES 417.

Concurrent  
Enrollment  
Statement:

Restricted  
Audience  
Statement:

Restricted to Wetland Science and Conservation Graduate Certificate.

## Cross-listing

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Cross Listed  
Courses:

## Class Schedule Information

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Class Schedule  
Information:

## Fees

---

Is a fee requested No  
for this course?

## Course Description in the Catalog Entry

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This is how the above information will be represented in the Catalog:

Students will investigate the science behind the conservation, restoration, and monitoring of wetlands. The first part of the course will focus on the theory and techniques used during wetland delineation of hydrology, hydric soils, and vegetation. The second part of the course will focus on wetland management with a focus on best practices regarding the conservation, restoration and monitoring of wetlands. Course Information: 4 graduate hours. No professional credit. Prerequisite: NRES 417. Restricted to Wetland Science and Conservation Graduate Certificate.

## Additional Course Notes

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Enter any other  
course  
information  
details to be  
included in the  
catalog:

## Course Detail

---

Frequency of  
course:

Every Fall

Duration of the  
course Less

Describe:  
Second 8 weeks of fall semester

Anticipated  
Enrollment: 20

Expected distribution of  
student registration: Graduate: Professional:  
100 % N/A

## General Education

---

General Education  
Category

## Additional Course Information

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Does this course replace an existing course? No

Does this course impact other courses? No

Does the addition of this course impact the departmental curriculum? No

Has this course been offered as a special topics or other type of experimental course? No

Will this course be offered on-line?  
Online Only

Faculty members who will teach this course:

Search for a specialized teaching faculty member who will teach this course is currently underway.

Course ID: 1012840

Comments to Reviewers:

Please note that the Wetland Science and Conservation Certificate and its associated new courses (NRES 417, 517, and 527) have been designed by a committee. The instructor listed on the syllabus is the committee member who led the design of that specific course. However, a search is underway for a specialized teaching faculty member to begin in June 2024 and teach the initial offerings of all three courses in the 2024-2025 academic year.

Course Edits

Proposed by:

Piper Hodson (phodson@illinois.edu)

Course Reviewer

Comments

**Brooke Newell (09/26/23 8:43 am):** Rollback: Email sent to Piper



## Viewing: **NRES 527 : Wetland Science and Conservation in Context**

Changes proposed by: Piper Hodson

### General Information

Effective Term: Fall 2024  
College: Agr, Consumer, & Env Sciences  
Department/Unit Name (ORG Code): Natural Res & Env Sci (1875)  
Course Subject: Natural Resources & Environ Sc (NRES)  
Course Number: 527  
Course Title: Wetland Science and Conservation in Context  
Abbreviated Title: Wetlnd Sci&Conserv in Context  
Course Description:

### Completed Workflow

1. **U Course Review**
2. **1875 Committee Chair**
3. **1875 Head**
4. **KL Committee Chair**
5. **KL Dean**
6. **Grad Dean**
7. **COTE**
8. **Provost**
9. **Registrar**
10. **Banner**

### Approval Path

1. 09/28/23 9:03 am  
Brooke Newell (bsnewell):  
Approved for U Course Review
2. 09/28/23 9:46 am  
James Miller (jrmillr): Approved for 1875  
Committee Chair
3. 09/29/23 9:11 am  
Robert Schooley (schooley):  
Approved for 1875 Head
4. 10/11/23 2:21 pm  
Brianna Gregg (bjgray2):  
Approved for KL Committee Chair
5. 10/11/23 2:55 pm  
Anna Ball (aball):  
Approved for KL Dean
6. 10/19/23 10:31 am

- Mary Lowry  
(lowry): Approved  
for Grad Dean
7. 10/20/23 12:22  
pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE
8. 10/20/23 1:01 pm  
Brooke Newell  
(bsnewell):  
Approved for  
Provost
9. 10/26/23 3:29 pm  
Brianna Vargas-  
Gonzalez (bv4):  
Approved for  
Registrar
10. 10/28/23 4:00 am  
\*system\*:  
Approved for  
Banner

## History

1. **Oct 28, 2023 by Piper Hodson (phodson)**

Deepens students' understanding of policy, economic, community, and cultural factors that empower and constrain wetland protection, conservation, and restoration. The first half explores wetland regulation and management in the U.S., in other countries, and internationally with attention to adapting to environmental change within those policy contexts. The second half focuses on competing management and conservation priorities, social aspects of wetland conservation, restoration, and management, and developing skills in the effective and culturally sensitive stakeholder engagement.

## Justification

Justification for change:

This course is one of three new online courses that will comprise the proposed Wetland Science and Conservation graduate certificate (key 1217). NRES, together with the Illinois Natural History Survey, has deep expertise in wetland ecology, management, and restoration, but our teaching capacity to this point has been limited to NRES 418 Wetland Ecology & Management. With the June 2023 Supreme Court decision (Sackett v. USEPA), there is much more need for natural resource managers with a deep

understanding of wetlands, and our current course offerings simply cannot meet that demand, hence the proposed certificate and the need for NRES 527. This course will also significantly expand the course content available focusing on the human dimensions of wetland management and conservation,.

The intended audience for 527 is adult learners who are employed by or who are seeking employment in environmental science, natural resources, ecology, or conservation biology. The new content in this course will help prepare students for success in these areas of employment. While this course is unique from other courses in NRES, it provides essential subject matter content necessary for students who have interest in pursuing advanced credentials such as a graduate certificate or graduate degree.

Please Note: a syllabus is required for General Education review:  
[NRES 527.pdf](#)

## Course Information

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### Course Credit

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Course credit:

Undergraduate:

Graduate: 4

Professional:

Justification for  
Change in  
Graduate Credit:

This graduate level course designed for a non-traditional, adult learner audience of prospective students who do not have time or the ability to take coursework on-campus. This coursework will be offered 100% online through a combination of asynchronous (self-paced) and synchronous sessions that allow learners to learn at their own pace to earn academic credit. The rigor expected of a graduate level course will be integrated through the formative and summative assessments required of students. Students will complete frequent formative assessments throughout the courses, and high-engagement, high-level Bloom's taxonomy summative assessments (e.g., case studies, individual assignments, final exam) will be required elements to pass the course. To ensure application of critical thinking, students will solve problems, create

potential solutions, and develop strategic plans for the human element in managing and restoring wetlands.

## Registrar Use

### Only:

Banner Credit: 4

Billable Hours: 4

## Grading Type

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Grading type: Letter Grade

Alternate Grading  
Type (optional):

Available for DFR: No

## Repeatability

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May this course  
be repeated? No

## Credit Restrictions

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Credit  
Restrictions:

## Advisory Statements

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Prerequisites:  
NRES 417.

Concurrent  
Enrollment  
Statement:

Restricted  
Audience  
Statement:

Restricted to Wetland Science and Conservation Graduate Certificate.

## Cross-listing

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Cross Listed  
Courses:

## Class Schedule Information

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Class Schedule  
Information:

## Fees

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Is a fee requested No  
for this course?

## Course Description in the Catalog Entry

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This is how the above information will be represented in the Catalog:

Deepens students' understanding of policy, economic, community, and cultural factors that empower and constrain wetland protection, conservation, and restoration. The first half explores wetland regulation and management in the U.S., in other countries, and internationally with attention to adapting to environmental change within those policy contexts. The second half focuses on competing management and conservation priorities, social aspects of wetland conservation, restoration, and management, and developing skills in the effective and culturally sensitive stakeholder engagement. Course Information: 4 graduate hours. No professional credit. Prerequisite: NRES 417. Restricted to Wetland Science and Conservation Graduate Certificate.

## Additional Course Notes

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Enter any other  
course  
information  
details to be  
included in the  
catalog:

## Course Detail

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Frequency of  
course:

Every Spring

Duration of the  
course Less

Describe:  
First 8 weeks of spring semester

Anticipated  
Enrollment: 20

Expected distribution of  
student registration: Graduate: Professional:  
100 % N/A

## General Education

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General Education  
Category

### Additional Course Information

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Does this course replace an existing course? No

Does this course impact other courses? No

Does the addition of this course impact the departmental curriculum? No

Has this course been offered as a special topics or other type of experimental course? No

Will this course be offered on-line?  
Online Only

Faculty members who will teach this course:

Search for a specialized teaching faculty member who will teach this course is currently underway.

Course ID: 1012841

Comments to Reviewers:

Please note that the Wetland Science and Conservation Certificate and its associated new courses (NRES 417, 517, and 527) have been designed by a committee. The instructor listed on the syllabus is the committee member who led the design of that specific course. However, a search is underway for a specialized teaching faculty member to begin in June 2024 and teach the initial offerings of all three courses in the 2024-2025 academic year.

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Course Edits

Proposed by:

Piper Hodson (phodson@illinois.edu)

Course Reviewer

Comments

**Brooke Newell (09/26/23 8:50 am):** Rollback: Email sent to Piper

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Key: 13560

## Viewing: **NRES 417 : Principles of Wetland Science and Conservation**

Changes proposed by: Piper Hodson

### General Information

Effective Term: Fall 2024  
College: Agr, Consumer, & Env Sciences  
Department/Unit Name (ORG Code): Natural Res & Env Sci (1875)  
Course Subject: Natural Resources & Environ Sc (NRES)  
Course Number: 417  
Course Title: Principles of Wetland Science and Conservation  
Abbreviated Title: Principles Wetland Sci & Cons  
Course Description:

### Completed Workflow

1. **U Course Review**
2. **1875 Committee Chair**
3. **1875 Head**
4. **KL Committee Chair**
5. **KL Dean**
6. **Grad Dean**
7. **COTE**
8. **Provost**
9. **Registrar**
10. **Banner**

### Approval Path

1. 10/01/23 2:20 pm  
Brooke Newell (bsnewell):  
Approved for U Course Review
2. 10/02/23 8:40 am  
James Miller (jrmillr): Approved for 1875  
Committee Chair
3. 10/02/23 8:52 am  
Robert Schooley (schooley):  
Approved for 1875 Head
4. 10/11/23 2:21 pm  
Brianna Gregg (bjgray2):  
Approved for KL Committee Chair
5. 10/11/23 2:55 pm  
Anna Ball (aball):  
Approved for KL Dean
6. 10/19/23 10:31 am

- Mary Lowry  
(lowry): Approved  
for Grad Dean
7. 10/20/23 12:22  
pm  
Suzanne Lee  
(suzannel):  
Approved for  
COTE
8. 10/20/23 12:58  
pm  
Brooke Newell  
(bsnewell):  
Approved for  
Provost
9. 10/26/23 3:28 pm  
Brianna Vargas-  
Gonzalez (bv4):  
Approved for  
Registrar
10. 10/28/23 3:59 am  
\*system\*:  
Approved for  
Banner

## History

1. **Oct 28, 2023 by  
Piper Hodson  
(phodson)**

Students taking this course will gain a foundational understanding of all aspects of wetlands. In the first four weeks, students will be introduced to the major components of wetlands (hydrology, soils, and biota) and discuss their importance to ecosystem functioning and services. The second half of the course will focus on anthropogenic impacts on wetlands and the resulting conservation and restoration efforts needed for wetland ecosystems.

## Justification

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Justification for change:

This course is one of three new online courses that will comprise the proposed Wetland Science and Conservation graduate certificate (key 1217). NRES, together with the Illinois Natural History Survey, has deep expertise in wetland ecology, management, and restoration, but our teaching capacity to this point has been limited to NRES 418 Wetland Ecology & Management. With the June 2023 Supreme Court decision (Sackett v. USEPA), there is much more need for natural resource managers with a deep

understanding of wetlands, and our current course offerings simply cannot meet that demand, hence the proposed certificate and the need for NRES 417.

While there is significant overlap with NRES 418, NRES 417 delves more deeply into a narrower range of material. The intended audience for 417 is adult learners who are employed by or who are seeking employment in environmental science, natural resources, ecology, or conservation biology. The new content in this course will help prepare students for success in these areas of employment. While this course is unique from other courses in NRES, it provides essential subject matter content necessary for students who have interest in pursuing advanced credentials such as a graduate certificate or graduate degree.

Please Note: a syllabus is required for General Education review:

[NRES 417.pdf](#)

## Course Information

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### Course Credit

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Course credit:

Undergraduate: 4

Graduate: 4

Professional:

Justification for Change in Graduate Credit:

This graduate level course designed for a non-traditional, adult learner audience of prospective students who do not have time or the ability to take coursework on-campus. This coursework will be offered 100% online through a combination of asynchronous (self-paced) and synchronous sessions that allow learners to learn at their own pace to earn academic credit. The rigor expected of a graduate level course will be integrated through the formative and summative assessments required of students. Students will complete frequent formative assessments throughout the courses, and high-engagement, high-level Bloom's taxonomy summative assessments (e.g., case studies, individual assignments, final exam) will be required elements to pass the course. To ensure application of

critical thinking, students will solve problems, create potential solutions, and develop strategic plans to

## Registrar Use

### Only:

Banner Credit: 4

Billable Hours: 4

## Grading Type

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Grading type: Letter Grade

Alternate Grading  
Type (optional):

Available for DFR: No

## Repeatability

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May this course  
be repeated? No

## Credit Restrictions

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Credit

Restrictions:

Credit towards graduation is not given for NRES 417 and NRES 418.

## Advisory Statements

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Prerequisites:

Knowledge equivalent to completion of an introductory soils course and a course in basic ecology.

Concurrent

Enrollment

Statement:

Restricted

Audience

Statement:

Restricted to the Wetland Science and Conservation Graduate Certificate.

## Cross-listing

---

Cross Listed

Courses:

## Class Schedule Information

---

Class Schedule  
Information:

## Fees

---

Is a fee requested    No  
for this course?

## Course Description in the Catalog Entry

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This is how the above information will be represented in the Catalog:

Students taking this course will gain a foundational understanding of all aspects of wetlands. In the first four weeks, students will be introduced to the major components of wetlands (hydrology, soils, and biota) and discuss their importance to ecosystem functioning and services. The second half of the course will focus on anthropogenic impacts on wetlands and the resulting conservation and restoration efforts needed for wetland ecosystems. Course Information: 4 undergraduate hours. 4 graduate hours. Credit towards graduation is not given for NRES 417 and NRES 418. Prerequisite: Knowledge equivalent to completion of an introductory soils course and a course in basic ecology. Restricted to the Wetland Science and Conservation Graduate Certificate.

## Additional Course Notes

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Enter any other  
course  
information  
details to be  
included in the  
catalog:

## Course Detail

---

Frequency of  
course:

Every Fall

Duration of the  
course

Less

Describe:

First 8 weeks of fall semester

Anticipated  
Enrollment:

20

Expected distribution of student registration:	Freshman: N/A	Sophomore: N/A	Junior: N/A	Senior: 2 %
Graduate:				
98 %				

## General Education

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General Education  
Category

## Additional Course Information

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Does this course replace an existing course? No

Does this course impact other courses? No

Does the addition of this course impact the departmental curriculum? No

Has this course been offered as a special topics or other type of experimental course? No

Will this course be offered on-line?

Online Only

Faculty members who will teach this course:

Search for a specialized teaching faculty member who will teach this course is currently underway.

Course ID: 1012839

Comments to Reviewers:

Please note that the Wetland Science and Conservation Certificate and its associated new courses (NRES 417, 517, and 527) have been designed by a committee. The instructor listed on the syllabus is the committee member who led the design of that

specific course. However, a search is underway for a specialized teaching faculty member to begin in June 2024 and teach the initial offerings of all three courses in the 2024-2025 academic year.

Please note that the intended audience for this course is strictly graduate students, but since it is a 400-level course, we did not want to close the possibility of an undergrad being able to take it in the face of an unresolvable conflict preventing them from taking a NRES 418.

Course Edits

Proposed by:

Piper Hodson (phodson@illinois.edu)

Course Reviewer

Comments

**Brooke Newell (09/26/23 8:46 am):** Rollback: Email sent to Piper

**Donna Butler (09/27/23 10:20 pm):** Slight text revisions for consistency.

**Brooke Newell (09/28/23 10:26 am):** Rollback: Per discussion

## Piper Hodson

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### Education

**AM**, University of Illinois, Political Science

**BA**, Knox College, International Relations

### Certifications

Project Management Simplified

### Resident Instruction

NRES 108 Environmental Science & Natural Resource Careers

NRES 439 Environmental and Sustainable Development

NRES 502 Research Methods in NRES

NRES 503 Capstone Research Project

NRES 505 Capstone Internship Experience

NRES 507 Capstone Group Research Project

NRES 594 NRES Professional Orientation

### Academic Positions

University of Illinois Urbana Champaign

*2006 – Present*, Student Services Coordinator, Dept. of Natural Resources & Environmental Sciences

*2001 – 2006*, Program Director for the Global Crossroads & Women in Math, Science, and Engineering

St. Joseph's College

*1997 – 2001*, Assistant Professor of Political Science

## Robert Hudson

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### Education

**Ph.D.**, Massachusetts Institute of Technology, Environmental Engineering | 1982 - 1989

**B.S.**, UC Santa Barbara, Chemistry & Chemical Engineering | 1975 - 1979

### Resident Instruction

NRES 403 Watersheds and Water Quality

NRES 490 Surface Water System Chemistry

NRES 516 Ecosystem Biogeochemistry

### Academic Positions

University of Illinois Urbana Champaign

1996 – Present

Associate Professor, Department of Natural Resources & Environmental Sciences

University of California, Santa Cruz

1992 – 1996

PostDoc, Institute of Marine Sciences

Tetra Tech

Principal Investigator, Research and Development

1989 – 1996

Engineer

1979 – 1982

Massachusetts Institute of Technology

1982 – 1989

Research Assistant, Department of Civil and Environmental Engineering

### Publications

Byard, G., Rhoads, B., Schmidt, A., Hudson, R., Sangwan, N., Cullen, C., Mannix, D., Kelly, W., Meem, T., Gardner, M., Fouts, L., Gross, H., & Zavalza, A. (2022). Watershed-Specific Release Rate Analysis Phase III: Cook County, Illinois. (ISWS Contract Report; No. 2022-03). Prairie Research Institute.

<https://hdl.handle.net/2142/117016>

Johnson, D. B., Schideman, L. C., Canam, T., Hosen, J. D., & Hudson, R. J. M. (2020). Spatial and temporal differences in the composition and structure of bacterial assemblages in biofilms of a rotating algal-bacterial contactor system treating high-strength anaerobic digester filtrate. *Bioresource Technology Reports*, 10, [100413]. <https://doi.org/10.1016/j.biteb.2020.100413>

Johnson, D. B., Schideman, L. C., Canam, T., & Hudson, R. J. M. (2018). Pilot-scale demonstration of efficient ammonia removal from a high-strength municipal wastewater treatment sidestream by algal-bacterial biofilms affixed to rotating contactors. *Algal Research*, 34, 143-153. <https://doi.org/10.1016/j.algal.2018.07.009>

Bell, N., Cooke, R. A. C., Olsen, T., David, M. B., & Hudson, R. (2015). Characterizing the performance of denitrifying bioreactors during simulated subsurface drainage events. *Journal of Environmental Quality*, 44(5), 1647-1656. <https://doi.org/10.2134/jeq2014.04.0162>

Pižeta, I., Sander, S. G., Hudson, R. J. M., Omanović, D., Baars, O., Barbeau, K. A., Buck, K. N., Bundy, R. M., Carrasco, G., Croot, P. L., Garnier, C., Gerringa, L. J. A., Gledhill, M., Hirose, K., Kondo, Y., Laglera, L.

## Biographical Sketch

M., Nuester, J., Rijkenberg, M. J. A., Takeda, S., ... Wells, M. (2015). Interpretation of complexometric titration data: An intercomparison of methods for estimating models of trace metal complexation by natural organic ligands. *Marine Chemistry*, *173*, 3-24. <https://doi.org/10.1016/j.marchem.2015.03.006>

Olsen, T. A., Huang, T. H., Kanissery, R., & Hudson, R. J. M. (2015). Mercury-thiourea complex ion chromatography: Advances in system chemistry and applications to environmental mercury speciation analysis. In K. C. Lanigan, A. Rihana-Abdallah, M. A. Benvenuto, K. R. Evans, & E. S. Roberts-Kirchhoff (Eds.), *Trace Materials in Air, Soil, and Water* (pp. 115-151). (ACS Symposium Series; Vol. 1210). American Chemical Society. <https://doi.org/10.1021/bk-2015-1210.ch006>

Hudson, R. J. M., & Cooke, R. A. (2015). *Methylmercury Production in Denitrifying Woodchip Bioreactors*. (2010 Sponsored Research Symposium), (RR Series (Illinois Sustainable Technology Center); No. 130). Illinois Sustainable Technology Center.

Gentry, L. E., David, M. B., Herbstritt, S. M., Cooke, R. A., Olsen, T., Hudson, R. J. M., & Czapar, G. F. (2013). Performance of a Woodchip Bioreactor Receiving Agricultural Tile Drainage. In *Water, Food, Energy & Innovation for a Sustainable World*

Barrocas, P. R. G., Landing, W. M., & Hudson, R. J. M. (2010). Assessment of mercury(II) bioavailability using a bioluminescent bacterial biosensor: Practical and theoretical challenges. *Journal of Environmental Sciences*, *22*(8), 1137-1143. [https://doi.org/10.1016/S1001-0742\(09\)60229-1](https://doi.org/10.1016/S1001-0742(09)60229-1)

Kwon, H. Y., & Hudson, R. J. M. (2010). Quantifying management-driven changes in organic matter turnover in an agricultural soil: An inverse modeling approach using historical data and a surrogate CENTURY-type model. *Soil Biology and Biochemistry*, *42*(12), 2241-2253. <https://doi.org/10.1016/j.soilbio.2010.08.025>

## Jeffrey Matthews

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### Education

**Ph.D.**, University of Illinois Urbana-Champaign, Natural Resources & Environmental Sciences · (2008)

**M.A.**, Indiana University Bloomington, Ecology & Evolutionary Biology · (1997 – 1999)

**B.S., B.A.**, Miami University, Zoology, Botany · (1993 - 1997)

### Resident Instruction

NRES 285 Field Experience

NRES 415 Native Plant ID and Floristics

NRES 418 Wetland Ecology and Management

NRES 419 Environmental and Plant Ecosystems

NRES 599 Thesis Research

### Academic Positions

University of Illinois Urbana Champaign

*Associate Professor*

2018 – Present

Assistant Professor

2012 - 2018

Wetlands Research Leader, Illinois Natural History Survey

2010 - 2012

*Wetland Plant Ecologist*

2000 - 2010

### Publications

Tillman, S.C., and J.W. Matthews. 2023. Evaluating the ability of wetland mitigation banks to replace plant species lost from destroyed wetlands. *Journal of Applied Ecology* 60:990-998. [10.1111/1365-2664.14391](https://doi.org/10.1111/1365-2664.14391)

Tovar, E., and J.W. Matthews. 2023. Species richness and floristic quality metrics differ in their sensitivity to *Lonicera maackii* invasions with increasing area. *Natural Areas Journal* 43:108-116. [10.3375/0885-8608-43.2.108](https://doi.org/10.3375/0885-8608-43.2.108)

Charles, B., M.H. Chase, G. Pociask, R. Bhattarai and J.W. Matthews. 2023. Restored wetlands are greatly influenced by hydrology and non-native plant invasion. *Wetlands Ecology and Management* 31:129-142. [10.1007/s11273-022-09905-0](https://doi.org/10.1007/s11273-022-09905-0)

Kinsman-Costello, L., E. Bean, A. Goeckner, J.W. Matthews, M. O'Driscoll, M. Palta, A. Peralta, A.J. Reisinger, G. Reyes, A. Smyth and M. Stofan. 2023. Mud in the city: Effects of freshwater salinization on urban wetland nitrogen and phosphorus availability and export. *Limnology and Oceanography Letters* 8:112-130. [10.1002/lol2.10273](https://doi.org/10.1002/lol2.10273)

Zinnen, J., and J.W. Matthews. 2022. Species composition and ecological characteristics of native seed mixes in the Midwest (USA). *Ecological Restoration* 40:247-258. [10.3368/er.40.4.247](https://doi.org/10.3368/er.40.4.247)

Charles, B., M.H. Chase, G. Pociask, R. Bhattarai and J.W. Matthews. 2022. Can functional leaf traits be used for monitoring wetland restoration? A comparison between commonly used monitoring metrics and functional leaf traits. *Ecological Indicators* 140:109032. [10.1016/j.ecolind.2022.109032](https://doi.org/10.1016/j.ecolind.2022.109032)

## Biographical Sketch

Zinnen, J., B. Charles, D.N. Zaya and J.W. Matthews. 2022. Functional traits and responses to nutrient and mycorrhizal addition are inconsistently related to wetland plant species' coefficients of conservatism. *Wetlands Ecology and Management* 30:513-526. [10.1007/s11273-022-09877-1](https://doi.org/10.1007/s11273-022-09877-1)

Zinnen, J., and J.W. Matthews. 2022. Native species richness of commercial plant vendors in the Midwestern United States. *Native Plants Journal* 22:4-15. [10.3368/npj.23.1.4](https://doi.org/10.3368/npj.23.1.4)

Xu, S., N.F. Martin, J.W. Matthews and Y. Arai. 2022. Accumulation and release of organic phosphorus (P) from legacy P-affected soils to adjacent drainage water. *Environmental Science and Pollution Research* 29:33885-33899. [10.1007/s11356-021-18481-4](https://doi.org/10.1007/s11356-021-18481-4)

Tillman, S.C., G. Spyreas, A. Olnas and J.W. Matthews. 2022. Plant communities in wetland mitigation banks surpass the quality of those in the most degraded, naturally occurring wetlands, but fall short of high-quality wetlands. *Ecological Engineering* 176:106526. [10.1016/j.ecoleng.2021.106526](https://doi.org/10.1016/j.ecoleng.2021.106526)

López-Tapia, S., P. Ruiz, M. Smith, J. Matthews, B. Zercher, L. Sydorenko, N. Varia, Y. Jin, M. Wang, J.B. Dunn and A.K. Katsaggelos. 2021. Machine learning with high-resolution aerial imagery and data fusion to improve and automate the detection of wetlands. *International Journal of Applied Earth Observation and Geoinformation* 105:102581. [10.1016/j.jag.2021.102581](https://doi.org/10.1016/j.jag.2021.102581)

Stern, J.L., B.D. Herman and J.W. Matthews. 2021. Coefficients of Conservatism for the flora of the Middle Rio Grande floodplain. *Southwestern Naturalist* 65:141-151. [10.1894/0038-4909-65.2.141](https://doi.org/10.1894/0038-4909-65.2.141)

Stern, J.L., B.D. Herman and J.W. Matthews. 2021. Determining vegetation metric robustness to environmental and methodological variables. *Environmental Monitoring and Assessment* 193:647. [10.1007/s10661-021-09445-9](https://doi.org/10.1007/s10661-021-09445-9)

Zinnen, J., L.M. Broadhurst, P. Gibson-Roy, T.A. Jones and J.W. Matthews. 2021. Seed production areas are crucial to conservation outcomes: Benefits and risks of an emerging restoration tool. *Biodiversity and Conservation* 30:1233-1256. [10.1007/s10531-021-02149-z](https://doi.org/10.1007/s10531-021-02149-z)

Robertson, M., S.M. Galatowitsch and J.W. Matthews. 2021. Wetland compensation and landscape change in a rapidly urbanizing context. *Environmental Management* 67:355-370. [10.1007/s00267-020-01380-8](https://doi.org/10.1007/s00267-020-01380-8)

Zinnen, J., G. Spyreas, D.N. Zaya and J.W. Matthews. 2021. Niche ecology in Floristic Quality Assessment: Are species with higher conservatism more specialized? *Ecological Indicators* 121:107078. [10.1016/j.ecolind.2020.107078](https://doi.org/10.1016/j.ecolind.2020.107078)

Zinnen, J., G. Spyreas, L. Erdős, C. Berg and J.W. Matthews. 2021. Expert-based measures of human impact to vegetation. *Applied Vegetation Science* 24:e12523. [10.1111/avsc.12523](https://doi.org/10.1111/avsc.12523)

Blake-Bradshaw, A.G., J.D. Lancaster, J.R. O'Connell, J.W. Matthews, M.W. Eichholz and H.M. Hagy. 2020. Suitability of wetlands for migrating and breeding waterbirds in Illinois. *Wetlands* 40:1993-2010 [10.1007/s13157-020-01276-7](https://doi.org/10.1007/s13157-020-01276-7)

## Jocelyn Curtis-Quick

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### Education

**Ph.D.**, 2013

**M.A.**, Indiana University Bloomington, Ecology & Evolutionary Biology · (1997 – 1999)

**B.S., B.A.**, Miami University, Zoology, Botany · (1993 - 1997)

### Ph.D. Dissertation

Jocelyn undertook a Ph.D. on the effects of habitat degradation on coral reef fish. Increasing anthropogenic disturbances are resulting in the degradation of many reef systems worldwide leading to the reduction of reef fish diversity and abundance. Many reef fish play important ecosystem functional roles and their demise can have significant implications for the reef system. The Indo-Pacific has especially high diversity and functional redundancy, which means that reefs in this area are more capable to resist and recover from disturbance. The degree of susceptibility of reef fish to changes in habitat quality is seemingly species-specific and highly dependent on the resource requirements of the particular species. Jocelyn's PhD aimed to increase our understanding of niche partitioning and resource utilisation by key fish taxa and importantly the plasticity of fish to adapt their feeding strategy (through behavioural studies) in response to a changing habitat quality.

### Resident Instruction

NRES 285 Sustainable Policy Field Experience

RES 499 On-site Description & Interpretation of Soil

NRES 500 Graduate Seminar

### Academic Positions

University of Illinois Urbana Champaign

Adjunct Lecturer

### Publications

#### Chapters in Books

Shultz, Aaron & Klimah, Carl & Curtis-Quick, Jocelyn & Claussen, Rachel & LaBine, Jalyn & Ray, Adam. (2021). Can You Hear Me Now? Design Considerations for Large Lake, Multispecies Telemetry Projects. 10.1007/978-3-030-80678-1\_10.

#### Articles in Journals

Curtis-Quick, Jocelyn & Ulanov, Alexander & Li, Zhong & Bieber, John & Tucker-Retter, Emily & Suski, Cory. (2021). Why the Stall? Using metabolomics to define the lack of upstream movement of invasive bigheaded carp in the Illinois River. PLoS ONE. 16. 10.1371/journal.pone.0258150.

Hunt, Christina & Andradi-Brown, Dominic & Hudson, Callum & Bennett-Williams, Joshua & Noades, Frankie & Curtis-Quick, Jocelyn & Lewis, Owen & Exton, Dan. (2020). Shelter use interactions of invasive lionfish with commercially and ecologically important native invertebrates on Caribbean coral reefs. PLOS ONE. 15. e0236200. 10.1371/journal.pone.0236200.

Masonjones, Heather & Rose, Emily & Elson, Jessica & Roberts, B & Curtis-Quick, Jocelyn. (2019). High density, early maturing, and morphometrically unique *Hippocampus erectus* population makes a Bahamian pond a priority site for conservation. Endangered Species Research. 39. 10.3354/esr00949.

## Biographical Sketch

Hunt, Christina & Kelly, George & Windmill, Hannah & Curtis-Quick, Jocelyn & Conlon, Helen & Bodmer, Max & Rogers, Alex & Exton, Dan. (2019). Aggregating behaviour in invasive Caribbean lionfish is driven by habitat complexity. *Scientific Reports*. 9. [10.1038/s41598-018-37459-w](https://doi.org/10.1038/s41598-018-37459-w).

Andradi-Brown, Dominic & Vermeij, Mark & Slattery, Marc & Lesser, Michael & Bejarano, Ivonne & Appeldoorn, Richard & Goodbody-Gringley, Gretchen & Chequer, Alex & Pitt, Joanna & Eddy, Corey & Smith, S. & Brokovich, Eran & Pinheiro, Hudson & Jessup, M. & Shepherd, Bart & Rocha, Luiz & Curtis-Quick, Jocelyn & Eyal, Gal & Noyes, Tim & Exton, Dan. (2017). Large-scale invasion of western Atlantic mesophotic reefs by lionfish potentially undermines culling-based management. *Biological Invasions*. 19. 939–954. [10.1007/s10530-016-1358-0](https://doi.org/10.1007/s10530-016-1358-0).

Côté, Isabelle & Akins, John & Underwood, Elizabeth & Curtis-Quick, Jocelyn & Green, Stephanie. (2014). Setting the record straight on invasive lionfish control: Culling works. [10.7287/peerj.preprints.398](https://doi.org/10.7287/peerj.preprints.398).  
Zinnen, J., and J.W. Matthews. 2022. Native species richness of commercial plant vendors in the Midwestern United States. *Native Plants Journal* 22:4-15. [10.3368/npj.23.1.4](https://doi.org/10.3368/npj.23.1.4)

Côté, Isabelle & Darling, Emily & Malpica-Cruz, Luis & Smith, Nicola & Green, Stephanie & Curtis-Quick, Jocelyn & Layman, Craig. (2014). What Doesn't Kill You Makes You Wary? Effect of Repeated Culling on the Behaviour of an Invasive Predator. *PloS one*. 9. e94248. [10.1371/journal.pone.0094248](https://doi.org/10.1371/journal.pone.0094248).

Moore, Jon & Fricke, Ronald & Curtis-Quick, Jocelyn. (2010). *Myripristis pralinia*, Big Eye Soldierfish. The IUCN Red List of Threatened Species. 2010. 1-12. [10.2305/IUCN.UK.2010-4.RLTS.T154850A4650750.en](https://doi.org/10.2305/IUCN.UK.2010-4.RLTS.T154850A4650750.en).  
Zinnen, J., G. Spyreas, L. Erdős, C. Berg and J.W. Matthews. 2021. Expert-based measures of human impact to vegetation. *Applied Vegetation Science* 24:e12523. [10.1111/avsc.12523](https://doi.org/10.1111/avsc.12523)

## Clark Dennis

### Education

Ph.D., Conservation Sciences, University of Minnesota, 2019

M.S., Natural Resources and Environmental Sciences, University of Illinois, 2014

B.S., Integrative Biology, University of Illinois, 2010

### Research Interest

I am fascinated by the physiological and behavioral system that aquatic organisms have to interact with their environment. While my research is grounded in basic biology, many of the projects I have worked on generate novel conservation strategies to protect freshwater ecosystems. More specifically, I have studied the response of freshwater fish species to environmental stimuli (e.g., carbon dioxide, strobe lights, sound, bubble curtains, turbulent flow) in the hopes of developing technologies that can attract or repel the movement of fishes for conservation goals.

### Academic Positions

Adjunct Instructor, University of Illinois	2022 –
<ul style="list-style-type: none"><li>• <i>NRES 285: Fisheries Field Techniques</i></li><li>• <i>NRES 409: Fishery Ecology and Conservation</i></li><li>• <i>NRES 429: Aquatic Ecosystem Conservation</i></li></ul>	
Postdoctoral Researcher, University of Illinois	2021 – 2023
Graduate Research Assistant, University of Minnesota	2015 – 2020
Research Fellow, University of Minnesota	2014 – 2015
Graduate Research Assistant, University of Illinois	2012 – 2014
Research Technician, University of Illinois	2010 – 2012

### Publications (selected)

- Dennis III C.E., Ranjan P., Suski C.D., and Tinoco R. (In Review) Sea lamprey display context dependent attraction to specific types of turbulence within a laboratory flume. *Can. J. Fish. Aquat. Sci.*
- Dennis III C.E. and Sorensen P.W. (2020). Common carp are initially repelled by a broadband outboard motor sound in a lock chamber but habituate rapidly. *N. Am. J. Fish Manag.* doi: 10.1002/nafm.10517.
- Dennis III C.E. and Sorensen P.W. (2020). High-intensity light blocks bighead carp in a laboratory flume. *Manag. Biol. Invasions.* 11: 441-460.
- Dennis III C.E., Zielinski D., and Sorensen P.W. (2019). A complex sound coupled with an air curtain blocks invasive carp passage without habituation in a laboratory flume. *Biol. Invasions.* 21: 2837-2855.
- Dennis III C.E., Wright A.W., and Suski C.D. (2016). Potential for carbon dioxide to act as a non-physical barrier for invasive sea lamprey movement. *J. Great Lakes Res.* 42: 150-155.
- Dennis III C.E., Adhikari S., and Suski C.D. (2015). Molecular and behavioral responses of early-life stage fishes to elevated carbon dioxide. *Biol. Invasions.* 17: 3133-3151.

## Anna Leigh Ball

124 Mumford Hall, MC-170, 1301 W. Gregory Drive, Urbana IL, 61801 | [aball@illinois.edu](mailto:aball@illinois.edu)

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### Education:

**PhD**, University of Missouri May 2002, Major: Agricultural Education, Concentration: Teacher Education

**MEd**, University of Missouri, August 2000, Major: Practical Arts and Vocational Technical Education, Emphasis: Agricultural Education

**BS**, University of Illinois, December 1995, Major: Agricultural Education

### Professional Experience:

University of Illinois, Urbana-Champaign

2019-present

**Associate Dean for Academic Programs**, College of Agriculture, Consumer and Environmental Sciences

University of Missouri, Columbia

**Faculty Fellow for Faculty Affairs**, Office of the Provost (2016-2019)

**Director**, Center for Educational Innovations, CAFNR (2011-2019)

**Faculty Fellow**, Broader Impacts Network, Office of Research and Graduate Studies (2014-2015)

Department of Agricultural Education and Leadership, Professor (2014-2019); Director of Graduate Studies (2016-2017); Chair (2010-2016); Director of Undergraduate Studies (2008-2010); Associate Professor (2008-2014)

University of Florida

2006-2008

**Assistant Professor of Agricultural Education**, Department of Agricultural Education and Communication **Director**, Teaching Resource Center, College of Agriculture and Life Sciences

University of Illinois

2002-2006

**Assistant Professor of Agricultural Education**, Department of Human and Community Development

### Publications:

Mott, R., Simonsen, J., Tummons, J., Ball, A.L., & Vandermause, R. (in press). What is the meaning of livestock youth production? A hermeneutic phenomenological study. *Journal of Agricultural Education*.

Leman, A. M., Korte, D., & Ball, A. (2021). Faculty and student perceptions of the learning experience in an emergency transition to online learning. *NACTA Journal*, 65.

Bowling, A.M. & Ball, A.L. (2020). Supporting students' psychological needs and motivation within school-based agricultural education: a mixed methods study. *Journal of Agricultural Education* 61(2), 206-221. <https://doi.org/10.5032/jae.2020.02206>.

Bird, W., Bowling, A. M., & Ball, A. L. (2020). Civic engagement, autonomy, and reflection: Factors influencing youth self-perceived civic responsibility. *Journal of Agricultural Education*, 61(1), 203-220. doi: 10.5032/jae.2020.01203

Bowling, A. M., Ball, A. L., & Bird, W. (2020). Exploring motivational strategies, outcomes, and theories within the *Career Development Event preparation process*. *Journal of Agricultural Education*, 61(1), 221-234. doi: 10.5032/jae.2020.01221

## Biographical Sketch

Bird, W., Bowling, A. M., & Ball, A. L. (2019) The role reflection plays in enhancing civic responsibility following FFA civic engagement activities. *Journal of Agricultural Education*, 60(1), 128 – 144. DOI: 10.5032/jae.2019.01128

Bowling, A. M., & Ball, A. L. (2018). Alternative certification: A solution or an alternative problem? *Journal of Agricultural Education*, 59(2), 109-122 <https://doi.org/10.5032/jae.2018.02109>

Cramer, S., Ball, A.L., & Hendrickson, M. (2019). "Our school system is trying to be agrarian": educating for reskilling and food system transformation in the rural school garden. *Agriculture and Human Values*, 36(4). DOI:10/1007.s10460-019-09942-1.

Cramer, S. & Ball, A.L. Wild leaves and narrow stems: exploring formal and nonformal education tensions through garden-based learning. *Journal of Agricultural Education*, 60(4), 35-52. doi: 10.5032/jae.2019.04035

Mott, R. L., Keller, K. J. M., Britt Rankin, J., & **Ball, A. L.** (2018). "Out of place around other people": Experiences of young people who live with food insecurity. *Children & Society*.

### Honors and Awards:

**E.B. Knight, Outstanding Journal Author Award**, North American Colleges and Teachers of Agriculture, 2005. Article: Garton, B. L., Kitchel, T., & Ball A. L. (2005). University admission criteria and learning style: Predictors of academic success? *North American Colleges and Teachers of Agriculture Journal*, 49(2) 10.

- **Fellow**, American Association for Agricultural Education, 2016
- **Outstanding Member**, American Association for Agricultural Education, 2016
- **Excellence in College and University Teaching in the Food and Agricultural Sciences Award**, United States Department of Agriculture, 2014.

### External Funding:

Findeis, J.L., (Lead P.I.) Parcell, J., **Henry [Ball], A.L.**, Boessen, C., Fulcher, C., Chaddad, F., & O'Brien, D., *University of Illinois USAID Soybean MRA*. University of Illinois Subcontract 2013, \$1,144,258.

**Henry [Ball], A.L.** & Simonsen, J. (Co-P.I.'s). *National Farm Business Management Benchmarking*. National Institute of Food and Agriculture, 2012, \$76,000.

Parcell, J, **Henry [Ball], A.L.** & Gedikoglu (Co-P.I.'s), *Student Understanding of Price-Risk Management through Experiential Learning via Distance Education Delivery*, United States Department of Agriculture Higher Education Challenge Grant, \$285,000

**Ball, A.L.** (Lead P.I.), & Knobloch, N.A. (Co-P.I.), *Developing Undergraduate-Faculty Partnerships to Enhance Learner-Centered Teaching in Colleges of Agriculture and Natural Resources*, USDA Higher Education Challenge Grants Program, 2005-2008, \$150,000

Knobloch, N. (P.I.) and **Ball, A.L.** (Co-P.I.), *A National Assessment of Learner Centered Approaches to Teaching in Colleges of Agriculture*, Higher Education Challenge Grant, 2003-2006, \$100,000.

# DEBRA S. KORTE

124 ACES LIAC, 1101 S. Goodwin Avenue, Urbana, Illinois 61801 | (217) 244-8086 | dskorte@illinois.edu

## SUMMARY OF TEACHING & LEARNING EXPERTISE

- Award-winning teaching professor with more than two decades of proven impact in agricultural education and curriculum development
- More than nine years of experience as trusted administrator and project manager of educational programs in the College of ACES
- Successful manager of approximately \$400,000 of grant funds, sponsorship of graduate degree coursework, and execution of educational initiatives
- Author of 21 published works and conference presentations on the scholarship of teaching and learning, pedagogical practices, and emerging issues in teacher development

## EDUCATION

- 2017**      **Doctor of Philosophy** | University of Missouri, Agricultural Education  
*Doctoral Dissertation: Korte, D. (2017). The influence of social support on teacher self-efficacy in novice agricultural education teachers. Advisor: Dr. Jon Simonsen*
- 2009**      **Master of Science** | Eastern Illinois University, Educational Leadership Administration  
*Type 75 (Secondary Education) Administrative Certificate*
- 2002**      **Bachelor of Science** | University of Illinois at Urbana-Champaign, Agricultural and Environmental Communications & Education  
*Secondary Teaching Certificate in General Science and Agricultural Business and Management*

## PROFESSIONAL EMPLOYMENT

- 2020-present**    **Director for Learning Innovation and E-learning | Teaching Associate Professor**  
University of Illinois, College of Agricultural, Consumer, and Environmental Sciences
- 2012-2020**      **Teaching Assistant Professor**  
University of Illinois, Agricultural Leadership, Education and Communications Program
- 2009-2012**      **Assistant Communications Director and Training Coordinator**  
Software Solutions Integrated, LLC, Shelbyville, Illinois
- 2008-2011**      **Adjunct Instructor and Education Outreach Coordinator**  
Lake Land College Agriculture Department, Mattoon, Illinois
- 2008-2009**      **Curriculum Development Consultant**  
MyCAERT, Danville, Illinois  
University of Illinois Information Technology and Communication Services
- 2002-2008**      **Agriculture Education Instructor**  
Kansas CUSD #3, Kansas, Illinois

## GRANTS FOR EDUCATIONAL INITIATIVES

- 2012-present**    **Administrator/Principal Investigator**, Illinois State Board of Education (ISBE)  
Instructional Grants
- Secured **\$185,452 of funding** from **18 grants** offered by ISBE
  - Develop and submit budget proposals for the Incentive Funding (IFG) and Growing Agricultural Science Teachers (GAST) grants for **9 consecutive years**
  - Submit the IFG Indicators Application to the Illinois State Board of Education

## PUBLICATIONS & PRESENTATIONS

### Publications in Peer Reviewed Journals

- Leman, A., **Korte, D.** and Ball, A. (in press). Faculty and student perceptions of the learning experience in an emergency transition to online learning. *North American Colleges and Teachers of Agriculture (NACTA) Journal*.
- Korte, D.S.**, Mott, R., Keating, K.H., & Simonsen, J.C. (2020). Choosing a life of impact: A grounded theory approach to describe the career choice of becoming a teacher. *Journal of Human Sciences and Extension*, 8(2), 237-259. <https://www.jhseonline.com/article/view/1069/841>
- Solomonson, J.K., Thieman, E.B., **Korte, D.S.**, Retallick, M.S. (2019). Why do they leave and where do they go? A qualitative study of Illinois school-based agriculture teachers who left the profession. *Journal of Agricultural Education*, 60(4), 115-131. doi:10.5032/jae.2019.04115.
- Solomonson, J.K., **Korte, D.S.**, Thieman, E.B., Retallick, M.S., & Keating, K.H. (2018). Factors contributing to Illinois agricultural educators' final decision to leave the classroom. *Journal of Agricultural Education*, 59(2), 321-342. doi:10.5032/jae.2018.02321.
- Korte D.S.** & Simonsen, J.C. (2018). The influence of social support on teacher self-efficacy in novice agricultural education teachers. *Journal of Agricultural Education*, 59(3), 100-131. doi:10.5032/jae.2018.03100.
- Gezer-Templeton, G. Mayhew, E., **Korte, D.**, & Schmidt, S. (2017). Use of exam wrappers to enhance students' metacognitive skills in a large introductory food science and human nutrition course. *Journal of Food Science Education*, 16(1), 28-36. doi:10.1111/1541-4329.12103.

### Presentations at Regional & National Conferences

- Korte, D.S.** & Schmidt, S. (2019, June). *Starting with the End in Mind: Introducing Career Ready Practices to First Semester Freshman*. Poster presented at the annual meeting of the North American Colleges and Teachers of Agriculture Conference, Twin Falls, ID.
- Korte, D.S.** & Schmidt, S. (2019, June). *Helping Students Develop and Mature as Scientists*. Poster presented at the annual meeting of the Institute of Food Technologists, New Orleans, LA.
- Korte, D.S.** & Schmidt, S. (2018, July). *Exploring the influence of course elements on students' approaches to learning in a large enrollment introductory food science and human nutrition course*. Poster presented at the annual meeting of the Institute of Food Technologists, Chicago, IL.
- Korte, D.** & Simonsen, J. (2017, September). *The influence of social support on teacher self-efficacy in novice agricultural education teachers*. Research presentation at the annual meeting of the North Central American Association for Agricultural Education, Ames, IA.
- Schmidt, S., **Korte, D.**, Reitz, N., Gezer-Templeton, G., & Mayhew, E. (2017, June). *Helping students learn both course content and best learning practices*. Poster presented at the annual meeting of the North American Colleges and Teachers of Agriculture Conference, West Lafayette, IN.

## HONORS & ACHIEVEMENTS

- 2013-present** CITL List of Teachers Ranked as Excellent by Students (28 semesters, 6 for online course)
- 2020** Nominee for Association of Public & Land-Grant Universities USDA National Institute of Food and Agriculture Excellence in College & University Teaching in the Food & Agricultural Sciences
- 2018** NACTA Educator Award, North American Colleges and Teachers of Agriculture
- 2018** Specialized Faculty Teaching Award, College of Agricultural, Consumer and Environmental Sciences (ACES)

**Elissa Thomann Mitchell, Ph.D., LSW, CFLE (she/her)**  
Teaching Associate Professor  
Department of Human Development & Family Studies  
University of Illinois at Urbana-Champaign  
thomann2@illinois.edu

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### **EDUCATION**

- 2013 Ph.D., Human Development and Family Studies  
University of Illinois at Urbana-Champaign
- 2006 M.S.W., Mental Health Specialization  
M.S., Human & Community Development  
University of Illinois at Urbana-Champaign
- 2003 B.S., Psychology, Interpersonal Communication  
University of Evansville

### **LICENSE & CERTIFICATION**

- 2022 *Licensed Social Worker*, State of Illinois (#150.108253, exp 11/30/23)  
2020 *Certified Family Life Educator (CFLE)*, NCFER (exp 1/31/2025)

### **PROFESSIONAL EMPLOYMENT**

#### **Academic Appointments**

- 2023 – present Teaching Associate Professor, Department of Human Development & Family Studies, University of Illinois at Urbana-Champaign
- 2018 – 2023 Director, Center for Social Justice Education, University of Southern Indiana
- 2015 – 2023 Associate Professor (2021 – 2023) / Assistant Professor (2015 – 2021),  
Social Work Department, University of Southern Indiana
- 2014 – 2015 Faculty Fellow, Center for Online Learning, Research, & Service, University of Illinois at Springfield
- 2013 – 2015 Assistant Professor, Department of Human Services, University of Illinois at Springfield
- 2008 – 2013 Graduate Research & Teaching Assistant, Human and Community Development, University of Illinois at Urbana-Champaign
- 2007 – 2008 Instructor, Human and Community Development, University of Illinois at Urbana-Champaign
- 2004 – 2006 Graduate Research & Teaching Assistant, Human and Community Development, University of Illinois at Urbana-Champaign

#### **Other Professional Experience**

- 2023 – present Online Education Consultant, College of ACES, University of Illinois at Urbana-Champaign
- 2017 – 2023 Adjunct Instructor: Eastern Illinois University, University of Illinois at Urbana-Champaign, & Wilmington University
- 2017 – 2020 Course Developer & Reviewer, Applied Family Science, Wilmington University
- 2007 – 2013 Director of Network and Outreach, Generations of Hope Development

Corporation, Champaign, Illinois  
 2005 – 2007 Family & Child Support Worker; Family Intervention Team; Research and  
 Evaluation Assistant, Generations of Hope, Rantoul, Illinois  
 2004 Mental Health Technician, Adult and Child Health, Indianapolis, Indiana  
 2002 – 2003 Mental Health Technician, Southwestern Indiana Mental Health Center,  
 Evansville, Indiana

### SCHOLARSHIP

(abbreviated list; only work since 2020)

#### Publications

**Mitchell, E. T.** (2022). Macro practice. In K. Zgoda (Ed.) *Active learning lessons, activities, and assignments for the modern social work educator* (pp. 178-187). Routledge.

**Mitchell, E. T.** (2022). Social justice and activism. In K. Zgoda (Ed.) *Active learning lessons, activities, and assignments for the modern social work educator* (pp. 329-330). Routledge.

**Mitchell, E.T., & Gilles, E.E.** (2021). "I now feel more comfortable advocating for people:" Student reflections on service learning. *Journal of Human Services: Training, Research, and Practice*, 7(2), Article 1. <https://scholarworks.sfasu.edu/jhstrp/vol7/iss2/1>

**Mitchell, E.T., Whittaker, A.L., Raffaelli, M., & Hardesty, J.** (2021). Child adjustment after parental separation: Variations by gender, age, and maternal experiences of violence during marriage. *Journal of Family Violence*, 36, 979-989. <https://doi.org/10.1007/s10896-021-00252-x>

**Mitchell, E.T.** (2021). The importance of intergenerational relationships. *The Minka Monthly Newsletter*, p. 3. <https://www.usi.edu/media/5637046/november-minka-monthly-newsletter.pdf>

**Mitchell, E.T.** (2021). Steps to becoming an activist. *Illume*, 11. <https://www.usi.edu/media/5631964/illume-spring-2021-web-full-spreads.pdf>

#### Presentations

**Mitchell, E.T.** (2023, November). *Embracing choice: Student-led service learning*. Presentation at the Original Lilly Conference on College Teaching, Oxford, OH.

**Mitchell, E.T.** (2023, November). *Request for proposals: Teaching grant writing through active learning*. Presentation at the National Council on Family Relations Conference, Orlando, FL.

**Mitchell, E.T.** (2023, November). *Providing support to NICU families during COVID: A program for the way we are now*. Presentation at the National Council on Family Relations Conference, Orlando, FL.

**Mitchell, E.T., & Crossman, K.A.** (2023, October). *Course mapping: Rethinking the basics of course development*. Presentation at the Teaching Professor Online Conference, Virtual.

**Crossman, K. & Mitchell, E.T.** (2023, October). *Strategies for engaging students in reading and writing about research*. Presentation at the Teaching Professor Online Conference, Virtual.

- Mitchell, E.T.** (2023). *Course mapping: Rethinking the basics of course development*. Invited speaker at workshop for College of ACES Online Development, Champaign, IL.
- Mitchell, E.T.**, Dillingham, J., & Maynard, Q.R. (2022, November). *Creating structure and support for student success*. Presentation at the Online Learning Consortium Conference, Virtual.
- Dillingham, J., **Mitchell, E.T.**, & Maynard, Q.R. (2022, October). *Another committee? How a technology committee supports student and faculty success in an online world*. Presentation at the Indiana Association of Social Work Educators Conference, Indianapolis, IN.
- Dillingham, J., & **Mitchell, E.T.** (2021, April). *Going online in a hurry: Using faculty peer mentors*. Presentation at the Social Work Distance Education Conference, Virtual.
- Mitchell, E.T.**, & Dillingham, J. (2021, March). *Informal mentoring of faculty teaching online: Strategies & techniques*. Presentation at the Online Learning Consortium Conference, Virtual.
- Mitchell, E.T.**, Gilles, E.E., & Huggins, V. (2021, February). *Teaching with service learning: A collaboration between social work and public relations faculty*. Presentation at the Indiana Campus Compact Summit, Virtual.
- Mitchell, E.T.** (2020, November). *Expanding the boundaries of teaching and learning in family science: Student engagement and learning*. Discussant for this session at the National Council on Family Relations Conference, Virtual.
- Mitchell, E.T.**, & Huggins, V. (2020, May). *Teaching macro practice through online and community engagement*. Presentation at the Influencing Social Policy MACRO Conference, St. Louis, MO. [Conference cancelled due to COVID-19].
- Huggins, V. & **Mitchell, E.T.** (2020, March). *Social media and service learning: Teaching macro practice through engagement*. Presentation at the Association of Baccalaureate Social Work Program Directors' Conference, Birmingham, AL [Conference cancelled due to COVID-19].
- Mitchell, E.T.** & Dillingham, J. (2020, March). *Technology in practice: Implications for social work educators and programs*. Presentation at the Association of Baccalaureate Social Work Program Directors' Conference, Birmingham, AL. [Conference cancelled due to COVID-19].

## **Wetland Science and Conservation, CERT (online)**

### **NRES 417: Principles of Wetland Science and Conservation**

Students taking this course will gain a foundational understanding of all aspects of wetlands. In the first four weeks, students will be introduced to the major components of wetlands (hydrology, soils, and biota) and discuss their importance to ecosystem functioning and services. The second half of the course will focus on anthropogenic impacts on wetlands and the resulting conservation and restoration efforts needed for wetland ecosystems.

### **NRES 517: Advanced Wetland Theory and Techniques**

Students will investigate the science behind the conservation, restoration, and monitoring of wetlands. The first part of the course will focus on the theory and techniques used during wetland delineation of hydrology, hydric soils, and vegetation. The second part of the course will focus on wetland management with a focus on best practices regarding the conservation, restoration and monitoring of wetlands.

### **NRES 527: Wetland Science and Conservation in Context**

Deepens students' understanding of policy, economic, community, and cultural factors that empower and constrain wetland protection, conservation, and restoration. The first half explores wetland regulation and management in the U.S., in other countries, and internationally with attention to adapting to environmental change within those policy contexts. The second half focuses on competing management and conservation priorities, social aspects of wetland conservation, restoration, and management, and developing skills in the effective and culturally sensitive stakeholder engagement.



## GRADUATE COLLEGE

110 Coble Hall, MC-322  
801 S. Wright St.  
Champaign, IL 61820

### PROGRAM TUITION WAIVER POLICY PROPOSAL

Proposals to establish or revise tuition waiver policy for a graduate program will follow a shared governance approval process (Department, School, College, Graduate College).

#### Definitions of Tuition Waiver Policy Designations:

**Traditional Programs.** Programs either designated as generating **full or base-rate** tuition waivers. Base rate waivers waives only the Resident Graduate Base tuition amount. Non-Residents or students in a program with an additional tuition differential will be responsible for the remaining portion of tuition.

**Reimbursable Programs.** Programs identified as programs that would be reimbursed from an appointing unit outside their academic college.

**Cost-recovery and self-supporting programs.** Students in approved cost-recovery and self-supporting programs are not eligible to receive tuition and fee waivers except statutory waivers. Students in these programs are not eligible to hold a waiver generating graduate appointment (Assistantship or Fellowship). Full time employees may be admitted to these programs, but their employee waiver is not eligible for use towards a program with this designation.

Additional information related to these tuition waiver designations can be found here:  
<http://www.grad.illinois.edu/gradhandbook/2/chapter7/tuition-waivers#otherprovisions>.

#### PROGRAM INFORMATION

COLLEGE OR SCHOOL: \_\_\_\_\_

PROGRAM(s) (Include Program Codes if applicable):  
\_\_\_\_\_

#### REQUESTED DESIGNATION (Select desired designation type):

Comments:

**JUSTIFICATION: On a separate sheet, please address the following.**

1. Describe the reasons for this request and explain: (a) the pros and cons of the classification requested, and (b) how the requested classification will benefit and not adversely affect the academic quality of the program.
2. What type of financial assistance will be offered to students in the program?
3. Has this program had past practice of offering graduate assistantships? If so, please describe.
4. What provisions will be made to communicate the new classification to prospective and newly admitted students?

**APPROVALS: (May use Adobe Signature or print and sign the document)**

**Department Executive Officer Signature and Date:** \_\_\_\_\_

**Disciplinary College Signature and Date:** \_\_\_\_\_

**Graduate College Signature and Date:** \_\_\_\_\_



August 7, 2023

To Whom it May Concern:

The purpose of this letter is to provide justification for the Illinois Graduate College *Program Tuition Waiver Policy Proposal*. Specifically, the College of ACES and Department of Natural Resources and Environmental Sciences (NRES) are requesting **self-supporting** status for the Campus Graduate Certificate in *Wetland Science and Conservation*.

1a. Describe the **pros and cons** of the classification requested.

- **Pros:** The Certificate in Wetland Science and Conservation responds directly to Campus Strategic Plan Goal 2C: "Provide new educational pathways and enhance current programs to increase flexibility and to foster education across disciplines." This certificate program will address the growing needs to provide high quality, flexible online education to meet learner demands from mid-career, non-traditional audiences; mitigate risk of reliance on state financial support; provide new educational pathways to enhance current programs and increase revenue; and design affordable and accessible programs for students from disadvantaged ethnic, racial, and geographical backgrounds and underrepresented minority populations.
- **Cons:** The self-supporting status differs from the other programs currently offered in NRES. The self-supporting status of this certificate will be communicated on all marketing and promotional materials.

1b. Describe how the requested classification will **benefit and not adversely affect** the academic quality of the program.

The requested self-supporting status will benefit NRES and the initiatives specifically outlined as part of this new graduate certificate by expanding our reach of learners to a broader audience. This request will also contribute toward the sustainability of this certificate. There are no foreseeable reasons why the self-supporting status would adversely affect the academic quality of the certificate program, other courses and programs in the department, or the M.S. degree programs that coursework from this certificate can be applied toward as elective requirements.

2. What type of financial assistance will be offered to students in the program?

As a Campus Graduate Certificate, this program will be eligible for student financial assistance through the Office of the Registrar at the University of Illinois and the Graduate College.

3. Has this program had past practice of offering graduate assistantships? If so, please describe.

No. This is a new program offered by the NRES and the College of ACES.

4. What provisions will be made to communicate the new classification to prospective and newly admitted students?

This certificate will be promoted as a standalone certificate and as a certificate that can be stacked toward an online Master of Science degree in Natural Resources and Environmental Sciences. The self-supporting status of this certificate will be communicated on all marketing and promotional materials. The College of ACES will clearly communicate the self-supporting status of this certificate on all websites and promotional materials provided by the NRES and the College of ACES.

Thank you for your consideration of this self-supporting status request for the new Certificate in *Wetland Science and Conservation*.

Sincerely,



Anna Ball

Associate Dean of Academic Programs



ACES Online Learning Innovation RFP Budget Template							
Wetland Science and Conservation							
		Course 1	Course 2	Course 3	Total	Budget Guidelines	
<b>A. Personnel: Instructional Team</b>							
Instructional Team Leader	Salary Additional % appt	\$ 10,000	\$ 10,000	\$ 10,000	\$ 30,000	Service in Excess payments may not exceed \$4999 per person. Summer salary is allowable, not to exceed equivalent of one month effort. SIE/summer salary payments should align with the semester/month in which course development will occur.	
Instructional Team 2	Salary Summer Salary	\$ 7,000	\$ 7,000	\$ 7,000	\$ 21,000		
Instructional Team 3	Salary Adjunct	\$ 4,500	\$ -	\$ -	\$ 4,500		
Instructional Team 4	Salary Service in Excess	\$ -	\$ 4,500	\$ -	\$ 4,500		
Instructional Team 5	Salary Adjunct	\$ -	\$ 4,500	\$ 4,500	\$ 9,000		
Instructional Team 6	Salary Service in Excess	\$ -	\$ -	\$ 4,500	\$ 4,500		
Other FTE Personnel	Salary	\$ -	\$ -	\$ -	\$ -		
<b>Personnel Total</b>		<b>\$ 21,500</b>	<b>\$ 26,000</b>	<b>\$ 26,000</b>	<b>\$ 73,500</b>		
<b>B. Other Personnel</b>							
Adjunct Instructor	Salary	\$ 8,000	\$ -	\$ -	\$ 8,000		Other personnel may receive service in excess payment approved by home unit  Support is temporary and cannot be used to hire new civil service positions.
Adjunct Instructor	Salary	\$ -	\$ 8,000	\$ 8,000	\$ 16,000		
Graduate Assistant(s)	Salary	\$ -	\$ -	\$ -	\$ -		
Graduate Assistant(s)	Salary	\$ -	\$ -	\$ -	\$ -		
Student Hourly	Salary	\$ 1,500	\$ 1,500	\$ 1,500	\$ 4,500		
Student Hourly	Salary	\$ -	\$ -	\$ -	\$ -		
Admin. Salary	Salary	\$ -	\$ -	\$ -	\$ -		
Other	Salary	\$ -	\$ -	\$ -	\$ -		
<b>Other Personnel Total</b>		<b>\$ 9,500</b>	<b>\$ 9,500</b>	<b>\$ 9,500</b>	<b>\$ 28,500</b>		
<b>All Personnel Total</b>	<b>Total</b>	<b>\$ 31,000</b>	<b>\$ 35,500</b>	<b>\$ 35,500</b>	<b>\$ 102,000</b>	No fringe is assessed, funding is state support.	
<b>C. Marketing</b>		\$ 4,000	\$ 2,500	\$ 2,500	\$ 9,000		
<b>D. Other Direct Costs</b>		\$ 15,000	\$ 12,000	\$ 12,000	\$ 39,000		
<b>Total Other Direct Costs</b>		<b>\$ 19,000</b>	<b>\$ 14,500</b>	<b>\$ 14,500</b>	<b>\$ 48,000</b>		
<b>F. Total Direct Costs</b>		<b>\$ 50,000</b>	<b>\$ 50,000</b>	<b>\$ 50,000</b>	<b>\$ 150,000</b>		

## ACES Online Learning Innovation RFP Budget Template

### Wetland Science and Conservation

Please provide justification for budgeted categories. Departmental business staff should review for allowability.

#### A. Personnel: Instructional Team

Instructional Team Leader is either a current part-time visiting employee whose appointment could be increased or a visiting part-time Academic Professional. There would be a summer salary payments to one full-time NRES faculty member for contribution to the development of the courses. The additional instructional team members will be by Service in Excess to employees of University of Illinois Extension and/or the Illinois Natural History Survey (after ensuring their appointments meet the requirements to be paid for instructional duties) or external partners hired as visiting instructional consultants.

#### B. Other Personnel (e.g., student hourly support, graduate assistantships)

As each course launches, the lead instructor must be compensated, whether an adjunct or a faculty member teaching overload. NRES plans to support these courses with a classroom assistant (student hourly) to manage the technological functions of the course.

#### C. Marketing

Before the certificate launches and the first course is offered, NRES will join relevant professional organizations as an institutional member, accounting for additional cost for the first course. Routine marketing costs in the first year are anticipated to be Google advertising, advertising in publications of professional organizations, and sponsorship and exhibiting at relevant professional conferences.

#### D. Other Direct Costs

In order to create a high engagement, exceptional quality educational experience, professional video recording and editing, beyond the scope of what will be available from CITL, will be required. In addition, it is envisioned that video will be adapted to a Virtual Reality format, enhancing the learning experience for students but requiring additional cost. This funding would also cover direct costs such as supplies or training opportunities for members of the instructional team.

Current

**Natural Resources & Environmental Sciences, MS**

*for the Master of Science in Natural Resources and Environmental Sciences (on campus & online)*

Two options are open to students who wish to pursue a Master of Science degree in the Department of Natural Resources and Environmental Sciences. The M.S. Thesis Option program helps students develop into researchers. Coursework is no longer the primary focus, and students learn how to create, plan, and carry out independent research. The M.S. Non-Thesis Option program guides students in the acquisition of professional expertise beyond the undergraduate degree. The program requires a culminating/capstone experience, which may be satisfied in one of three ways: an individual investigative project, a collaborative, possibly interdisciplinary, group project, or a professional internship experience. The Non-Thesis Option may also be appropriate in special cases where a student executes a major special project which is equivalent to a M.S. thesis, but which does not lend itself to the thesis format. Students on campus are admitted into the thesis option and, under certain conditions, may be allowed to transfer into the non-thesis option by petitioning the Department. In contrast, all students in the online M.S. program are admitted into the non-thesis option and, under certain conditions, may be allowed to transfer into the thesis option by petitioning the Department.

The thesis option requires that the student satisfactorily complete a minimum of 32 hours of graduate coursework, of which a minimum of 12 graduate hours are 500- level courses. This coursework shall include NRES Seminar (500) each semester, minus one, that the student is enrolled, Professional Orientation (594) and 4 to 12 graduate hours of Thesis Research (599), which culminates in the completion and oral defense of a thesis.

A non-thesis option student must satisfactorily complete a minimum of 32 hours of graduate coursework, of which a minimum of 12 graduate hours are 500- level courses, Professional Orientation (594), and 3 to 8 hours of capstone experience in the form of a Capstone Research Project (503), Capstone Internship Experience (505), or Capstone Group Research Project (507). The student must prepare and submit a report analyzing the capstone learning experience and perform satisfactorily on written and oral final examinations.

[The online M. S. graduate program in NRES enables students to continue their education in disciplines related to natural resources and environmental sciences through part-time study at locations away from the Urbana-Champaign campus. This program meets the needs of persons currently working or wanting to work in the areas of conservation, ecology, restoration ecology, soil science, sustainable development, urban ecology, urban forestry, urban wildlife management, and water resources management. Students can enroll in individual courses for professional and/or academic advancement, or apply for admission to the M.S. degree program. All online M.S. students are admitted to the non-thesis option, though, under certain conditions, a degree-seeking online student may petition the Department to transfer to the thesis option. Application deadlines and other important information are available at <https://nres.illinois.edu/online/apply>.](https://nres.illinois.edu/online/apply)

This degree program can be completed either on campus or online; with or without a thesis, the requirements are listed below:

**Thesis Option**

Course List

Code	Title	Hours
<b>Thesis Option:</b>		
<a href="#">NRES 594</a>	NRES Professional Orientation	1
	Electives	19-27
<a href="#">NRES 599</a>	Thesis Research (min/max applied toward Completion, defense and deposit of thesis)	4-12
<b>Total Hours</b>	<b>Thesis Option</b>	<b>32</b>

**Non-Thesis Option:**

<a href="#">NRES 594</a>	NRES Professional Orientation	1
Select one of the following:		
<a href="#">NRES 503</a>	Capstone Research Project	
<a href="#">NRES 505</a>	Capstone Internship Experience	
<a href="#">NRES 507</a>	Capstone Group Research Project	
Electives		23-28

Written final examination; preparation, presentation, oral exam, and approval of a capstone project report

<b>Total Hours</b>	<b>Non-Thesis Option</b>	<b>32</b>
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**Other Requirements**

Other requirements may overlap		
Minimum 500-level Hours Required Overall:		12
Minimum GPA:		3

Proposed

**Wetland Science and Conservation, CERT (online)**

The required courses for this certificate are listed below. Total hours for CERT = 12  
Certificate stackable to non-thesis option only.

Code	Title	Hours
NRES 417	Principles of Wetland Science and Conservation	4
NRES 517	Advance Wetland Theory and Techniques	4
NRES 527	Wetland Science and Conservation in Context	4

**CERT Total**

**12**