

ECOLOGY AND EVOLUTION (BIOL 3250 A,B,C) -- Spring 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.

Texts: Smith, R.L., and T.M. Smith. 2001. Ecology and field biology. 6th ed.
Benjamin Cummings, San Francisco, CA. 771 pp.
Hall, B.K., and B. Hallgrimsson. 2008. Strickberger's Evolution. 4th ed.
Jones and Bartlett, Boston, MA. 762 pp.

****STUDENTS ARE RESPONSIBLE ON EXAMS FOR ALL INFORMATION FROM LECTURE NOTES,
HANDOUTS AND ASSIGNED READINGS.**

Lecture: four 100-pt. lecture exams.

*Tentative Exam Dates: Feb 14, March 13, April 17, May 8 (Fri, 10:15 am)

Lab = ca. 35% of course grade, from writeups of field/laboratory exercises;
including original investigations and computer simulations.

LECTURE SCHEDULE

Week #	Topic	Chapters in: <i>Evolution (V)</i> , otherwise Ecology
1	Introduction to Ecology	1
1	History and Fundamentals of Evolutionary Theory	V1-3
2	The Nature of Variation	Skim V9-10
2-3	Species and Phylogenies	V11, Skim V12
3	"Evo-Devo"	V13
4-5	Population Genetics and the Mechanisms of Microevolution Patterns of Macroevolution	V21-23 V24
6-7	Physical and Physiological Ecology Conditions and Resources	5,6,8 Skim 4,7,9 2,27

Tentative Laboratory/Field Schedule

Assignment (pts.)

Week 1 -- Intro to Inland Coastal Plain Ecosystems. Hypotheses (10)
(***READ Ecol. pp. 12-17; Skim Ch. 28-31 + Appendix A for ideas***)

2 -- Phylogenetic Rules and Reconstruction (also, set up Bacterial
Selection experiment) Assignment (10)

3 -- Population Genetics Computer Simulations Scientific Paper (15)

4 -- TBA

5 -- Bacterial Selection analysis Scientific Paper (25)

6 -- Ecological Transect sampling I TBA

7 -- Human Demography Life Table (20)

8 -- 2 Tc -0.002 Tw 3.614 0 Td(4)Tj0 Tc 03(Human De7Du211 -1.145 Td()TjEMC /P ✗MCID

BIOL 3250 Expectations (cont'd.)

Ecological fieldwork can be fun and rewarding, but at times it can be hard work under rigorous conditions. If you are not used to either of the latter two, be prepared for a learning experience that may enrich your life in ways you'll only begin to appreciate now. And since we'll all be doing this together, adopting a positive attitude from the start will improve the already likely prospects of this being a positive experience for everyone.

7. If you should have any kind of question, problem, comment, complaint, crisis, etc., involving this course, I'm the appropriate person for you to talk to. Please come by and see me about it immediately; that's what I'm here for. Feel free to stop by anytime (but try office hours first).