

ECOLOGY AND EVOLUTION (BIOL 3250 A,B,E) -- Fall Semester 2020

Instructor: Dr. Brad Bergstrom, Offc. 1107 (333-5770) bergstrm@valdosta.edu

Biol. Dept. 333-5759

Office Hours: M 2-4, other times by appointment (call or use MS Teams).

e-Texts: Smith, T.M., and R.L. Smith. 2015. Elements of ecology. 9th ed. Pearson Education, Inc. Hoboken, NJ.

Bergstrom, C.T., and L.A. Dugatkin. 2016. Evolution. 2nd ed. W.W. Norton and Co., NY

!!Students are responsible on exams for all information from lecture, handout, and readings presented in lecture or on BlazeView and e-mail (use ...@valdosta.edu account only)!!

Lecture: four 100-pt. lecture exams (some points may come from online eBook activity**).

*Tentative Exam Dates: Sep 18, Oct 16, Nov 13, Dec 10 (Thurs, 10:15 am, *ONLINE*)

Lab = ca. 33% of course grade from lab: writeups of field/laboratory exercises; including original investigations and computer simulations.

LECTURE SCHEDULE

Week #	Topic	Chapters in: Evolution (V) , otherwise Ecology
1	Introduction to Ecology	1
1	History and Fundamentals of Evolutionary Theory	V1,2
2	The Nature of Variation	Skim V6,9,10
2-3	Species and Phylogenies	V4,5,14
3	"Evo-Devo"	V13
4-5	Population Genetics and the Mechanisms of Microevolution	V7,8,3
6-7	Physical and Physiological Ecology Conditions and Resources	6,7 2, Skim 3,4
	Nutrient/Mineral Cycles Niche Concepts	Skim 21,22 Section 12.6
8-9	Population Ecology: Demography, Dynamics, & Density-dependence	8,9,11
10-11	Reproductive Ecology & Life Histories	10
11-12	Interspecific Competition	12,13
13	Foraging Ecology, Predator-Prey	14
14	Community Structure & Dynamics, Trophic Cascades,	

Tentative Computer Laboratory/Field Schedule**Assignment (pts.)**

Week 1 -- Intro to Inland Coastal Plain Ecosystems. (** READ Ecol. Chapt 1; Skim Chpts. 20-25 for ideas**)	Hypotheses	(10)
2 -- Phylogenetic Rules and Reconstruction	Assignment	(10)
3 -- Population Genetics Computer Simulations Scientific Writing	Scientific Paper	(15)
4 -- Transect sampling (field)		(5)
5 -- Computer Simulation (Darwinian Snails)	Worksheet	(10)
6 -- Plot sampling I (field)		(5)
7 -- Computer Simulation (Population Growth)	Worksheet	(10)
8 -- Human Demography	Life Table	(20)
9 -- Analysis of field sampling data	Scientific Paper	(25)
10 -- Computer Simulation (Keystone Predator)	Worksheet	(10)
11 -- Plot sampling II (field)		

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Ecology (BIOL 3250) – Fall 2020 Expectations of Students

1. Students will wear a fitted facial covering of nose and mouth at all times indoors and when unable to distance outdoors (NOTE: neck gators are not effective and therefore will not meet this requirement; masks with exhaust valves also are not effective, as they vent particles into the air). This is CDC guidance and also a requirement of the University System and VSU; beyond that, it is

