

Ecology

PCB 4043

Instructor

Richard A. Snyder

Office: Bldg 58, Rm 70

e-mail: rsnyder@uwf.edu

<http://uwf.edu/rsnyder/>

Phone: 474-2806

Lecture: Tues. Thurs. 8:30-9:45

Laboratory: Tues. 13:00-17:00

Wed. 13:00-17:00

Thurs. 13:00-17:00

Office Hours: Wed. 9:00 - 15:00

Thurs. 9:45 – 15:00

(or just stop by anytime)

Lab Instructors: Alexander Ren

Ryan Saylor

ar4@students.uwf.edu

rks8@students.uwf.edu

Text: Smith & Smith, 2001. *Ecology and Field Biology*, 6th ed., Benjamin Cummings.

Recommended but not required:

Pechenik, J.A. 2007. *A short guide to writing about biology*, 6th ed. Pearson Longman

Assistance

If you have need of any in-class accommodations or special test-taking arrangements because of physical, and/or perceptual limitations, contact the instructor or department secretary (474-2748).

Attendance

Conflicts with exam or laboratory scheduling must be taken care of in advance for non-emergency situations. Material or sessions missed for emergency or excused absences must be made up at the convenience of the instructor and teaching assistants.

Lecture. Attendance at lectures is not mandatory. However, lectures will not be restricted to the text material. Bottom line: absences will probably adversely affect your grade.

Laboratory: Attendance at laboratory meetings and field trips is mandatory.

How you will be Graded

Lecture (1200 points total). Four exams (275 points each) and random quizzes (100 pts).

Lab (400 points total). Quizzes will be given at the beginning of each lab period (100 points). A lab report in scientific technical writing style is required, submitted once for grading and editing (50 points) and submitted a second time for improvements (50 points). Two lab practical exams are worth 100 points each. 25 points extra credit is possible for a journal/plant collection.

The Fine Print.

The course total for absolute perfection is 1600 points.

Letter Grades will be assigned based on a percentage of total points, with 75% a "C", > 90% required for an "A"

Plus-minuses only given for Cs and Bs.

Lecture schedule is subject to change.

Course Withdrawal

The last day to withdrawal with an automatic "W" is 31 October 2009

Course Objectives and Student Learning Outcomes:

This course meets the following programmatic goals for the B.S. Biology and Marine Biology programs:

- **Communication:**
 - **Students will collect data in the field and develop mathematic models to describe distribution and abundance of organisms. This analysis will be reported in a scientific paper following the technical writing style found in the scientific literature.**

Fulfillment of this goal will be assessed by grading these papers for data analysis, evaluation, reporting. Grading will reflect ability to convey information about scientific phenomena and adherence to a technical writing style.

Lecture Schedule

#	Day	Date	Subject	Book Pages
Part I. Introduction				
1	Tues.	25 Aug	Scope of Ecological Science	1-18
Part II. Abiotic Factors of the Environment				
2	Thurs	27 Aug	Climate	19-41
3	Tues.	1 Sept	The Physical Environment and Soils	42-77
4	Thurs	3 Sept	The Physical Environment and Soils	42-77
Part III. Adaptation to Abiotic Factors: Physiological Ecology				
5	Tues.	8 Sept	Plant adaptations	79-119
6	Thurs	10 Sept	Animal Adaptations	120-144
7	Tues.	14 Sept	Animal Adaptations	120-144
8	Thurs	16 Sept	EXAM I	
Part IV. Population Ecology				
9	Tues.	22 Sept	Population Organization and Structure	159-180
10	Thurs	24 Sept	Population Growth	181-193
11	Tues.	29 Sept	Population Regulation	194-213
12	Thurs	1 Oct.	Life History Patterns	214-239
13	Tues.	6 Oct	Population Genetics (Part VI in book)	356-380
14	Thurs	8 Oct	Population Genetics (Part VI in book)	356-380
15	Tues.	13 Oct	EXAM II	
Part V. Population Interactions				
16	Thurs	15 Oct	Predation and Herbivory	264-305
17	Tues.	20 Oct	Predation and Herbivory	264-305
18	Thurs	22 Oct	Parasitism and Mutualism	306-334
19	Tues.	27 Oct	Renewable Resource Management	335-354
20	Thurs	29 Oct	Renewable Resource Management	335-354
Part VII. Community Ecology				
21	Tues.	3 Nov	Community Structure	381-402
22	Thurs	5 Nov	Community Dynamics	403-448
23	Tues.	10 Nov	Exam III	
24	Thurs	12 Nov	Landscape Ecology	449-476
25	Tues.	17 Nov	Biological and Ecosystem Energetics	478-503
Part VIII. Ecosystem Ecology				
26	Thurs	19 Nov	Biogeochemical Cycles	504-523
27	Tues	24 Nov	Global Environmental Change	699-720
	Thurs	26 Nov	Thanksgiving Holiday	
28	Tues	1 Dec	Pollution	
29	Thurs	3 Dec	Pollution	
	Tues	8 Dec	FINAL EXAM 8:00 – 10:30	

Lab Schedule

#	Week of	Subject	Notes
1	24 Aug	Maps, Charts, Remote Sensing	
2	31 Sept	Taxonomy, Evolutionary Adaptations	
3	7 Sept	Salt Marshes	
4	14 Sept	Lab Projects, Data Analysis and Report Writing	
5	21 Sept	Seagrasses	
6	28 Sept	Upland Forest Communities: Sandhill Pine	
7	5 Oct	Lab Practical I	
8	12 Oct	Upland Forest Communities: Mesic Hardwoods	Papers Due 17 Oct 4 PM
9	19 Oct	Freshwater Wetlands	
10	26 Oct	Coactions, Predation	
11	2 Nov	Water Quality Analysis	Papers Returned
12	9 Nov	Barrier Islands	
13	16 Nov	Make up/ Review	
14	23 Nov	Thanksgiving Holiday Week	Papers Due Wed. 25 Nov @ 4 PM
15	30 Nov	Lab Practical II	

Lab #	Article #	READING ASSIGNMENTS
1	7049	Mumby, P.J. et al., 1997. Measurement of seagrass standing crop using satellite and digital airborne remote sensing. <i>Mar. Ecol. Prog. Ser.</i> 159:51-60.
2	6883	Stiassy, Melanie and Axel Meyer. 1999. Cichlids of the Rift Lakes. <i>Scientific American</i> Feb. 1999: 64-69.
3	6595	Henry, R.P., McBride, C.J. & Williams, A.H. 1993. Responses of the marsh periwinkle, <i>Littoraria (Littorina) irrorata</i> to temperature, salinity, and dessication, and the potential physiological relationship to climbing behavior. <i>Mar. Behav. Physiol.</i> 24:45-54.
4		Schmitz, O.J. 2008. Effects of predator hunting mode on grassland ecosystem function. <i>Science</i> 319:952-954.
5	6878	Francovich, T.A. & J.W. Eleutrius. 1997. Seagrass epiphyte loads along a nutrient availability gradient, Florida Bay, USA. <i>Mar. Ecol. Prog. Ser.</i> 159:37-50
6	6725	Glitzensein, J.S., W.J. Platt, & D.R. Streng. 1995. Effects of fire regime and habitat on tree dynamics in North Florida longleaf pine savannas. <i>Ecological Monographs</i> 65:441-476.
7		NO READING ASSIGNMENT ----- LAB PRACTICAL I
8	BOK 9108	<i>Ecosystems of Florida</i> Chapter 7: Temperate Hardwood Forests (pages 194 - 196 and 213 - 229)
9	BOK 9108	<i>Ecosystems of Florida</i> Chapter 9 Swamps (ALL)
10	7280	Marko, P.B. & R. Palmer. 1991. Responses of a rocky shore gastropod to the effluents of predatory and non-predatory crabs: avoidance and attraction. <i>Biol. Bull.</i> 181:363-370.
11		Worm, B., et al., 2006. Impacts of biodiversity loss on ocean ecosystem services. <i>Science</i> 314:787-790.
12	BOK9108	<i>Ecosystems of Florida</i> Chapter 13: Dunes and Maritime Forests (pages 429 - 434 and 455 - 480)
13		NO READING ASSIGNMENT -----Thanksgiving Holiday Week
14		NO READING ASSIGNMENT ----- LAB PRACTICAL II