

Biol 3250, Spring 2012  
Tentative schedule of topics\*

Week 1 (10/12 Jan)

10 Jan: Introduction to ecology and evolution; overview of course.

12 Jan: Science and religion “conflict”.

*Lab Week 1: Nature of biological inquiry; the scientific method; scientific writing.*

Week 2 (17, 19 Jan)

17 Jan: History of evolutionary biology (from the Greeks to the geeks).

19 Jan: Macroevolution I (phylogeny and “tree-thinking”).

*Lab Week 2: Natural history and natural history notes.*

Week 3 (24 Jan, 26 Jan)

24 Jan: Molecular evolution; genomic evolution.

26 Jan: Microevolution I (one locus Hardy-Weinberg).

*Lab Week 3: Methods of phylogenetic reconstruction.*

Week 4 (31 Jan, 02 Feb)

31 Jan: Microevolution II (two locus Hardy-Weinberg).

02 Feb: Microevolution III (one locus HW review; “inbreeding”).

*Lab Week 4: Microsatellite DNA analysis I.*

Week 5 (07, 09 Feb)

07 Feb: Microevolution IV (assortative mating/disassortative mating).

09 Feb: Review Session I.

*Lab Week 5: Microsatellite DNA analysis II.*

Week 6 (14, 16 Feb)

14 Feb: **Midterm I.**

16 Feb: Microevolution V (genetic drift and gene flow).

*Lab Week 6: Genetic drift lab.*

Week 7 (21, 23 Feb)

21 Feb: Microevolution VI (balance of gene flow and drift; admixture).

23 Sept: Microevolution VII (natural selection).

*Lab Week 7: Test review.*

Week 8 (28 Feb, 01 Mar)

28 Feb: Macroevolution II (species concepts, speciation; levels of selection).

01 Mar: Macroevolution III (tempo and mode of evolution; evo-devo).

*Lab Week 8: Modes of selection lab (Pipus cleanius).*

Week 9 (06, 08 Mar)

06 Mar: Life history patterns (sexual selection; mating systems).

08 Mar: Population ecology I (demography, exponential population growth).

*Lab Week 9: Life table lab.*

Week 10 (~~13~~, ~~15~~ Mar)

13 Mar: SPRING BREAK.

15 Mar: SPRING BREAK.

*Lab Week 10: SPRING BREAK, no lab.*

Week 11 (20, 22 Mar)

20 Mar: Population ecology II (discrete population growth, time lags, logistic population growth).

22 Mar: Population Ecology III (intraspecific competition and dispersal; metapopulation theory).

Lab Week 11: *Forest diversity, part I.*

Week 12 (27, 29 Mar)

27 Mar: Review session II.

29 Mar: **Midterm II.**

Lab Week 12: *Forest diversity, part II.*

Week 13 (03, 05 Apr)

03 Apr: Community ecology I (interspecific competition, resource partitioning, niches).

05 Apr: Community ecology II (predator-prey interactions; Lotka-Volterra model).

Lab Week 13: *Forest diversity, part III.*

Week 14 (10, 12 Apr)

10 Apr: Community Ecology III (stratification and zonation: community structure and diversity).

12 Apr: Community Ecology IV (succession; island biogeography).

Lab Week 13: *Forest diversity lab data work-up.*

Week 15 (17, 19 Apr)

17 Apr: Ecosystem Ecology (energy cycling).

19 Apr: TBA

Lab Week 14: *Forest diversity lab first drafts due.*

Week 16 (26 Apr, 30 Apr)

24 Apr: Review session III.

26 Apr: **Midterm III.**

*Lab Week 14: Forest diversity lab final drafts due.*