



BIOL 2625L Ecology Lab section name section credit hours Credits **Syllabus**

Course Information

Meeting times and location: section meeting_times section location

Catalog description: Required lab for BIOL 2625.

Prerequisites: BIOL-2625/2625L(BIOL-122)

Terms offered: Spring Only

Section-specific Course Description:

Course Level Objectives

The principle objectives of this course are two-fold: to examine biological processes at the level of whole organisms and higher (populations, communities, and ecosystems), and to survey the tools and thinking processes used by ecologists to conduct ecological studies.

By the end of the course, students should be able to answer the following key questions in ecology:

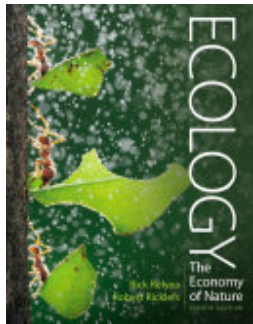
1. Why are some species common while others are rare?
2. What limits the local, continental, and global distribution of species?
3. Why are there so many different types of species on earth?
4. How do organisms adapt (in an evolutionary context) to their environment?
5. How are ecological systems (communities or ecosystems) structured and regulated?
6. What roles do natural ecosystems play in the maintenance of human populations?

7. What roles do humans play in the functioning of natural ecosystems?

8. How does an ecologist approach answering a particular ecological question with field work,

experiments, or models?

Required Texts and/or Materials



Ecology: The Economy of Nature

9781319188955

Rick Relyea, Robert E. Ricklefs

Macmillan Higher Education

2018-01-11

Required Technology and Software

- Canvas
- Chrome, Safari, or Firefox

Technical Support

Technical support is available through the San Juan College Help Desk 24/7/365. The help desk can be reached at 505-566-3266 or by creating a ticket at [San Juan College Help Desk](#).

For tickets and password reset: [San Juan College Help Desk](#)

For Canvas support information: [Canvas Support](#)

Accessibility/Privacy Policies for all Technology Tools Used

[Accessibility/Privacy Policies for all Technology Tools Used](#)

Course Requirements

Students will do the following activities:

ACTIVITIES (LABS AND OTHERS)

For face-to-face sections, students will sample natural environments, monitor biological processes, and model important ecological concepts using standard analytical tools. Group projects are a part of these activities.

For online sections, online simulations and modeling are employed, along with individual sampling and monitoring activities.

Late assignments will be accepted for up to one week beyond the due date but at one-half credit.

SPECIES QUIZZES

For each “unit” there will be a series of native species of different taxonomic groups (for example, a group of native reptiles). There will be a quiz over each group during the class prior to each of the four exams.

READINGS AND OTHER HOMEWORK

Before each class, read appropriate parts of the chapters listed on your topic schedule. You are expected to be familiar with this material before the first class for which it is relevant. Other readings will be assigned.

WRITING ASSIGNMENTS

There are two 1-2 page “mini-paper” writing assignments and one longer compare and contrast paper for this course. Google Scholar is a good source of peer-reviewed scientific papers, as is the SJC library.

EXAMS

Exams will cover material from lectures and the laboratories. Questions emphasize critical thinking skills acquired during in-class activities, as well as laboratory skills. Exam formats may vary - there may be multiple choice questions, fill in the blank questions, and short answer (2-3 sentence) questions. Dates of exams are noted on the course schedule.

COVID Safe Practices for Being on Campus

Masks / cloth face coverings must be worn while on campus in accordance with the New Mexico public health order. If you feel that you cannot wear a mask due to health complications, please contact Disabilities Services: disabilityservices@sanjuancollege.edu or call (505) 566-3271. Hand sanitizer stations are at all building entrances, please “wash in, wash out”--clean your hands when you enter and before you leave. Classrooms and labs have been arranged to allow for social distancing; please respect your classmates and instructors by staying 6 feet away from everyone. You will be expected to disinfect your table or area prior to class and after class, cleaning products will be provided for this purpose. Check with your instructor for specific policies for their course. Please do not congregate in hallways or common areas, instead utilize our beautiful outside spaces and weather to visit with your friends and colleagues from a safe distance.

If you have been in contact with anyone who has tested positive for COVID-19, has symptoms, or is waiting on test results, contact your instructor and DO NOT come to class. If you have tested positive, have symptoms or are waiting on test results, contact your instructor and DO NOT come to class. Your health care provider or the assigned contact tracer will let you know when it is safe for you to be around others.

Student Support

Student Services and Support

The Student Support webpage provides information on counseling, tutoring, technical support, and many other support services available to San Juan College students.

[Student Support](#)

Academic Support

Academic Support webpage provides information on academic advising, the library, Testing Center, and the honors program.

[Academic Support](#)

Participation and Attendance Policy

For Face-to-face sections:

Attendance and participation at all scheduled class and laboratory meetings is essential for your success in this course. Student is responsible for all material covered or announced during class, whether present or not. Regular attendance will benefit the

understanding of course material and improve grade. Attendance will be recorded at the beginning of class and lab. Late arrivals will be marked as tardy and receive 75% attendance credit for that class period. Otherwise an absence will be recorded and will not be changed at a later date.

For online sections:

Attendance in an online course is a little hard to define, as there are no set times to participate or view course materials. However, San Juan College has a class participation policy (described in more detail below). Missing class may affect your financial aid disbursement. Assignments for each unit are due at the end of the unit, including the unit exam. If a student fails to take the unit exam by the due date, the student will be considered to be not participating and will be marked as having stopped attending. This may impact your financial aid disbursement. The student must notify the instructor that they were not able to take the exam by the due date, if they will be continuing with the class.

Canvas Participation and Expectations

We will use Canvas extensively in this course, including homework assignments, tracking grades, posting announcements, and other communications. Please ensure that you have access to Canvas and that your contact information is up to date so that you will receive any communications sent via Canvas.

Instructor Response Time

Instructor will respond to emails within 24 hours, usually sooner. Grading should be current within a week of submission, usually sooner.

Course Time Commitment

You should expect to commit to 9-12 hours a week for this course.

Grading

Final grades are calculated based on the following...

GRADING PROCEDURES

Your grade will be based upon:

1. Lab Assignments: 25% of final grade.
2. Exams: 40% of final grade. (10% per exam)
3. Article summaries and Mini-papers 35% of final grade
 - Desert Adaptation Paper: 5% of final grade.
 - Invasive Species Paper: 5% of final grade.
 - Kaibab Deer Herd Compare/Contrast Paper: 10% of final grade.

GRADING SCALE

A = 90.0 - 100%

B = 80.0 - 89.9%

C = 70.0 - 79.9%

D = 60.0 - 69.9%

F = 0.0 - 59.9%

Key Dates to Remember

[Full Academic Calendar](#)

Course Schedule

| WK | DATE | TOPIC | RICKLEFS & RELYEA | LAB &/OR DISCUSSION ACTIVITIES | ASSIGNMENTS DUE |
|---|------|---|-------------------|---|--|
| Section I: Introduction | | | | | |
| 1 | 1/18 | Introduction; The field of ecology | Ch. 1 | Understanding Scientific Literature Lab Voves, et al. 2016 | |
| Section II: Organisms and their environment | | | | | |
| | | Species distributions I (niche, distributions) | Ch. 11 | | |
| 2 | 1/25 | Species distributions II (variability, dispersal, dormancy) | Ch. 11 (cont.) | Kingsolver 2006 Ch. 1 "Describing a Population" (Method B) | Understanding Scientific Literature Lab |
| | | Species distributions III (biomes) | Ch. 6 | | |
| 3 | 2/1 | Species distributions IV (human impacts) | | D&W Intro., Ex. # 1 & Ex. #2 (Spreadsheet hints and Tips, Mathematical Functions and Graphs, & Spreadsheet Functions and Macros) | Kingsolver 2006 Ch. 1 "Describing a Population" (Method B) Invasive Species Paper |
| Section III: Populations, evolution, and behavior | | | | | |
| | | Energy, resources, and ecosystems | Ch. 20 | | Species Quiz #1 |
| | | | | | |

| | | | | | |
|--|------|---|-----------------------------|---|---|
| 4 | 2/8 | Population ecology I (size, regulation, structure) | Ch. 12 | D&W Ex. #7 (Geometric and Exponential Population Model) | D&W Intro., Ex. # 1 & Ex. #2 Slavik et al. 2004 |
| | | EXAM #1 | | | |
| 5 | 2/15 | Population ecology II (regulation, structure, dynamics) | Ch. 13 | D&W Ex. #8 (Logistic Population Model) | D&W Ex. #7 |
| | | Population ecology III (human population growth) | | | Crouse et al. 1987 |
| 6 | 2/2 | Metapopulations | Ch. 13 (pp. 301-5) | D&W Ex. #20 (Metapopulation Dynamics) | D&W Ex. #8 |
| | | Evolution, natural selection, population genetics | Ch. 7 | | Adams et al. 2013 Adaptation to Desert Environment Paper |
| 7 | 3/1 | Behavioral ecology | Ch. 9 (pp. 212-220), Ch. 10 | Kingsolver 2006 Ch. 6 "Population Genetics" (Method A) | D&W Ex. #20 Species Quiz #2 |
| | | EXAM #2 | | | |
| Section IV: Species interactions and communities | | | | | |
| 8 | 3/8 | Consumer-resource interactions I | Ch. 14, Ch. 15 | Kingsolver 2006 Ch. 8 "The Niche" (Method B) | Kingsolver 2006 Ch. 6 "Population Genetics" (Method A) |
| | | Consumer-resource | Ch. 15, Ch. 16 | | Connell 1961 |

| | | | | | |
|--|------|---|-------------------|--|---|
| | | interactions II, Competition I | | | |
| | 3/15 | SPRING BREAK | | | |
| 9 | 3/22 | Competition II | Ch. 16 | D & W Ex. #9 (Interspecific Competition and Competitive Exclusion) | Kingsolver 2006 Ch. 8 "The Niche" (Method B) |
| | | Coevolution, mutualism, disease | Ch. 15, Ch. 17 | | Stenglein et al. 2015 |
| 10 | 3/29 | Community ecology | Ch. 18, Ch. 22 | Kingsolver 2006 Ch. 9 "The Community Concept" (Method A) | D & W Ex. #9 |
| | | Succession and disturbance | Ch. 19 | | Veldman et al. 2015 |
| 11 | 4/5 | Community assembly, diversity, and structure | Ch. 18, Ch. 22 | Vodopich 2010 Ch 10 "Sampling a Plant Community" (Procedure 10.3 "Line Transect") | Alstad and Damschen 2015 |
| | | Life history strategies | Ch. 8 | | Budburst Report |
| 12 | 4/12 | Landscape ecology, diversity at large scales | Ch. 22 | Species Diversity Lab | Vodopich 2010 Ch 10 "Sampling a Plant Community" (Procedure 10.3 "Line Transect"); Species Quiz #3 |
| | | EXAM #3 | | | |
| Section V: Human-induced change, conservation solutions, and restoration ecology | | | | | |
| 13 | 4/19 | Biodiversity and | Ch. 23 | Kingsolver 2006 | Species |

| | | | | | |
|----|------|---|---|--|---|
| | | ecosystem services | | Ch. 13 "Biodiversity" (Method A) | Diversity Lab Harrison et al. 2015 Haddad et al. 2015 |
| | | Global change I (extinction risk, invasions, overexploitation) | Ch. 11, Ch. 13, Ch. 17, Ch. 18 | | Kaibab Comparison Paper |
| 14 | 4/26 | Global change II (habitat loss, fragmentation, reserve design) | Ch. 11, Ch. 22, Ch. 23 | Kingsolver 2006 Ch. 18 "Island Biogeography" (Method A) | Kingsolver 2006 Ch. 13 "Biodiversity" (Method A) |
| | | Global change III (conservation planning) | Ch. 5, Ch. 11, Ch. 23 | | |
| 15 | 5/3 | Land use history and restoration ecology | | | Kingsolver 2006 Ch. 18 "Island Biogeography" (Method A) Species Quiz #4 |
| | 5/10 | EXAM #4 | | | |

College Policies

The following information also applies to your work in this class. If you have special needs for campus emergency situations, please inform me immediately.

1. Academic Accommodations - American with Disabilities Act (ADA)

If you believe you need academic accommodations due to physical or learning disabilities, you are encouraged to inform them as soon as possible. The coordinator can work with you in verifying your disabilities and developing accommodation strategies. Please go to [Disability Services Office](#), click the button for "Request for Services" and complete all the steps.

You can also contact the college's disability coordinator in the Advising/Counseling

Center at 566-3271 or disabilityservices@sanjuancollege.edu. More information is available on the website listed above.

2. **The Family Educational Rights and Privacy Act (FERPA)**

Your personal information and grade are confidential. Aside from routine reporting to the college required for this course, I will not share such information with anyone unless I have your permission.

3. **Academic Honesty Rules**

San Juan College expects all students to adhere to the [Academic Honesty Rules](#) as posted online. These are the official guidelines for all classes at San Juan College (July 2006).

4. **Student Conduct Statement**

College is preparation for professional opportunities, and professional conduct is expected in courses, including online classes, as well as any written communications, and interactions with members of the college community. As part of our learning community, students are expected to interact and communicate in a mature, respectful, thoughtful, and supportive manner. Students who demonstrate disrespectful, hostile, belittling, bullying or other disruptive behavior will be subject to potential consequences and possible dismissal from the college. The college will take appropriate action when students demonstrate threatening behavior (to others or self). Students should refer to the Code of Conduct in the Student Handbook for additional information.

5. **Student Safety**

Keeping students safe is a priority, and part of that is ensuring that we have the ability to communicate emergency messages – whether for school closures due to weather or for more or urgent situations. Rave is San Juan College’s emergency messaging system. Through your SJC student email, you will automatically receive email messages, however, it is also vital that you receive text messages. In order to receive the messages, you must register in a simple process with [Rave](#). When registering, please make sure that your mobile status is “confirmed.”

The Department of Public Safety is available 24 hours per day. In an emergency, they can be accessed by calling 215-3091 or 566-3333.

In the event of an emergency, a Rave message will be sent, and depending on the situation, you will be instructed to do one of the following:

- Evacuate the building
- Shelter in place (Campus doors are locked, and operations continue as normal. During this situation, no one other than law enforcement is allowed in or out of the campus.)
- Lockdown (Campus doors are locked. All operations cease, and you should take cover in your immediate area. No one other than law enforcement is allowed in or out of the campus.)

6. **Non-Discrimination, Sexual Harassment, and Retaliation.**

San Juan College does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, genetic, veteran's status, or on the basis of any other category protected under federal, state and local laws. If you have experienced sexual harassment, sexual assault, or any other form of protected class discrimination, we encourage you to make a report. If you report to a faculty member, she/he/they are obligated by policy to share knowledge, notice, and/or reports of harassment, discrimination, and/or retaliation with the Title IX Coordinator. These disclosures include but are not limited to reports of sexual assault, dating/domestic violence, and stalking. You may also make a confidential report to a SJC Counselor. Please refer to San Juan College's [Title IX](#) site for further details.

San Juan College's Title IX Coordinator is Stacey Allen, Assistant Director of Human Resources/Equity, Diversity, and Inclusion Officer. The office is located at the Educational Services Center Building, 2nd Floor, Human Resources, Room 4243 at (505) 566-3515 or allens@sanjuancollege.edu.

7. **Drop for Non-Attendance and/or Non-Participation**

Class Attendance and Participation Expectation:

Face-to-Face -- Students are expected to attend and participate in class regularly. Any student missing more than 10% of consecutive class time, (For example, in a regular 15-week class that meets twice a week, this equates to the student missing 3 consecutive classes) without consultation with the instructor may be considered as having abandoned the course.

On-line -- Students are expected to participate regularly and submit all course assignments, based on the course guide definition. A student who does not submit any assignments during a consecutive 10% of the course (1.5 weeks of a 15-week semester) without consulting the instructor, may be considered as having abandoned the course. Logging in does not meet the attendance standard.

Competency-Based Education Classes -- Students are expected to have regular and substantive interactions with their instructor and to actively work on course content. A student who has not submitted coursework, nor had substantive interactions with the instructor over a consecutive 10% of the term, without the instructor's prior approval, will be considered to have abandoned the competency progression. Last date of attendance will be recorded as the last date that

coursework was submitted or that the student met with the instructor. For on-line learners, logging in does not meet the attendance standard.

8. Failure to Meet Class Participation Expectation:

Students who fail to meet participation expectations will have their last date of attendance recorded. This date will be used to recalculate any financial aid received/veteran's benefits received, and the student may be required to repay the institution/government. If the student does not drop the course, an 'X' grade will be recorded. An 'X' grade impacts the grade point average the same as an 'F'.

9. Grading Policies

Incomplete: Incomplete Grade Assignment ([Incomplete Grades Information](#))

The grade of I (Incomplete) is given for passing work that could not be completed during the semester because of circumstances beyond the student's control. Ordinarily, the assignment of an I is given by the course instructor at the time final grades are due

In no case is an I grade to be used to avoid assignment of D or F grades for marginal or failing work or to require a student to enroll in the class the next semester because work was not completed on time. Circumstances warranting the issuance of an I grade must be beyond the student's control and must be documented on the appropriate form prior to approval.

I grades can be removed only during the subsequent 16 weeks from the end of term, or within the time limit set by the instructor. Removal of an I is accomplished by completing the work in a manner acceptable to the instructor. Re-enrollment in the course under the repeat option does not remove the prior grade of I. Students should not re-enroll for the course. An I not made up within 16 weeks or within the time limit set by the instructor will change to an F grade thereafter and cannot be changed by work completion.

10. Grade Appeals

The policy for grade appeals is in the Academic Catalog. ([Grade Appeal Policy](#))

Student Handbook

The Student Handbook provides information on Student support, student organizations, and San Juan College policies.

[Student Handbook](#)