

Cover Sheet: Request 10880

WIS3XXX

Info

Process	Course New Ugrad/Pro
Status	Pending
Submitter	Johnson,Steven Albert tadpole@ufl.edu
Created	3/29/2016 10:02:00 AM
Updated	5/20/2016 2:47:20 PM
Description	Application of ecological principles and natural history information to conserve and sustainably manage natural resources with an emphasis on animals and plants.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Wildlife Ecology and Conservation 514947000	Hellgren, Eric C		3/29/2016
Deleted ucc_consult_Johnson_NatResEcol.pdf Added Syllabus_NREcology_UCC.docx					3/29/2016 3/29/2016
College	Approved	CALS - College of Agricultural and Life Sciences	Brendemuhl, Joel H	Requested changes by the CALS CC have been addressed and a consult with Biology has been done and is attached.	5/20/2016
Added ucc_consult-Biology.pdf					5/20/2016
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			5/20/2016
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

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Request: WIS3XXX

Request description: Application of ecological principles and natural history information to conserve and sustainably manage natural resources with an emphasis on animals and plants.

Submitter: Johnson, Steven Albert tadpole@ufl.edu

Created: 3/29/2016 10:02:00 AM

Form version: 1

Responses

Recommended PrefixWIS

Course Level 3

Number XXX

Lab Code None

Course TitleNatural Resource Ecology

Transcript TitleNatural Resource Ecol

Effective Term Earliest Available

Effective YearEarliest Available

Rotating Topic?No

Amount of Credit3

Repeatable Credit?No

S/U Only?No

Contact Type Regularly Scheduled

Degree TypeBaccalaureate

Weekly Contact Hours 3

Category of Instruction Intermediate

Delivery Method(s)Online

Course Description Application of ecological principles and natural history information to conserve and sustainably manage natural resources with an emphasis on animals and plants.

Prerequisites General Biology (BSC 2011 or equivalent course)

Co-requisites None

Rationale and Placement in Curriculum An outcome of deliberations among members of the Natural Resource Conservation (RCN major) Curriculum Committee several years ago was that we needed to add an applied ecology course to the list of core courses for the major. I volunteered to develop the course in an online format so it would be available to students at UF's Milton Campus pursuing the RCN major. The course is now required (1 of 2 course options) for RCN majors and is a popular elective for Wildlife Ecology (WIE) majors. Its also a popular elective for ESC, BLY, and IS majors; it is growing in popularity among students in the UF Online program. Rarely, students majoring in ZY or BIO take the course. I've taught the class 5 times previously under the course number WIS 4934 and enrollment has averaged approximately 45 students. This is an asynchronous, completely DE course.

Course Objectives • Explain how different ecological principles are applied to solve specific problems affecting the conservation and management of natural resources at different spatial and temporal scales

- Understand and define the concept of biodiversity, describe ecological and socioeconomic values of biodiversity, and make science-based arguments as to why biodiversity should be conserved

- Describe how and why natural systems are organized at scales ranging from biome to population and provide examples
- Explain how biotic and abiotic factors affect the abundance and distribution of plants and animals and understand how organisms adapt and evolve in response to changing environments; analyze the role of climate change in this context and discuss strategies for mitigating negative effects of climate change on renewable resources
- Understand and define basic interactions within and among species (e.g., competition, predation, symbioses), and explain how these interactions can be manipulated to manage populations of plants and animals to meet specific objectives
- Explain energy flow through food webs, and nutrient (e.g., carbon) and water cycles at global and local scales and how the flow of energy is affected by the actions of humans

Course Textbook(s) and/or Other Assigned Reading Ecology 3rd Ed. (2014) M.L. Cain, W.D. Bowman, and S.D. Hacker, Sinauer Associates, Inc., ISBN 978-0-87893-908-4

Weekly Schedule of Topics Week

Date Modules: Assignments, Lecture Topics, Online Learning Activities, Text Readings
Cain et al. Readings

Module 1—Organisms and Their Environment

Module 1 opens Aug. 21 @ 7AM & closes Oct. 4 @ 10PM

Assignments & Quizzes/Exams

-Quiz 1 Syllabus, Quizzes 2-3

-Problem Set 1: see assignment sheet posted in Canvas

-Video Discussion 1: see assignment sheet posted in Canvas

1

Aug. 22 Lecture Topics: Course Introduction
Chapter 1

Online Learning Activities: Activities emphasize ecological connections and focus on amphibian declines and malformations.

Text Reading Topics: Ecological Connections

2

Chapters 2 & 3

Aug. 29 Lecture Topics: Earth's Biomes Overview & Climate Change
Predictions Case Study

Online Learning Activities: Interactive web pages allow exploration of our planet's major biomes as well as numerous research sites in the US that are part of the LTER network

Text Reading Topics: Climate and Biomes

3

Chapters 4 & 5

Sep. 5 Lecture Topics: Thermal Considerations Overview & Pythons in Florida Case
Studies

Online Learning Activities: Activities offer a look at the fundamental processes that affect Earth's climate, provide specific examples of how animals deal with extremes in temperature, and more

Text Reading Topics: Coping with Environmental Variation

Module 2—Ecosystems

Module 2 opens Sept. 11 @ 7AM & closes Oct. 4 @ 10PM

Assignments & Quizzes/Exams

- Quizzes 4-6, Exam 1
- Problem Set 2: see assignment sheet posted in Canvas
- Video Discussion 1: see assignment sheet posted in Canvas
- Group Project: see assignment sheet posted in Canvas

4

Chapter 20

Sep. 12 Lecture Topics: Ecosystem Energy Production Overview & Hydrothermal and Seep Vent Communities Case Study
 Online Learning Activities: Video clips explore the unique organisms of deep-sea hydrothermal vent communities and the response of global plant growth to climate change
 Text Reading Topics: Primary and Secondary Production

5

Chapter 21

Sep. 19 Lecture Topics: Food Webs Overview & Trophic Cascades Case Study
 Online Learning Activities: Videos and simulations emphasize the complex relationships among species in trophic cascades
 Text Reading Topics: Food Webs, Energy Flow

6

Chapter 22

Sep. 26 Lecture Topics: Nutrient Cycling Overview & Biological Soil Crusts Case Study
 Online Learning Activities: Animations and video clips explain nutrient cycling, eutrophication, and acid rain impacts
 Text Reading Topics: Nutrient Cycling

Module 3—Natural Communities

Module 3 opens Oct. 2 @ 7AM & closes Nov. 1 @ 10PM

Assignments & Quizzes/Exams

- Quizzes 7-8
- Video Discussion 2: see assignment sheet posted in Canvas
- Group Project: see assignment sheet posted in Canvas

7

Chps. 16, 17, 19

Oct. 3 Lecture Topics: Species Diversity Overview & Biofuels Case Study
 Online Learning Activities: Videos, animations, and news articles highlight ecological engineers, the process of succession, and biofuels
 Text Reading Topics: Community Structure and Change

8

Chapter 18

Oct. 10 Lecture Topics: Habitat Fragmentation & Road Effects Case Study
 Online Learning Activities: Explore and learn about biogeography and continental drift
 Text Reading Topics: Biogeography

Module 4—Populations

Module 4 opens Oct. 16 @ 7AM & closes Nov. 1 @ 10PM

Assignments & Quizzes/Exams

- Quizzes 9-10, Exam 2
- Problem Set 3: see assignment sheet posted in Canvas

- Video Discussion 2: see assignment sheet posted in Canvas
- Group Project: see assignment sheet posted in Canvas

9

Chapters 7 & 9

Oct. 19 Lecture Topics: Life History Strategies & Salamander Case Study
Online Learning Activities: Explore reproductive strategies of marine invertebrates and plants, and learn about conservation efforts for Kiwis in New Zealand
Text Reading Topics: Species Life Histories, Population Distribution and Abundance

10

Chps. 10 & 11

Oct. 24 Lecture Topics: Population Dynamics & Pond-breeding Amphibians Case Study
Online Learning Activities: Simulations and animations explain and illustrate important concepts of the growth of populations.
Text Reading Topics: Growth, Regulation, and Dynamics of Populations

Module 5—Interactions Among Organisms

Module 5 opens Oct. 30 @ 7AM & closes Dec. 13 @ 10PM

Assignments & Quizzes/Exams

- Quizzes 11-12
- Problem Set 4: see assignment sheet posted in Canvas
- Group Project: see assignment sheet posted in Canvas

11

Chps. 12 & 13

Oct. 31 Lecture Topics: Competition: Plant/Animal Competition Case Study
Online Learning Activities: Videos demonstrate and discuss competition and evolution of chemical defenses in plants and animals
Text Reading Topics: Competition, Predation and Herbivory

12

Chaps 14 & 15

Nov. 7 Lecture Topics: Parasitism & Bio Control Case Study
Online Learning Activities: As you will learn in these videos, truth can be stranger than fiction—explore the intriguing topics of parasitism and mutualism
Text Reading Topics: Parasitism, Mutualism, Commensalism

13

Chapters 6 & 8

Nov. 14 Lecture Topics: Evolution and Ecology: Florida Panther Genetic Diversity Case Study
Online Learning Activities: Video clips and animations illustrate processes of natural selection and speciation
Text Reading Topics: Evolution, Behavioral Ecology

Module 6—Applied Ecology

Module 6 opens Nov. 20 @ 7AM & closes Dec. 13 @ 10PM

Assignments & Quizzes/Exams

- Quiz 14, Exam 3
- There are no assignments for Module 6

14

Nov. 21 No quiz or assigned readings this week—enjoy the Thanksgiving Break!

15

Nov. 28 Chps. 24 & 25
Lecture Topics: Ecosystem Management: Assisted Migration Case Study & Swallow-tailed Kite Case Study
Online Learning Activities: Explore a variety on online resources that address climate change impacts
Text Reading Topics: Landscape and Global Ecology, Conservation Biology

16

Dec. 5 Chapter 23
Lecture Topic: Conservation Biology: Red-cockaded Woodpecker Case Study
Online Learning Activities: Explore a collection of topics ranging from partnerships to fight invasive species to efforts to save endangered species
Text Reading Topics: Conservation Biology
NOTE: The material in this lecture and Chapter 23 is covered on Exam 3

Grading Scheme		
Assignment	Points	% of Total
Quizzes (14)	145 pts.	1-3%/quiz, 19.5% overall
Exams (3)	300 pts.	13.4%/exam, 40% overall
Problem Sets (4)	100 pts.	3.3%/PS, 13.5% overall
Video Discussions (2)	100 pts.	6.7%/VD, 13.5% overall
Group Project (1)	100 pts.	13.5% overall
Total	745 pts.	100%

Additional Links and Policies

University of Florida Policy Statements

Grades and Grade Points

For information on current UF policies for assigning grade points, see:
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Absences and Make-Up Work

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Online Course Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

Academic Honesty

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the

University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/
Counseling Services
Groups and Workshops
Outreach and Consultation
Self-Help Library
Training Programs
- U Matter We Care, www.umatter.ufl.edu/
- Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

0001 Reid Hall, 392-8565, www.dso.ufl.edu/drc/

Student Complaints

Each online distance learning program has a process for, and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See <http://www.distance.ufl.edu/student-complaint-process> for more details.

Instructor(s) Steve A. Johnson, Ph.D.

Associate Professor
Dept. of Wildlife Ecology & Conservation

Natural Resource Ecology—WIS XXXX

3 Credits, Fall Semester 2016, University of Florida

Dr. Steve A. Johnson

Course Syllabus

- Instructor/TA contacts:** Dr. Steve A. Johnson: tadpole@ufl.edu; Office—352.846.0557
Teaching Assistant: TA contact info here
- Office hours:** Dr. J: Newins-Ziegler Hall Room 322; Wednesdays 1:00 - 4:00 P.M. via phone, Skype, or in person (please make an appointment). Email any time within Canvas.
Teaching Assistant: Contact information here
We will do our best to respond to all emails within 24 hours.
- Course prereqs:** General Biology (BSC 2011 or equivalent course) or permission of instructor
- Course schedule:** Flexible: this is an asynchronous, online course and you will work at your own pace to some extent. However, it is your responsibility to keep up with course assignments and meet posted deadlines for quizzes, exams, and assignments. There are no scheduled class meeting times.
- Course format:** This is an online course and you will access course materials, take quizzes and exams, turn in assignments, and participate in discussions via e-Learning in Canvas, UF's online course management system. Please be sure to visit the course Canvas site ASAP and view the Welcome Video at course home page to learn how the course is organized in Canvas. Also study this syllabus, and the course calendar in Canvas—a PDF of this syllabus is available at the course Canvas site. **Regularly visit the course Canvas site for important course announcements, and also be sure the check your Canvas email daily.**
- Course website:** Course materials (e.g., readings, quizzes, exams, various assignments, lectures) and announcements will be posted at the Canvas site for the course. As a UF student registered for the class you should have access to this site WIS4934: Natural Resource Ecology, Fall 2015. You will need your Gatorlink username and password to log into Canvas at <https://lss.at.ufl.edu/> (click the blue e-Learning in Canvas button).
- Required course text:** *Ecology 3rd Ed.* (2014) M.L. Cain, W.D. Bowman, and S.D. Hacker, Sinauer Associates, Inc., ISBN 978-0-87893-908-4 (The cover of the book has an image of mountains and an alpine meadow.)

The course text IS REQUIRED. You have several options for purchasing the course text: hardbound, loose leaf, or electronic—prices vary and you may prefer one version over another. Regardless of the version you get, they all have the same content. If you have trouble finding the book at the UF bookstore you can purchase it directly from the publisher by going to <http://www.sinauer.com/ecology-628.html> Note that the eBook is available through the publisher's web page in both online and downloadable formats (check out the eBook Options link). You can purchase electronic access to the book for 180 days at a discounted rate if you wish. You may also be able to purchase the book (maybe cheaper) at Amazon.com. No matter which version of the book you purchase or where you purchase it, you have access to the course text website (see below).

Course text website: <http://sites.sinauer.com/ecology3e/> On the website you will find chapter summaries, outlines, problem sets, and flashcards with key terms. There is also a glossary and “web extensions” for many of the book chapters. Note that you will NOT have access to the online quizzes here. However, you will have the option of taking weekly quizzes several times in Canvas—see Assessments below. The text website is there for you to use, so please take advantage of it. You will have to visit the course text website to complete some Problem Sets.

Additional requirements: Since this is an online course, you need a working knowledge of computers and some commonly used programs (e.g., MS Word, Excel). Obviously, you will need a computer and a reliable internet connection. You will also need to become very familiar with the e-Learning in Canvas system. Visit <https://wiki.helpdesk.ufl.edu/FAQs/E-Learning> to view student FAQs about using e-Learning at UF and the Canvas system in particular. (Scroll down to see the Canvas links.)

Web browsers: Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser. Canvas supports the last two versions of most browsers. It is **highly recommend** updating to the **newest version** of whatever browser you are using as well as the most up-to-date Flash plug-in. Web browsers currently supported include: Internet Explorer, Chrome, Safari, Firefox. Note that your computer's operating system (OS) may affect browser function. Failure to use one of these browsers will cause problems. For more information on approved browser versions and other required apps please visit <http://guides.instructure.com/m/4214/l/41056>

UF course catalog description: Application of ecological principles and natural history information to conserve and sustainably manage natural resources with an emphasis on animals and plants.

Course description in more detail: The course describes how ecological concepts and processes are applied at various scales to conserve and manage renewable natural resources (e.g., plants, animals, water, soil) in terrestrial and aquatic systems—it explains how ecological science is applied to help solve real-world problems. In most cases, these problems are caused by the actions of people, and the course emphasizes potential conservation and management strategies to mitigate anthropogenic issues such as, but not limited to, habitat fragmentation, invasive species, disease, and climate change.

The course focuses on interactions within and among species and how they are affected by their abiotic environment. It explores numerous biological principles (e.g., nutrient and water cycles, population growth, symbioses, biodiversity, etc.) and emphasizes how these principles are applied to effectively manage natural resources. The course also provides a broad foundation of important ecological principles while emphasizing how ecological phenomena in terrestrial and aquatic systems are influenced by the actions of humans—natural resource examples are used to illustrate key ideas and concepts. This course uses case studies to illustrate the application of ecological principles to conserve and manage natural resources.

Information delivery consists of recorded lectures, web-based learning activities, problem sets, nature documentaries, and textbook readings. There is also a group project and several online discussions based on nature documentaries students must watch. Text readings provide a broad foundation of general ecological principles, whereas recorded lectures emphasize and explain the application of ecological principles to conservation and management of natural resources. There is no formal lab associated with the course.

Fundamental Goals and Learning Objectives: The general goals and major learning outcomes for the course are listed below. Specific learning objectives are provided for each lecture. Review the ‘Summary’ boxes at the end of each text chapter for important concepts that students should understand.

- Explain how different ecological principles are applied to solve specific problems affecting the conservation and management of natural resources at different spatial and temporal scales
- Understand and define the concept of biodiversity, describe ecological and socioeconomic values of biodiversity, and make science-based arguments as to why biodiversity should be conserved
- Describe how and why natural systems are organized at scales ranging from biome to population and provide examples
- Explain how biotic and abiotic factors affect the abundance and distribution of plants and animals and understand how organisms adapt and evolve in response to changing environments; analyze the role of climate change in this context and discuss strategies for mitigating negative effects of climate change on renewable resources

- Understand and define basic interactions within and among species (e.g., competition, predation, symbioses), and explain how these interactions can be manipulated to manage populations of plants and animals to meet specific objectives
- Explain energy flow through food webs, and nutrient (e.g., carbon) and water cycles at global and local scales and how the flow of energy is affected by the actions of humans

Assessments:

Quizzes: There are 14 quizzes in this course. The first quiz is to ensure you are familiar with the syllabus and the course calendar (Quiz 1 Syllabus Quiz). The other 13 quizzes cover information presented in the book chapters—these quizzes must be completed weekly by 10:00 P.M. on Thursdays. **Questions for the quizzes** (with the exception of the Syllabus Quiz) **are based exclusively on the chapter readings from Cain et al. that are assigned each week (many questions emphasize detailed information)**. See the “Course Lecture and Reading Schedule” below and the module pages in Canvas for each week’s text reading assignments. The number of chapters covered by a particular quiz varies from 1-3, depending on the assigned chapter readings in a week. Read the chapters before you attempt the quizzes! You must take quizzes online in Canvas. Quiz questions are multiple choice and true/false. In order to help you master the material presented in the text, you have the option of taking each quiz up to four times. Questions are randomly drawn from a larger pool by the Canvas system. Each quiz has five questions from each text chapter assigned that week. Quizzes are timed, and the time allotted for each quiz is proportional to the number of chapters covered by a quiz—5 minutes per chapter. Once you start a quiz in Canvas you must finish it in the allotted time—the “clock keeps ticking” in Canvas as soon as you open a quiz and only stops after the allotted time has passed. Your official quiz score is your best score on any quiz, assuming you take a quiz more than once. Weekly quizzes (including the Syllabus Quiz) are worth a total of 145 points (each question is worth 1 point). All the quizzes for each module of the course will be available on the date that module opens in Canvas, but they close at different times. Quizzes must be completed before their closing date and time. Consult the Critical Dates & Deadlines table below for a list of open/due dates and times for quizzes. There are no “make-ups” for missed quizzes. Access quizzes at the Module page in Canvas—you should see links to quizzes on the Module overview page and under the Assessments heading within each Module page.

Exams: There are three exams in this course; the first covers material assigned for Modules 1-2, the second exam is on material assigned for Modules 3-4, and the third exam covers material for Modules 5-6 (exams are not cumulative). Exam questions predominantly cover material presented in recorded lectures (see View Presentation headings for each Module page in Canvas), but may also include information from the Online Learning Activities and the text. Exam questions are essay/short answer, multiple choice, and true/false. Like quizzes, exams are administered in Canvas, and they are timed. Unlike quizzes however, you may only take each exam ONCE. Each exam is worth 100 points. Each exam will only be open in Canvas for a limited time on specific dates. Consult the Critical Dates & Deadlines table below for a list of open/due dates and times for exams. If you miss one of the exams you cannot make up that particular exam, but you may be able to take a cumulative final exam to replace a missed semester exam. To take a make-up, cumulative exam you must have a legitimate, documented excuse for missing the semester exam as well as permission of the instructor. Access exams via the Modules pages in Canvas—you

should see links to exams on the Module overview page and under the Assessments heading within each Module page.

Problem Sets: There are four Problem Sets assigned for this course. Consult the Critical Dates & Deadlines table below and the Problem Set assignment sheets for a list of open/due dates and times for these assignments. Information for completing the Problem Sets is outlined in the PDF files that you download at the Canvas site. On the Module pages these assignments are listed under the Assessments heading at the bottom of the page. Most of the Problem Sets must be completed by visiting the course text website. Each Problem Set is worth 25 points, regardless of the number of questions, for a total of 100 points. Values for individual questions are adjusted accordingly, depending on the total number of questions for each Problem Set. Late Problems Sets are not accepted—no excuses—do not wait until the last minute to complete and submit Problem Sets. Access Problem Sets via the Modules link in Canvas—you should see links to Problem Sets on the Module overview page and under the Assessments heading within each Module page.

Video Discussions: There are two graded discussions in this course based on streaming videos that you must watch online—each discussion is worth 50 points. On a specific date you must reply with insightful and thought-provoking comments to questions about the videos. Details for accessing each streaming video and directions for these assignments can be found in the assignment sheet associated with the appropriate Video Discussion assignment sheet, which you download at the course Canvas site. Consult the Critical Dates & Deadlines table below and the Video Discussion assignment sheets for a list of due dates and times for Video Discussions. There are multiple deadlines within each discussion period, so be sure to download and read the assignment sheets as soon as they become available in Canvas. The assignment sheets become available when their associated modules open—Module 2 for the first discussion and Module 5 for the second discussion. As soon as the modules open be sure to follow the links to the Video Discussion assignments. There you will be able to download directions and see the discussion questions—keep these questions in mind as you watch each video. On specific dates listed in the assignment sheet you will have access to your discussion section and will be able to reply to the discussion questions. Until you make your initial reply you will not be able to see any replies from your classmates. Note there are different deadlines for making your initial post and responding to your classmates, and each discussion session will only be open for one week. Stay abreast of these important dates or you may lose points.

Group Project: This assignment consists of several parts and requires five file submissions to Canvas. Two files are individual submissions required of each student, but the group leaders are responsible for uploading the other three. Failure to upload Submission 1 (evaluation of an existing citizen science program) will preclude the student from participation in the group portion of the project, resulting in a score of 0 for the entire project. Even though there are individual submissions, this is a team project and all group members must work together. Students (5-6 per group) must conduct all group communications in their Group Project Discussion area in Canvas. There are multiple deadlines for the project. Individually, each group member will first evaluate an existing citizen-science program, then, as a team, you will design your own program following details outlined in the assignment sheet provided in Canvas. The project is worth 100 points: 15 points for individual program evaluations, 25 points for group participation determined by peer

evaluation, 10 points for group updates, and 50 points for the final project. The 25 participation points are an average of scores assigned to each student by the members of the student's group—students will use grading rubric to score their teammates. Thus, if you do not do your part to contribute to the group project your peers will be able to penalize you for your lack of contributions. Details for the project can be found in the assignment sheet posted at the various Group Project links under the Assessments headings on various Module pages in Canvas. Consult the Critical Dates & Deadlines table below AND the Group Project assignment sheet for a list of open/due dates and times for the Group Project. There are multiple deadlines for this assignment, so be sure to download and read the assignment sheet (all 9 pages) as soon as it becomes available in Canvas.

Points and Final Grade:	Points	% of Total
Quizzes (14)	145 pts.	1-3%/quiz, 19.5% overall
Exams (3)	300 pts.	13.4%/exam, 40% overall
Problem Sets (4)	100 pts.	3.3%/PS, 13.5% overall
Video Discussions (2)	100 pts.	6.7%/VD, 13.5% overall
Group Project (1)	100 pts.	13.5% overall
<u>Total</u>	<u>745 pts.</u>	<u>100%</u>

Grades: **A** (90%>), **B** (80 - 89.9%), **C** (70 – 79.9%), **D** (60 – 69.9%), **E** (<60%) Final grades are based on percentages of total points possible. Scores are not 'curved'.

Course Lecture & Reading Schedule

(Consult the Critical Dates & Deadlines table below on page 10 for due dates and times for exams, quizzes, and various assignments)

Week Date	Modules: Assignments, Lecture Topics, Online Learning Activities, Text Readings	Cain et al. Readings
	Module 1—Organisms and Their Environment	
	<i>Module 1 opens Aug. 21 @ 7AM & closes Oct. 4 @ 10PM</i>	
	<u>Assignments & Quizzes/Exams</u>	
	-Quiz 1 Syllabus, Quizzes 2-3	
	-Problem Set 1: see assignment sheet posted in Canvas	
	-Video Discussion 1: see assignment sheet posted in Canvas	
1 Aug. 22	Lecture Topics: Course Introduction Online Learning Activities: Activities emphasize ecological connections and focus on amphibian declines and malformations. Text Reading Topics: Ecological Connections	<i>Chapter 1</i>

2 Aug. 29	<p>Lecture Topics: Earth's Biomes Overview & Climate Change Predictions Case Study</p> <p>Online Learning Activities: Interactive web pages allow exploration of our planet's major biomes as well as numerous research sites in the US that are part of the LTER network</p> <p>Text Reading Topics: Climate and Biomes</p>	<i>Chapters 2 & 3</i>
3 Sep. 5	<p>Lecture Topics: Thermal Considerations Overview & Pythons in Florida Case Studies</p> <p>Online Learning Activities: Activities offer a look at the fundamental processes that affect Earth's climate, provide specific examples of how animals deal with extremes in temperature, and more</p> <p>Text Reading Topics: Coping with Environmental Variation</p>	<i>Chapters 4 & 5</i>
Module 2—Ecosystems		
<p><i>Module 2 opens Sept. 11 @ 7AM & closes Oct. 4 @ 10PM</i></p> <p><u>Assignments & Quizzes/Exams</u></p> <ul style="list-style-type: none"> -Quizzes 4-6, Exam 1 -Problem Set 2: see assignment sheet posted in Canvas -Video Discussion 1: see assignment sheet posted in Canvas -Group Project: see assignment sheet posted in Canvas 		
4 Sep. 12	<p>Lecture Topics: Ecosystem Energy Production Overview & Hydrothermal and Seep Vent Communities Case Study</p> <p>Online Learning Activities: Video clips explore the unique organisms of deep-sea hydrothermal vent communities and the response of global plant growth to climate change</p> <p>Text Reading Topics: Primary and Secondary Production</p>	<i>Chapter 20</i>
5 Sep. 19	<p>Lecture Topics: Food Webs Overview & Trophic Cascades Case Study</p> <p>Online Learning Activities: Videos and simulations emphasize the complex relationships among species in trophic cascades</p> <p>Text Reading Topics: Food Webs, Energy Flow</p>	<i>Chapter 21</i>
6 Sep. 26	<p>Lecture Topics: Nutrient Cycling Overview & Biological Soil Crusts Case Study</p> <p>Online Learning Activities: Animations and video clips explain nutrient cycling, eutrophication, and acid rain impacts</p> <p>Text Reading Topics: Nutrient Cycling</p>	<i>Chapter 22</i>
Module 3—Natural Communities		
<p><i>Module 3 opens Oct. 2 @ 7AM & closes Nov. 1 @ 10PM</i></p> <p><u>Assignments & Quizzes/Exams</u></p> <ul style="list-style-type: none"> -Quizzes 7-8 -Video Discussion 2: see assignment sheet posted in Canvas 		

	-Group Project: see assignment sheet posted in Canvas	
7 Oct. 3	Lecture Topics: Species Diversity Overview & Biofuels Case Study Online Learning Activities: Videos, animations, and news articles highlight ecological engineers, the process of succession, and biofuels Text Reading Topics: Community Structure and Change	<i>Chapters 16, 17, 19</i>
8 Oct. 10	Lecture Topics: Habitat Fragmentation & Road Effects Case Study Online Learning Activities: Explore and learn about biogeography and continental drift Text Reading Topics: Biogeography	<i>Chapter 18</i>
Module 4—Populations		
<p><i>Module 4 opens Oct. 16 @ 7AM & closes Nov. 1 @ 10PM</i> <u>Assignments & Quizzes/Exams</u> -Quizzes 9-10, Exam 2 -Problem Set 3: see assignment sheet posted in Canvas -Video Discussion 2: see assignment sheet posted in Canvas -Group Project: see assignment sheet posted in Canvas</p>		
9 Oct. 19	Lecture Topics: Life History Strategies & Salamander Case Study Online Learning Activities: Explore reproductive strategies of marine invertebrates and plants, and learn about conservation efforts for Kiwis in New Zealand Text Reading Topics: Species Life Histories, Population Distribution and Abundance	<i>Chapters 7 & 9</i>
10 Oct. 24	Lecture Topics: Population Dynamics & Pond-breeding Amphibians Case Study Online Learning Activities: Simulations and animations explain and illustrate important concepts of the growth of populations. Text Reading Topics: Growth, Regulation, and Dynamics of Populations	<i>Chapters 10 & 11</i>
Module 5—Interactions Among Organisms		
<p><i>Module 5 opens Oct. 30 @ 7AM & closes Dec. 13 @ 10PM</i> <u>Assignments & Quizzes/Exams</u> -Quizzes 11-12 -Problem Set 4: see assignment sheet posted in Canvas -Group Project: see assignment sheet posted in Canvas</p>		
11 Oct. 31	Lecture Topics: Competition: Plant/Animal Competition Case Study	<i>Chapters 12 & 13</i>

	<p>Online Learning Activities: Videos demonstrate and discuss competition and evolution of chemical defenses in plants and animals</p> <p>Text Reading Topics: Competition, Predation and Herbivory</p>	
<p>12 Nov. 7</p>	<p>Lecture Topics: Parasitism & Bio Control Case Study</p> <p>Online Learning Activities: As you will learn in these videos, truth can be stranger than fiction—explore the intriguing topics of parasitism and mutualism</p> <p>Text Reading Topics: Parasitism, Mutualism, Commensalism</p>	<p><i>Chapters 14 & 15</i></p>
<p>13 Nov. 14</p>	<p>Lecture Topics: Evolution and Ecology: Florida Panther Genetic Diversity Case Study</p> <p>Online Learning Activities: Video clips and animations illustrate processes of natural selection and speciation</p> <p>Text Reading Topics: Evolution, Behavioral Ecology</p>	<p><i>Chapters 6 & 8</i></p>
<p>Module 6—Applied Ecology</p>		
<p><i>Module 6 opens Nov. 20 @ 7AM & closes Dec. 13 @ 10PM</i></p> <p><u>Assignments & Quizzes/Exams</u></p> <ul style="list-style-type: none"> -Quiz 14, Exam 3 -There are no assignments for Module 6 		
<p>14 Nov. 21</p>	<p>No quiz or assigned readings this week—enjoy the Thanksgiving Break!</p>	
<p>15 Nov. 28</p>	<p>Lecture Topics: Ecosystem Management: Assisted Migration Case Study & Swallow-tailed Kite Case Study</p> <p>Online Learning Activities: Explore a variety on online resources that address climate change impacts</p> <p>Text Reading Topics: Landscape and Global Ecology</p>	<p><i>Chapters 24 & 25</i></p>
<p>16 Dec. 5</p>	<p>Lecture Topic: Conservation Biology: Red-cockaded Woodpecker Case Study</p> <p>Online Learning Activities: Explore a collection of topics ranging from partnerships to fight invasive species to efforts to save endangered species</p> <p>Text Reading Topics: Conservation Biology</p> <p><i>NOTE: The material in this lecture is covered on Exam 3</i></p>	<p><i>Chapter 23</i></p>

Critical Dates & Deadlines

Assignment	Available Date	Available Time	Due Date(s)	Due Time
Quiz 1 Syllabus Quiz	21-Aug-16	7:00 AM	1-Sept-16	10:00 PM
Quiz 2 Chps 1,2,3	21-Aug-16	7:00 AM	1-Sept-16	10:00 PM
Quiz 3 Chps 4,5	21-Aug-16	7:00 AM	8-Sept-16	10:00 PM
Problem Set 1	21-Aug-16	7:00 AM	9-Sept-16	10:00 PM
Quiz 4 Chp 20	11-Sept-16	7:00 AM	15-Sept-16	10:00 PM
Video Discussion 1*	11-Sept-16	7:00 AM	19-Sept-16	10:00 PM
Quiz 5 Chp 21	11-Sept-16	7:00 AM	22-Sept-16	10:00 PM
Quiz 6 Chp 22	11-Sept-16	7:00 AM	29-Sept-16	10:00 PM
Problem Set 2	11-Sept-16	7:00 AM	30-Sept-16	10:00 PM
Group Project* Submission 1	11-Sept-16	7:00 AM	30-Sept-16	10:00 PM
Exam 1	2-Oct-16	12:01 PM (noon)	3-Oct-16	10:00 PM
Quiz 7 Chps 16,17,19	2-Oct-16	7:00 AM	6-Oct-16	10:00 PM
Quiz 8 Chp 18	2-Oct-16	7:00 AM	13-Oct-16	10:00 PM
Group Project* Submission 2	-----	-----	14-Oct-16	10:00 PM
Quiz 9 Chps 7,9	16-Oct-16	7:00 AM	20-Oct-16	10:00 PM
Quiz 10 Chps 10,11	16-Oct-16	7:00 AM	27-Oct-16	10:00 PM
Problem Set 3	16-Oct-16	7:00 AM	28-Oct-16	10:00 PM
Group Project* Submission 3	-----	-----	28-Oct-16	10:00 PM
Exam 2	30-Oct-16	12:01 PM (noon)	31-Oct-16	10:00 PM
Quiz 11 Chps 12,13	30-Oct-16	7:00 AM	3-Nov-16	10:00 PM
Quiz 12 Chps 14,15	30-Oct-16	7:00 AM	10-Nov-16	10:00 PM
Group Project* Submission 4 & Submission 5	-----	-----	12-Nov-16	10:00 PM
Video Discussion 2*	30-Oct-16	7:00 AM	7-Nov-16	10:00 PM
Quiz 13 Chps 6,8	30-Oct-16	7:00 AM	17-Nov-16	10:00 PM
Problem Set 4	30-Oct-16	7:00 AM	18-Nov-16	10:00 PM
Quiz 14 Chps 23,24,25	20-Nov-16	7:00 AM	1-Dec-16	10:00 PM
Exam 3	11-Dec-16	12:01 PM (noon)	12-Dec-16	10:00 PM

***Note: These assignments have MULTIPLE due dates. Consult the assignment sheets in Canvas to determine all due dates for these assignments.**

Getting help with technology:

For IT help regarding issues with the course involving the Canvas site, first check the student Help Desk Wiki page at <https://wiki.helpdesk.ufl.edu/FAQs/E-Learning>. You can also get to this page by clicking the “Student Help” link in the blue, Student Links box at the left on the UF e-Learning Support Services page at <https://lss.at.ufl.edu/> and scroll down to the specific FAQs for Canvas. (This is the same page where you log into e-Learning in Canvas.). Within Canvas you can also get help by clicking the “Help” link in the upper right of the blue Canvas header. This will open a box with several choices—try the “Search the Canvas Guides” option. If you still need assistance after exploring the sites listed above, contact the UF Computing Help Desk (352-392-4357, helpdesk@ufl.edu).

Frequently Asked Questions

1. How do I access the online learning management system used for this course?

This course is delivered in the Canvas learning management system. You will need a Gatorlink account to log on to e-Learning in Canvas. To log on to UF’s e-Learning in Canvas site, go to <http://lss.at.ufl.edu/> and click on the blue “e-Learning in Canvas” button in the upper left of the page; you may be prompted to enter your Gatorlink username and password. Once you have entered your Gatorlink username and password your Canvas page will load, and all of the Canvas courses you are registered for will be available to you. You will need to click the “Courses” drop-down menu in the blue banner at the top of the page. This course will appear as WIS 4934: Natural Resource Ecology, Fall 2014.

2. Where do I get the required text and instructional materials for this course?

The required course text, which you will need the first week of class, can be acquired in a variety of ways (new copies are available at the UF Book Store). See the “Required course text” heading on the first page of this syllabus for details. Supplemental readings and all other materials will be available as PDFs at the course Canvas site.

3. Do I have to have Internet access at home?

No, but you are strongly encouraged to have reliable Internet access at home. The University also has many student computer labs available to students who wish to use them.

4. What computer programs will I need to use in this course?

Adobe Acrobat reader is free software required to view and print course materials that are available in Canvas as PDF files. To download the free reader, go to <http://get.adobe.com/reader/>.

e-Learning in Canvas is the centrally-supported course management system at UF. It is the online source for the learning resources and assignments in this course. For a tutorial regarding E-Learning Canvas functionality, go to <https://wiki.helpdesk.ufl.edu/FAQs/E-Learning>.

Word Processing is a fundamental tool for all learning in higher education. There are numerous programs available, with the most popular being Microsoft Word. You will be required to submit many word processed documents during this course. It is recommended to save these files in the .doc or .rtf format which can be easily opened by your instructor.

Data Manipulation is important for organizing, visualizing, and presenting scientific data. One of the easiest ways to do this is with a spreadsheet and the functions available in a spreadsheet program such as Microsoft Excel. You will need to ability to organize and present data in tables and graphs to complete Problem Sets in this course.

A **Web Browser** is essential and Canvas supports most browsers. However, it is HIGHLY RECOMMENDED that you use the most recent version of the browser: **Internet Explorer** 10 and 11, **Chrome** 35 and 36, **Firefox** 30 and 31, and **Safari** 6 and 7.

Java is required to view and complete the simulations at the course text website, which are required for most of the Problem Sets. You can download Java free at <http://www.java.com/en/>

You will also need **Flash Player**, which you can download free at <http://get.adobe.com/flashplayer/>.

5. *Where do I get help with computer problems and other technical help?*

If you have a question or problem using technology required for this course, including using Canvas, here are the steps you should take.

1. Consult the Help Desk Wiki for Canvas <https://wiki.helpdesk.ufl.edu/FAQs/E-Learning>
2. Consult the UF e-Learning Canvas FAQ page https://lss.at.ufl.edu/help/Canvas_FAQ
3. Email the UF Help Desk helpdesk@ufl.edu
4. Call the UF Help Desk [352-392-HELP (4357) call the Help Desk for urgent questions]
5. Email the course instructor tadpole@ufl.edu
6. Call the course instructor 352-846-0557

The UF Computing Help Desk is available by phone or email at: (352) 392-HELP (4357) and helpdesk@ufl.edu. The hours of operation are: Monday-Thursday: 7:30am-10:00pm, Friday: 7:30am-5:00pm and Weekends: 12:00pm-6:00pm. Before calling the UF help desk try to figure out the issue yourself by visiting the websites listed under number 1 & 2 above. See the 'Getting help with technology' section on page 9 of this syllabus for more information.

6. *What is the University policy on software use?*

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

7. *What if I need special accommodations to take the course?*

The UF Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues.

Contact the Disability Resource Center by phone: (325) 392-8565, the UF Gainesville campus, Room 0001 Reid Hall, or online at: www.dso.ufl.edu/drc/.

8. *How long will I have to wait for a response from the instructor to my e-mail?*

On weekdays, your instructor should respond to emails within 24 hours, but this may not always happen due to meetings and professional obligations. Emails sent on weekends will not be answered until Monday.

9. *What will help me succeed in this course?*

Strong discipline and desire to succeed: You'll need to log in to the course Canvas site regularly to check for messages and to participate in discussions. There is a great deal of reading in this course, so you need to make a commitment to completing the assigned readings on a regular basis. Just because there are not regularly scheduled meeting times does not mean you don't have to devote time to this course. You should expect to have to devote 6-9 hours a week working on this course. Quizzes are scheduled weekly to help ensure that you don't get behind with course reading assignments.

Ability to work well independently: You'll develop the support of fellow learners all taking the same coursework together, but it will be different than a typical classroom environment. If you work well independently, your chance of success is higher. You will also need to work well in a group to complete the group project.

Computer savvy: If you're not familiar with the Internet and e-mail communication, I recommend that you take a computer enrichment class prior to enrolling in this course. I assume you know how to access and send data on the Internet.

Below are some **Best Practices** provided by the UF Help Desk for taking quizzes and exams in Canvas.

- Don't wait until the last minute. Know when the quiz/exam must be completed and leave yourself plenty of time.
- Take your quiz/exam during [Help Desk hours](#) so that if you encounter problems there will be someone available to help you. Make sure you have a dependable internet connection; WIRED rather than wireless.
- Be sure you are using the most recent version of your web browser when logging into Canvas.
- Make sure you read all instructions carefully before beginning the exams.
- If you lose internet connection, or your browser crashes, the timer will continue to count down. Log back in as quickly as possible and resume the test! You may need to click the "Resume Quiz/Exam" button.
- If you encounter any unexpected behavior (error messages, inability to log in, etc.) take a screen shot of the problem (**Print Scrn**) and paste (**CTRL+V**) into a program like Word or Paint. Save this file. This is important so that your instructor knows your problem is legitimate, and to assist the UF Computing Help Desk in helping you fix the problem.
- If you encounter problems that prevent you from taking an exam, immediately call the UF Computing Help Desk at 352-392-4357. Keep the ticket number for future reference.
- When you are done with an exam, *be sure you submit it!*

University of Florida Policy Statements

Grades and Grade Points

For information on current UF policies for assigning grade points, see:
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Absences and Make-Up Work

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at:
<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Online Course Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

Academic Honesty

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."*

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/
Counseling Services
Groups and Workshops
Outreach and Consultation
Self-Help Library
Training Programs
- U Matter We Care, www.umatter.ufl.edu/
- Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

0001 Reid Hall, 392-8565, www.dso.ufl.edu/drc/

Student Complaints

Each online distance learning program has a process for, and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See <http://www.distance.ufl.edu/student-complaint-process> for more details.

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
_____	_____
Phone Number	E-mail
_____	_____
Comments	

Department	Name and Title
_____	_____
Phone Number	E-mail
_____	_____
Comments	

Department	Name and Title
_____	_____
Phone Number	E-mail
_____	_____
Comments	