

General Information:

Class Time: MWF: 10:00 to 10:50 am in KC124
Lab Time: TWTh: 2:00 to 5:00 pm, in KC200 or as scheduled

Instructor Info:

Dr. Cris G. Hochwender

Phone: 488-2005

Office: KC 216

Office Hours: 8:15 - 8:55 am on MTWThF; 1:00 - 1:45 pm on TTh

Email & website: ch81@evansville.edu; <http://faculty.evansville.edu/ch81/courses.html>

Textbooks: Molles, Jr., M.C. 2005. *Ecology: Concepts and Applications*. Third Edition. McGraw Hill, Boston, MA.

Futuyma, D.J. 2005. *Evolution*. Sinauer Associates, Inc., Sunderland, MA.

Lab Fee: A fee of \$15 (cash) must be paid to Mrs. Pat Akrabawi in KC219.

Course Description and Objectives: This course introduces the fundamental concepts of evolution and ecology, with special efforts made to demonstrate the inherent relationship between these two disciplines. We will examine the ecology of individuals, populations and species and the mechanisms of evolutionary change, while also addressing the interplay between ecology and evolution. The three major objectives of this course are: **(1)** to provide a fundamental understanding of evolutionary and ecological theory, **(2)** to exercise your skills in critical thinking, and **(3)** to enhance your research skills by increasing your ability to design and perform experiments, as well as by improving your laboratory writing skills.

Lectures and Laboratories: A substantial component of class period will be a lecture-based presentation of the material to ensure that everyone understands the topics being discussed. To ensure that you can provide a meaningful contribution to each subject, though, you are expected to read the assigned chapters prior to the class discussion of that subject. To encourage timely reading of the material, **we will give a quiz over designated chapters at the beginning of class on most Mondays** (see lecture schedule below). With regard to the laboratories, assignments will vary in their grade value. Because you will be developing your writing skills as this course progresses, we will give lesser weight to the first lab report. Nevertheless, you will want to invest time and effort in each report in order to improve the quality of your writing.

Attendance Policy: Your participation in classroom and laboratory exercises is integral to this course. You are expected to attend all classes; if you miss class during a regular lecture session, you are responsible for all work missed. The dates for the exams, quizzes and assignments are indicated in the syllabus; if you are unable to attend class, contact the instructor immediately. In addition, you will need to submit a note from the Office of the Dean of Students confirming the reason for your absence. Your absence will be excused provided that it complies with the University's policy governing excused absences and provided that you complete the assignment within the requested time frame. Unexcused absences and incomplete work will regrettably receive zeros for grades.

†The schedule may be modified to enhance learning opportunities.

Grading: Your final grade will be determined based on the following:

Lab reports/presentation:	30%
Quizzes:	10%
Exam I - IV:	12.5% each (50% total)
Final Exam:	10%

Course grades will be determined using the following scale:

	B+ = 88-89%	C+ = 78-79	D+ = 68-69%
A = 93% or above	B = 83-87%	C = 73-77%	D = 63-67%
A- = 90-92%	B- = 80-82%	C- = 70-72%	D- = 60-62%
			F = below 60%

Lab Schedule:

<u>Week of</u>	<u>Lab Topic</u>
8/22	No lab
8/29	Natural history of Pigeon Creek: collection
9/5	Pigeon creek: sample identification
9/12	Woody plant diversity: Wesselman Woods I (Pigeon creek report due)
9/17-18	Hancock Biological Station Field Trip
9/19	Woody plant diversity: Wesselman Woods II
9/26	Discussions of: Writing a Lab Report Literature Research JMP & Data Analysis
	Students will need to collect and care for isopods
10/3	TBA (Woody plant diversity report due)
10/10	- Fall Break -
10/17	Seed dispersal experiment: experiment I
10/24	Seed dispersal experiment: experiment II
10/31	Isopod behavior: experiment
11/7	Isopod behavior: experiment and data analysis (Seed dispersal report due)
11/14	Isopod selection experiment
11/21	- Thanksgiving -
11/28	Presentation of isopod behavior experiment (Both Isopod reports due)

Weekend Field Trip: We have a special opportunity to take a trip to the Hancock Biological Field Station at Aurora, KY during the weekend of **September 17th and 18th**. We will leave for the station early Saturday morning and return to UE early Sunday afternoon. Due to travel constraints, only the first 15 students who deposit a \$25 fee to cover travel, housing, and food costs will be able to attend the trip. This trip will provide you with an opportunity to sample, identify, and learn more about the natural history of a variety of plants and animals from a unique aquatic ecosystem. Please apply for this trip ASAP.

Lecture Schedule

<u>Week of</u>	<u>Topic</u>	<u>Reading</u>	<u>Quiz Topic</u>
8/22	Intro: Relationship between ecology and evolution; Ecology; Natural history of streams and rivers	Molles 1, 3	-
8/29	Ecology of populations and communities	Molles 9, 16	Molles 9
9/5	Ecology of communities (cont.); Food webs (pgs. 419-25), Trophic pyramids (pgs. 442-3), Succession (pgs. 485-8); Population dynamics	Molles 16 Molles 17, 18, 20 Molles 10	Molles 16
9/12	Population growth; Life history biology Exam I (Friday)	Molles 11, 12	Molles 11
9/19	Life history biology (cont.); Competition	Molles 13	Molles 12
9/26	Predation; Herbivory; Mutualism	Molles 14, 15	Molles 14
10/3	Mutualism Physiological ecology	Molles 15 Molles 4, 5, 6	Molles 15
10/10	Fall Recess Evolution Exam II (Friday)	Futuyma 2, 3	-
10/17	Sources of genetic variation; Population genetics	Futuyma 9	Futuyma 9
10/24	Drift, gene flow, non-random mating	Futuyma 10	Futuyma 10
10/31	Natural Selection (also see Molles 8)	Futuyma 11, 12	Futuyma 11
11/7	Quantitative genetics Exam III (Friday)	Futuyma 13	-
11/14	Sexual selection; Kin selection If time allows: Social behavior	Futuyma 14 Molles 7	Futuyma 14
11/21	Species and Speciation Thanksgiving break	Futuyma 15, 16	Freeman 15
11/28	TBA (Ch 18, 20, or 21)	Futuyma	
12/5	Exam IV		
12/13	Final Exam (12:30 p.m.)		

Academic Honor Code: All students are expected to abide by the University's Honor Code. Accordingly, students are expected to neither give nor receive unauthorized aid on quizzes. Plagiarism, the use of unauthorized sources of information on submitted work, is considered a transgression of the honor code. If you violate the University honor code, you will receive a zero for the work in question and your violation will be reported to the Office of the Dean of Students. To ensure that students turn in original work, all writing assignments must be submitted to Turnitin.com. Your assignment will not be graded (and may be counted as late) until your assignment has been successfully submitted to turnitin.com.