

## **NRES 429 Aquatic Ecosystem Conservation**

- Hours: 3 ug/g
- Online meetings via Zoom
- Time: Monday, Wednesday and Friday from 9:00 - 9:50 am
- Course content (handouts, assignments, etc.) will be managed through Compass 2g (<https://compass2g.illinois.edu/webapps/login/>)

### **Instructor Information**

- Instructor: Dr. Cory Suski, Professor, NRES
- Office: W401C Turner Hall
- Phone: 217-244-2237
- Email: [suski@illinois.edu](mailto:suski@illinois.edu)
- Student Hours: At the moment, I'm not planning a regularly-scheduled session for interacting with students. I am happy to arrange a time to meet with you if needed, so please email me. If the need arises, I'm happy to establish a regular student hour time mid-semester
- Preferred Method of Contact: Email
- Response time: I should respond to your email in less than 24 hours – often sooner. Please note that (a) my schedule sometimes can get busy and I may bump up against the 24 hour mark, and (b) emails to me in the evenings or on weekends might not be returned until the following working day.

### **Course Description & Overview**

This course will provide an overview to the structure and functioning of freshwater and marine aquatic ecosystems. In addition, this course will expose students to a number of challenges facing aquatic ecosystems, and will provide an opportunity to discuss activities, approaches and strategies that can be used to solve these challenges. While many examples and scenarios discussed will be based on local/regional issues, the course will emphasize a global perspective to aquatic conservation issues and how regional differences in problems and solutions exist. Emphasis will be placed on the importance of using sound science to generate successful management strategies. The class will consist of both lectures & discussion groups.

### **Course Information**

- Prerequisites: CHEM 102, PHYS 140 or 101, MATH 220 or 221 or 234, NRES 219 or IB 203
- Required Text: Introduction to water resources and environmental issues.
- Authors: Karrie Lynn Pennington and Thomas V. Cech (ISBN-13: 978-0-521-86988-1).
- Electronic textbook (need to access with Illinois credentials, either through the library or via the University's [VPN](#)): Encyclopedia of Inland Waters

<http://www.library.uiuc.edu/proxy/go.php?url=http://www.sciencedirect.com/science/referenceworks/9780123706263>

### **Learning Objectives**

At the conclusion of the course, students will acquire knowledge on the primary forces responsible for the health and functioning of aquatic ecosystems, and will also comprehend the importance of water in providing essential ecosystem services. Students will have opportunity to apply this basic knowledge in 'real-life' conservation scenarios, recognizing the role that humans

have played in both the degradation and preservation of aquatic ecosystems, and how human actions can negatively impact ecosystem services. Students will also improve their ability to think critically, learn independently, function in a team or group learning setting, and obtain working knowledge of biological and ecological concepts required for aquatic ecosystem conservation. Students will generate a synthesis paper that incorporates these different elements into an applied conservation scenario.

### **Expectations of Students**

During this course, it is expected that students will come to class on time, having completed assigned reading in advance, and be prepared to engage in course content for the full class time. Students are expected to participate in class activities in ways that support course learning objectives, demonstrate respect and civility toward all other students and instructors, and take an active role in obtaining information and resources for completion of tasks and assignments in the course, ultimately promoting their own learning. Wherever possible, students should contribute feedback to support the instructor in achieving course goals and inform the instructor if they are having a problem understanding presented material. Students are also expected to complete assigned tasks by the announced deadlines and adhere to the content of this syllabus. Finally, students should refrain from using cell phone in class.

### **Students' Expectations of Instructor**

During this course, instructors are expected to begin and end class on time, make the best possible use of class time to support student learning, answer questions promptly and sufficiently, and be available to provide additional assistance when needed. The instructor will always provide clear and consistent criteria that can be used fairly in evaluating student learning, will welcome input on ways to improve the course and will support the achievement of course learning objectives. Feedback (in the form of grading of papers and exams) should be provided to students in a prompt, timely fashion and lecture notes will be made available on the class website prior to class.

### **Teaching and Learning Strategies**

- Lectures – course content will primarily be delivered via lectures from the instructor. Lectures have been assembled using a variety of sources, including the class text book & readings, primary literature and additional textbooks. Copies of lecture slides are available on the Compass website for the class.
- Readings – each lecture is associated with assigned readings. These readings are meant to supplement the in-class material, and present information in new and alternate ways. It is expected that readings are completed prior to class. In this way, readings can help reinforce course content and help with learning.
- Homework Assignments – There are 5 homework assignments as part of this class. These assignments are intended to reinforce lecture/reading content, blend concepts from across multiple lectures, and reinforce application of the ‘basic’ ideas covered in lectures. For the homework assignments, you will be required to do a bit of reading, and then complete 5 questions in Compass. Homework assignments are to be completed by 8:59 am on the due date. Following the due date for these homework assignments, class time will be devoted to sharing answers and solution strategies in small groups, and then with the entire class.
- Online Quizzes – There are 5 online quizzes that are to be completed as part of this class. Quizzes consist of 5 multiple choice questions that are to be completed in Compass. Quizzes are based on lecture content and assigned readings, and are not cumulative (i.e., the content

of a quiz only covers material since the previous quiz). Quizzes are meant to be formative assessments of learning, and are meant to have students engage in class content and complete required readings. Quizzes must be completed by 8:59 am on the due date. Late quizzes will receive a score of zero.

- Exams and assignments will be based on a comprehensive understanding and integration of multiple concepts and ideas – not the memorization of facts and figures
- Group assignment – there is one group assignment that is part of the class. The goal of the group assignment is to have students design a conservation strategy for an aquatic conservation challenge, and apply concepts and ideas discussed in class.
- Essay assignment – there are 2 essay assignments in this class. The goals of these essay assignments are to have students engage in writing about aquatic ecosystem concepts, and develop strategies for solving conservation problems.

**Expected time investment**

During the course, my expectations for your time are as follows:

Component	Estimated time per week
Attend all lectures and discussion sessions	3
Required readings for each lecture and quizzes	1.5
Writing of papers	0.5
Homework	0.5
Group presentation	0.5

**Tentative Lecture Topics and Schedule**

*Note that the dates for lecture topics are subject to change, but the dates of exams, due dates for papers and other 'important dates' will not vary.*

Date	Day	Title	Text Chapters	<a href="#">Electronic Text</a>	Deadline
Aug 24	Mon	Introduction and overview	1		
Aug 26	Wed	Water and aquatic ecosystems	1,4,5	Links <a href="#">1</a> , <a href="#">2</a> and <a href="#">3</a>	
Aug 28	Fri	Group Project Assignments			
Aug 31	Mon	Properties of water & movement of water	3	Links <a href="#">1</a> and <a href="#">2</a>	
Sept 2	Wed	Streams and rivers – in-stream processes (1 of 2)	8	Links <a href="#">1</a> , <a href="#">2</a> and <a href="#">3</a>	Quiz #1
Sept 4	Fri	Streams and rivers – in-stream processes (2 of 2)	8		
Sept 7	Mon	<b>Labor Day – no class</b>			
Sept 9	Wed	Homework #1 – Hydrology			Homework #1
Sept 11	Fri	Streams and rivers – lateral processes		Links <a href="#">1</a> , <a href="#">2</a> and <a href="#">3</a>	
Sept 14	Mon	Lakes 1 of 2	5,6,7	Links <a href="#">1</a> , <a href="#">2</a> and <a href="#">3</a>	
Sept 16	Wed	Lakes 2 of 2	5,6,7	Links <a href="#">1</a> , <a href="#">2</a> and <a href="#">3</a>	Quiz #2
Sept 18	Fri	Trophic state and eutrophication		Links <a href="#">1</a> , <a href="#">2</a> and <a href="#">3</a>	
Sept 21	Mon	Biodiversity and stability		Link <a href="#">1</a>	
Sept 23	Wed	Homework # 2 – Connectivity		On Compass	Homework #2
Sept 25	Fri	Aquatic plants & primary productivity		Links <a href="#">1</a> and <a href="#">2</a>	
Sept 28	Mon	Class time to work on group project			
Sept 30	Wed	<b>Midterm # 1</b>			Paper #1 due
Oct 2	Fri	Benthic communities		Links <a href="#">1</a> and <a href="#">2</a>	
Oct 5	Mon	Fish communities		Links <a href="#">1</a> and <a href="#">2</a>	
Oct 7	Wed	Wetlands		Link <a href="#">1</a>	Quiz #3
Oct 9	Fri	Community structure and ecology		Links <a href="#">1</a> , and <a href="#">2</a>	
Oct 12	Mon	Trends in stressed ecosystems		Optional: <a href="#">Paper #1</a> <a href="#">#2</a>	
Oct 14	Wed	Homework #3 – Monitoring and stressors		On Compass	Homework #3
Oct 16	Fri	Disturbance 1 of 2			
Oct 19	Mon	Disturbance 2 of 2			
Oct 21	Wed	Invasive Species		Link <a href="#">1</a>	Quiz #4
Oct 23	Fri	Class time to work on group project			Organizational plan for group activity due.
Oct 26	Mon	Homework #4 – Invent an invasive species		On Compass	Homework #4
Oct 28	Wed	<b>Midterm Exam #2</b>			
Oct 30	Fri	Pollution		Link <a href="#">1</a>	
Nov 2	Mon	Climate change		Links <a href="#">1</a> and <a href="#">2</a>	
Nov 4	Wed	Ecosystem and watershed management		Links <a href="#">1</a> and <a href="#">2</a>	
Nov 6	Fri	Sampling and monitoring		Link <a href="#">1</a>	
Nov 9	Mon	Water quality assessment techniques		Link <a href="#">1</a>	Quiz #5
Nov 11	Wed	Management/restoration plan 1 of 2		Links <a href="#">1</a> and <a href="#">2</a>	
Nov 13	Fri	Management/restoration plan 2 of 2			
Nov 16	Mon	Catch-up lecture			
Nov 18	Wed	Homework #5 – Choose a scenario		On Compass	Homework #5
Nov 20	Fri	Class time to work on group project			

Nov 23	Mon	Thanksgiving Break				
Nov 25	Wed					
Nov 27	Fri					
Nov 30	Mon	(1) TBD; (2) TBD				
Dec 2	Wed	(1) TBD; (2) TBD				
Dec 4	Fri	(1) TBD; (2) TBD				
Dec 7	Mon	(1) TBD; (2) TBD				
Dec 9	Wed	Exam Review			Final Paper Due, Group/Self Eval Due	
Dec 16	Wed	<b>FINAL EXAM 7:00 – 10:00 pm</b>				

As of August 22, 2020 the final exam for this class has been [scheduled](#) for Wednesday December 16 from 7-10 pm. Please make sure you double-check this [schedule](#) to confirm the date/time of the exam.

**Evaluation Methods & Weighting**

Component	Proportion of Final Grade
Midterm # 1	10 %
Midterm # 2	15 %
Cumulative Final Exam	20 %
Paper # 1	10 %
Final Paper	20 %
Group Exercise	15 %
Homework assignments	5 %
Online quizzes in Compass	5 %
<b>Total</b>	<b>100 %</b>

Grading rubrics for all components will be made available on Compass at the start of the year. The content of the exams will be cumulative – the final exam will cover all material for the entire year.

**Course Policies**

- Student grades will be based on the above components ONLY. Extra-curricular activities (work, sports, applying for jobs), special requirements (you have to get an A to graduate, need a certain grade to maintain a scholarship, etc.) or requirements of future career plans (graduate or professional schools) will not influence ANY grade in this course.
- Your grade will be based, without exception, on the following scale:

- A + 97 to 100%
- A 93 to 96.9%
- A - 90 to 92.9%
- B + 87 to 89.9%

B	83 to 86.9%
B -	80 to 82.9%
C +	77 to 79.9%
C	73 to 76.9%
C -	70 to 72.9%
D +	67 to 69.9%
D	63 to 66.9%
D -	60 to 62.9%
F	< 59.9%

- Attending class is expected, but will not be monitored. Should students need to miss a class, they are encouraged to (1) complete readings of supplementary materials provided in the syllabus or within the lecture notes, and/or (2) borrow class notes from a classmate to become familiar with material discussed in class. Following the completion of these two steps, students are encouraged to discuss materials with the instructor (particularly during office hours) if uncertainty exists regarding content. Note that notes provided by the instructor are meant to *supplement* classroom activities, and not replace learning and discussion during lectures.
- Lecture notes and copies of lecture slides will be provided on Compass as PDF handouts. Copies of individual PowerPoint slides, or handouts consisting of individual PowerPoint slides of lecture material, will **not** be made available to students.
- Quizzes that are not completed prior to the due date/time will receive a score of zero.
- Should you notice early in the semester that you have a conflict with an exam day (i.e., field trip, other), please inform the instructor as early as possible. In situations of known (anticipated) exam conflicts, options related to grades will be handled on a case-by-case basis. Options may include changing the timing of the exam (i.e., write the exam early), or altering the weighting of other assignments in the class. It is expected that known conflicts be supported with a note from another professor (or similar) in support of the conflict.
- Plan to arrive early for all exams in this course. It is the student's responsibility to be sure that the day of an exam will not conflict with other activities. If you arrive to an exam more than 30 minutes late, or after the first person completes the exam (whichever comes first), you will not be allowed to take the exam and will receive a score of 0 (zero). Excuses that are within a student's control (e.g., not enough time to study, headache, car wouldn't start, job interview, did not wake up early enough, traffic was terrible, bus was late, etc.) will not be accepted. It is your responsibility to avoid these potential issues.
- The policy for missed exams will follow guidelines provided by the [Student Code](#) and the [Office of the Dean of Students \(Student Assistance Center\)](#). Briefly, excused absences from exams will be granted **only** for reasons outlined in the [Student Code](#) (e.g., illness of 3 days or longer, illness of family member etc.), **and** only upon timely receipt of an absence letter from the [Student Assistance Center \(Dean of Students\)](#) (received less than 10 days following the student's return to class). Following receipt of a letter from the Office of the Dean of Students in support of the absence, discussions can begin related to grades and grading for the excused exam. Decisions on how to accommodate excused exams will vary on a case-by-case basis and may include writing the exam at a different time, providing of an alternate assignment, or adjusting the weighting of other components of the class.

- Exams that are missed for reasons other than those listed in the [Student Code](#) (i.e., personal business, travel, employment, weddings, sporting event, forgot about exam, car wouldn't start, bus was late, semester has been busy, lack of preparation, not feeling well, concert, etc.) will be handled on a case-by-case basis with the instructor. Missing an exam without an absence letter from the Office of the Dean of Students will most likely result in a grade of zero (0) for that exam.
- It is the responsibility of the student to ensure that assignments are handed in at or before the due dates listed above. Assignments received after the due date will be considered late unless they are accompanied by a letter from the [Office of the Dean of Students \(Student Assistance Center\)](#), generated no later than 10 days after due date of assignment and are in agreement with conditions listed in the [Student Code](#) (e.g., illness of 3 days or longer, illness of family member etc.). Following the timely receipt of an absence letter from the Office of the Dean of Students in support of the missed deadline (within 10 days of the student's return to class), discussions can begin related to grades and grading for the late assignment. Decisions on how to accommodate the late assignment will be handled on a case-by-case basis, and may include an extension of the due date, providing of an alternate assignment, or adjusting the weighting of other components of the class. Excuses for a late assignment that are within the student's control (ran out of toner in printer, hard drive crashed and lost file(s), computer was stolen, couldn't find parking, semester has been busy, several other things due at the same time, memory stick/thumb drive/flash drive broke, need a bit more time, bus was late, not feeling well, it was windy outside) will not be accepted and it is the student's responsibility to avoid these potential issues. **Late assignments will be charged a penalty of 15 % per day.**
- Students are **strongly** encouraged to take advantage of storage space provided by the University through Box (<https://uofi.account.box.com/login>).
- Missing the due date for an online quiz will result in a grade of zero (0) for that quiz.
- Please confirm that any assignments uploaded to Compass are complete, and that the intended version/file has been uploaded. Grades will be provided based exclusively on the file(s) that are uploaded, and it is the student's responsibility to make sure that the proper file is uploaded and that the file contains the proper information. If there is an error made with uploading, changes can only be made prior to the deadline for the assignment, ideally by email with the instructor.
- Individual questions on exams and/or sections of student papers will not be re-graded if the student feels they have been graded unfairly; rather the entire essay, exam or assignment with a disputed grade will be re-evaluated by the instructor, and the second grade will be deemed final, regardless of its value. Class time will be devoted to discussing exams, and so students are asked from disputing grades until after the exam has been reviewed in class.
- For assignments that require handouts to be provided to the class, students are responsible for generating and distributing these documents (not the instructor)
- Students are encouraged to ask questions at any time during class, and feel free to contact me by email outside of class with your questions
- Please show up on time for class. Late arrivals can be disruptive to ongoing lectures.
- Please refrain from using cell phones during lectures.
- Participation in discussion periods is required and content covered in discussion periods may be included on exams
- You are encouraged to ask questions at any time during class, and feel free to contact me by email outside of class with your questions

### **Academic Integrity**

The University of Illinois at Urbana-Champaign Student Code should also be considered as a part of this syllabus. Students should pay particular attention to Article 1, Part 4: Academic Integrity. Read the Code at the following URL: <http://studentcode.illinois.edu/>. Academic dishonesty may result in a failing grade. Every student is expected to review and abide by the Academic Integrity Policy: <http://studentcode.illinois.edu/>. Ignorance is not an excuse for any academic dishonesty. It is your responsibility to read this policy to avoid any misunderstanding. Do not hesitate to ask the instructor(s) if you are ever in doubt about what constitutes plagiarism, cheating, or any other breach of academic integrity.

### **Students with Disabilities**

To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES, you may visit 1207 S. Oak St., Champaign, call 333-4603 (V/TDD), or e-mail a message to <mailto:disability@uiuc.edu>. <http://www.disability.illinois.edu/>.

### **Emergency Response Recommendations**

Emergency response recommendations can be found at the following website: <http://police.illinois.edu/emergency-preparedness/>. I encourage you to review this website and the campus building floor plans website within the first 10 days of class. <http://police.illinois.edu/emergency-preparedness/building-emergency-action-plans/>.

### **Family Educational Rights and Privacy Act (FERPA)**

Any student who has suppressed their directory information pursuant to Family Educational Rights and Privacy Act (FERPA) should self-identify to the instructor to ensure protection of the privacy of their attendance in this course. See <https://registrar.illinois.edu/academic-records/ferpa/> for more information on FERPA.

### **Sexual Misconduct Policy and Reporting**

The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University's Title IX and Disability Office. In turn, an individual with the Title IX and Disability Office will provide information about rights and options, including accommodations, support services, the campus disciplinary process, and law enforcement options.

A list of the designated University employees who, as counselors, confidential advisors, and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found here: [wecare.illinois.edu/resources/students/#confidential](http://wecare.illinois.edu/resources/students/#confidential). Other information about resources and reporting is available here: [wecare.illinois.edu](http://wecare.illinois.edu).



## Run > Hide > Fight

Emergencies can happen anywhere and at any time. It is important that we take a minute to prepare for a situation in which our safety or even our lives could depend on our ability to react quickly. When we're faced with almost any kind of emergency – like severe weather or if someone is trying to hurt you – we have three options: Run, hide or fight.



### Run

**Leaving the area quickly is the best option if it is safe to do so.**

- ▶ Take time now to learn the different ways to leave your building.
- ▶ Leave personal items behind.
- ▶ Assist those who need help, but consider whether doing so puts yourself at risk.
- ▶ Alert authorities of the emergency when it is safe to do so.



### Hide

**When you can't or don't want to run, take shelter indoors.**

- ▶ Take time now to learn different ways to seek shelter in your building.
- ▶ If severe weather is imminent, go to the nearest indoor storm refuge area.
- ▶ If someone is trying to hurt you and you can't evacuate, get to a place where you can't be seen, lock or barricade your area if possible, silence your phone, don't make any noise and don't come out until you receive an Illini-Alert indicating it is safe to do so.



### Fight

**As a last resort, you may need to fight to increase your chances of survival.**

- ▶ Think about what kind of common items are in your area which you can use to defend yourself.
- ▶ Team up with others to fight if the situation allows.
- ▶ Mentally prepare yourself – you may be in a fight for your life.

Please be aware of people with disabilities who may need additional assistance in emergency situations.

## Other resources

- ▶ [police.illinois.edu/safe](http://police.illinois.edu/safe) for more information on how to prepare for emergencies, including how to run, hide or fight and building floor plans that can show you safe areas.
- ▶ [emergency.illinois.edu](http://emergency.illinois.edu) to sign up for Illini-Alert text messages.
- ▶ **Follow the University of Illinois Police Department** on Twitter and Facebook to get regular updates about campus safety.