



## BIOL 3500 – Ecology

### Course Syllabus – Fall 2016

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Individuals with disabilities who need to request accommodations should contact the Disability Services Coordinator, Edgewater Hall 255, (678) 466-5445, [disabilityservices@mail.clayton.edu](mailto:disabilityservices@mail.clayton.edu).

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#### INSTRUCTOR INFORMATION

**Ann Showalter**

*Email*            [AnnShowalter@clayton.edu](mailto:AnnShowalter@clayton.edu)  
*Phone*            (678) 466-4771  
*Website*        [www.annshowalter.com](http://www.annshowalter.com)  
*Office*            LDSC 135K  
*Office hours*    MON 11-12:30pm & 2:15-3:30pm, TUES 9:45-11am, THURS 2:45-4:45pm

The best way to contact me is via email. If you do not get a response within one business day, assume I did not get your email. I do not always check email on weekends.

#### COURSE DETAILS

**Course title:** BIOL 3500 – Ecology (CRN 80673)

**Classroom location:** Lakeview Discovery & Science Center, Room 110

**Class meeting day and time:** Tuesday and Thursday, 5:00pm – 6:15pm

**Required materials:** Subscription to Top Hat

Top Hat ([www.tophat.com](http://www.tophat.com)) is a classroom response system that you will use to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or via text message (SMS).

Access to Top Hat can be purchased through the Loch Shop or on the Top Hat website. There are three subscription options to choose from:

- \$24 for 4 months of unlimited access
- \$36 for 12 months of unlimited access
- \$72 for 5 years of unlimited access

You can visit <http://tinyurl.com/THStudentRegistration> for the Student Quick Start Guide which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system. An email invitation will also be sent to your email account (if you don't receive this email, you can register by visiting our direct Top Hat course URL <https://app.tophat.com/e/832395>).

**Recommended textbooks:**

- Cain, Bowman, & Hacker. 2014. Ecology, 3<sup>rd</sup> edition, Sinaur Associates, Inc.
- Ruxton & Colegrave. 2011. Experimental Design for the Life Sciences. 3<sup>rd</sup> edition. Oxford University Press.

Students are encouraged to use [PriceLoch.com](http://PriceLoch.com) to comparison shop for textbooks.

**Credit hours:** 3.0 semester credit hour

**Catalog description:** The environment is made of both living and non-living components. This course examines the relationships between these various components in the biosphere. Students will learn how complex natural cycles and chains can be perturbed by small disturbances, and conversely, how life adapts to these changes.

**Pre-requisites:** MATH 1231 with a minimum grade of C; and BIOL 1107 with a minimum grade of C; and BIOL 1107L with a minimum grade of C; and BIOL 1108 with a minimum grade of C; and BIOL 1108L with a minimum grade of C; or BIOL 1112 with a minimum grade of C

**LEARNING GOALS & OUTCOMES**

Upon completion of this course, students will be able to:

- Understand the core concepts of ecology, and apply those concepts to novel systems.
- Describe the importance of ecology for all organisms and at all scales of biology.
- Perform, interpret, and critically evaluate experimental design and statistical analyses.
- Explain ecological systems and processes using conceptual and mathematical models.
- Communicate ecological ideas through writing, data visualization, and oral presentations.
- Effectively collaborate with other students.

**Biology Learning Outcomes:**

BIOL 3500 is a required course in the B.S. degree program in Biology. BIOL 3500 supports all seven outcomes of the biology major:

1. Identify and describe the biological core concepts: evolution; structure and function; information flow, exchange, and storage; pathways and transformations of energy and matter; and/or systems.
2. Formulate hypotheses; collect, evaluate, and/or interpret scientific data to solve problems in biological science and supporting fields.
3. Apply quantitative reasoning, modelling and simulations, and/or laboratory skills to answer questions in the biological sciences.
4. Relate knowledge of the other sciences, including computer and social sciences, to biological concepts and skills.
5. Effectively communicate scientific ideas to others inside and/or outside the biology discipline.
6. Identify and describe the impact of biological science on the environment and/or society.
7. Collaborate with other students inside and/or outside the biology discipline.

These learning outcomes are based on the [AAAS Vision and Change in Undergraduate Biology Education](#).

## EVALUATION & GRADING

You will be evaluated with the following assignments/criteria:

	Points	%
4 Exams @ 50 points	200	27%
Assignments	250	35%
Top Hat quizzes	75	10%
Infographic project	100	14%
Cumulative final exam	100	14%
<b>TOTAL</b>	<b>725</b>	<b>100%</b>

Your grade will be determined as follows:

Grade	Percentage
<b>A</b>	89.5 - 100%
<b>B</b>	79.5 – 89.4%
<b>C</b>	69.5 – 79.4%
<b>D</b>	59.5 – 69.4%
<b>F</b>	below 59.4%

**Mid-term progress report:** The mid-term grade in this course, which will be issued by October 4, reflects approximately 32% of the entire course grade. Students may choose to withdraw from the course and receive a grade of "W." Students pursuing this option must fill out an official withdrawal form, available in the Office of the Registrar, or withdraw on-line using the Swan by mid-term, which occurs on October 7. [Instructions for withdrawing are provided at this link.](#)

**The last day to withdraw without academic accountability is Friday, October 7, 2016.**

## COURSE SCHEDULE

\* Unless otherwise noted, chapter and page references are for the Cain et al. textbook. Bold text indicates required reading/viewing. RC = Ruxton & Colgrave textbook. Camtasia = online Camtasia lecture

\*\* The assignment deadlines listed here are tentative and may change during the semester. I may also add additional assignments not listed here. Please see the class D2L page for the most up-to-date assignment guidelines and deadlines.

Week	Day	Topic	Text Chapter/Pages*	Assignments due**
1	Aug 16	Introduction to ecology	Chap. 1	Install R and R Studio
	Aug 18	Ecological studies & statistics	Chap. 1; RC: chap. 2-4	
2	Aug 23	More statistics	RC: chap. 2-4	Stats article reflection
	Aug 25	Practice with statistics	RC: chap. 2-4	Plagiarism quiz
3	Aug 30	Population distributions	Chap. 9	Statistics problems
	Sep 1	<b>Exam 1:</b> Ecological studies & stats		
4	Sep 6	Exponential population growth	<b>Camtasia;</b> p.236-239, 251	
	Sep 8	Logistic population growth	<b>Camtasia;</b> p.240-245, 252	
5	Sep 13	Practice with population data	p.252-257	Pop growth problems in R Infographic mini-proposal
	Sep 15	Demography	p.228-235	
6	Sep 20	Article discussion	<b>Article TBA</b>	Article summary
	Sep 22	<b>Exam 2:</b> Population growth		Population data problems
7	Sep 27	Species interactions	p.359-362, 367, 485-489	
	Sep 29	Positive interactions	Chap. 15	
8	Oct 4	Lotka-Volterra competition model	<b>Camtasia;</b> Chap. 12	
	Oct 6	Practice with competition model	Chap. 12	
<b>October 7, 2016 is the last day to withdraw and receive a W grade</b>				
9	Oct 11	<b>Fall Break – NO CLASS</b>	<b>Article TBA</b>	Competition problems; Article summary
	Oct 13	Article discussion		
10	Oct 18	<b>Exam 3:</b> Mutualism & competition	<b>Camtasia;</b> Chap. 13	Infographic full proposal
	Oct 20	Lotka-Volterra predation model		

Week	Day	Topic	Text Chapter/Pages*	Assignments due**
11	Oct 25	Practice with predation model	Chap. 13	Predation problems
	Oct 27	Indirect effects of predation	p.368, 480-483; <b>Article TBA</b>	
12	Nov 1	Zombie outbreak modelling		
	Nov 3	<b>NO CLASS</b>		
13	Nov 8	<b>Exam 4:</b> Predation		Zombie modeling assignment
	Nov 10	Species diversity	p.362-364	
14	Nov 15	Community function	p.372, 442-444	Draft of infographic
	Nov 17	Succession	p.380-393	
15	Nov 22	Disturbance & stability	p.436-440, p.489-491	
	Nov 24	<b>Thanksgiving Break – NO CLASS</b>		
16	Nov 29	Case study - TBA		Final infographic; Case-study write-up
	Dec 1	Infographic presentations		
	Dec 6	<b>COMPREHENSIVE FINAL EXAM @ 5:00pm</b>		

## COURSE POLICIES

1. **Attendance is expected.** Students are responsible for obtaining any missed information (e.g., assignments, due dates, etc.) from other students or D2L. While I track attendance, it is not an explicit part of your grade (but see 'How I will determine your Top Hat grade' below). I do not require documentation for missed classes, unless you need to be excused from late penalties on assignments that were due in your absence.
2. **Late policy on assignments.** Unless otherwise indicated, all assignments are due at the start of class. Late assignments are subject to a penalty of 10% of the points for each day (i.e., 24 hour period) that the assignment is late. If you have a valid excuse for submitting an assignment late, please contact me as soon as possible to discuss your situation. Written documentation from an authority (doctor, judge, etc.) will be required for any waivers of the late penalty.
3. **How I will determine your Top Hat grade.** Your grade for the Top Hat quizzes is worth 75 points. At the start of each class, there will be a Top Hat quiz worth 5 points, and only your highest 15 quiz grades will contribute to your overall Top Hat grade. In other words, I will drop your lowest four or so quiz grades (depending on how many quizzes there are). There are no make-up Top Hat quizzes - a missed quiz will be counted as a quiz which can be dropped.
4. **Many assignments will be submitted on Dropbox in D2L.** It is your responsibility to ensure that the appropriate documents have been submitted by the deadline. Submit documents as Word (.doc or .docx), Excel (.xls, .xlsx, or .csv), or R (.R) files only – I will not accept Pages (sorry Mac users!), PDFs, or Google docs for any assignments. If you submit inappropriate documents (e.g., wrong file format or wrong assignment altogether), you will be subject to late penalties until you post the appropriate file to Dropbox.
5. **Help! D2L is not working and something is due today!** If you have problems with uploading a document to D2L, email your assignment to me instead.
6. **Exam procedures.**
  - Exams start at the beginning of class. Students who arrive late will not be given extra time on the exam.
  - The use of or possession on your person of a cell phone, or any other electronic device, is not permitted during an exam. Anyone caught with a cell phone (in your hands, or lap, or pocket, etc.) will be subject to disciplinary action (see Academic Dishonesty below) and will receive a zero on the exam.
  - Make-up exams will be given only (1) if a valid excuse is provided and (2) if they are taken before graded exams are returned. You are responsible for scheduling a make-up exam within that time frame. In the event that a make-up exam cannot be taken within this time frame, the missed exam will not count in calculating the course grade. This means that other graded work will be responsible for a greater weight in determining the final course grade.

- The final exam must be taken. Students missing the final exam should contact me concerning the applicability of an [incomplete grade](#).
7. **Plagiarism will NOT be tolerated**, and any instances of plagiarism will be subject to disciplinary action (see 'Academic Dishonesty' below). Ignorance is not an excuse. I consider your completion of the plagiarism awareness quiz as evidence that you understand the various forms of plagiarism. If you are ever in doubt, please ask me (or the Writers' Studio) for help.  
  
Plagiarism Detection Software: Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. You should submit your papers in such a way that no identifying information about you is included.
  8. **Respectful behavior is expected**. This means active listening when I am talking or when another student is talking during class discussions. Inappropriate side-conversations and the inappropriate use of laptops/cell phones is distracting to other students and disrespectful to everyone. Students repeatedly violating this policy will be asked to leave the classroom for being disruptive.
  9. **Visitors are not permitted without the instructor's permission**. Children are not allowed in the classroom at any time.

## GENERAL UNIVERSITY POLICIES

### General Policy

Students must abide by policies in the Clayton State University Student Handbook, and the [Basic Undergraduate Student Responsibilities](#). The Student Handbook is part of the [Academic Catalog and Student Handbook](#), which begins on page 6.

### University Attendance Policy

Students are expected to attend and participate in every class meeting. The university reserves the right to determine that excessive absences, whether justified or not, are sufficient cause for institutional withdrawals or failing grades.

### Academic Dishonesty

Any type of activity that is considered dishonest by reasonable standards may constitute academic misconduct. The most common forms of academic misconduct are cheating and plagiarism. All instances of academic dishonesty will result in a grade of zero for the work involved. All instances of academic dishonesty will be reported to the [Office of Community Standards](#). Judicial procedures are described beginning on page 19 in the section of the [Academic Catalog and Student Handbook](#) titled, Procedures for Adjudicating Alleged Academic Conduct Infractions.

### Disruption of the Learning Environment

Behavior which disrupts the teaching-learning process during class activities will not be tolerated. While a variety of behaviors can be disruptive in a classroom setting, more serious examples include belligerent, abusive, profane, and/or threatening behavior. A student who fails to respond to reasonable faculty direction regarding classroom behavior and/or behavior while participating in classroom activities may be dismissed from class. A student who is dismissed is

entitled to due process and will be afforded such rights as soon as possible following dismissal. If found in violation, a student may be administratively withdrawn and may receive a grade of WF.

More detailed descriptions of examples of disruptive behavior are provided in the Clayton State University [Academic Catalog and Student Handbook](#) starting on page 14.

## COMPUTER REQUIREMENTS

Each CSU student is required to have ready access throughout the semester to a notebook computer that meets faculty-approved hardware and software requirements for the student's academic program. Students will sign a statement attesting to such access. For further information on CSU's Official Notebook Computer Policy, please go to [here](#).

### Software Requirement

To properly access the course content you will need to download the following free software:

- Adobe Reader (needed to access files in PDF format): <http://get.adobe.com/reader/>
- Adobe Flash (needed to access video content): <http://get.adobe.com/flashplayer/>
- R (needed to analyze data): <http://cran.stat.ucla.edu>
- R Studio (needed to analyze data): <https://www.rstudio.com/products/rstudio/download/>

### Computer Skill Prerequisites

- Able to use the Windows™ operating system
- Able to use Microsoft Word™ and Microsoft Excel™
- Able to send and receive e-mail using Outlook™  
Only use your CSU e-mail account or the e-mail system included in D2L to communicate academic information to your instructor.
- Able to attach and retrieve attached files via email
- Able to use a Web browser

### In-class Use of Student Notebook Computers

Notebook computers may be used in the classroom, provided their use is not distracting for others.

### Desire2Learn (Online Classroom)

Students can access course materials on D2L. In addition, students will be required to submit assignments through the Dropbox feature of D2L.

You can gain access to D2L, by signing on to the SWAN portal and selecting: "D2L" on the top right side. If you experience any difficulties in D2L, please email or call The HUB at [TheHub@mail.clayton.edu](mailto:TheHub@mail.clayton.edu) or (678) 466-HELP. You will need to provide the date and time of the problem, your SWAN username, the name of the course that you are attempting to access, and your instructor's name.

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**Changes or additions to this syllabus can be made at the discretion of the instructor at any time.**

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*Last update: August 3, 2016*

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