

G23.1069 Principles of Evolution
Spring 2012
Syllabus

Meeting times: Fridays 4-7 PM

Meeting place: Silver 403

Lecture, Date, and Topic

Note: We will determine the course topics during the first lecture session.

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| 1. | 1/27 | Course set-up, go over term paper format |
| 2. | 2/3 | Introductory lecture: Darwinian evolution and selection |
| 3. | 2/10 | Introductory lecture: Population genetics |
| 4. | 2/17 | Introductory lecture: Population genetics, continued |
| 5. | 2/24 | Introductory lecture: Phylogenetic analysis |
| 6. | 3/2 | Midterm exam |
| 7. | 3/9 | Topic 1: discussion of papers |
| - | 3/12-3/17 | <i>Spring Break (change to daylight savings time)</i> |
| - | 3/23 | <i>Another week off: write your term papers.</i> |
| 8. | 3/30 | Topic 2: discussion of papers; <u>term paper thesis statement due!</u> |
| 9. | 4/6 | Topic 2: discussion of papers |
| 10. | 4/13 | Topic 3: discussion of papers |
| 11. | 4/20 | Topic 3: discussion of papers; <u>term paper outline due!</u> |
| 12. | 4/27 | Topic 4: discussion of papers |
| 13. | 5/4 | <u>Student Presentations; Term paper due</u> |

Assessment:

- 20% lecture exam
- 40% *quality* of participation in class discussion
- 40% term paper

Suggested textbooks (optional! NO need to purchase all)

1. Futuyma, D. 2009. Evolution, 2nd ed. Sunderland, MA: Sinauer. ISBN 978-0-87893-223-8
2. Graur, D., & Li, W.-H. 2000. Fundamentals of Molecular Evolution, 2nd ed. Sunderland, MA: Sinauer. ISBN 0-87893-266-6
3. Hall, B. G. 2004. Phylogenetic Trees Made Easy: A How-To Manual, 2nd. ed. Sunderland, MA: Sinauer. ISBN 0-87893-312-3
4. Koonin, E., & Galperin, M. Y. 2003. Sequence - Evolution - Function: Computational Approaches in Comparative Genomics. Kluwer Academic. ISBN 1-40207-274-0 [Available in its entirety online: <http://www.ncbi.nlm.nih.gov/books/NBK20260/>]

Suggested software (optional! NO need to purchase all)

1. Swofford, D. L. 2002. PAUP*: Phylogenetic Analysis Using Parsimony (and Other Methods), 4.0 Beta. Sunderland, MA: Sinauer. (As CD-ROM, various ISBNs depending on platform; see <http://www.sinauer.com>).
2. Maddison, W. P., & Maddison, D. R. 2009. Mesquite: A Modular System for Evolutionary Analysis [Free at: <http://mesquiteproject.org/mesquite/mesquite.html>]
3. Maddison, D., & Maddison, W. 2000. MacClade 4: Analysis of Phylogeny and Character Evolution. Sunderland, MA: Sinauer. (As CD-ROM, Mac only) ISBN 0-87893-470-7 [No longer supported]
4. Microsoft Excel.