

Jan	12	M	Introduction: the ecological theater, the evolutionary play (PC)	<b>S&amp;S: 2-15</b> , 2-16
	14	W	Global patterns of climate and vegetation (PC)	<b>19-30, 486-515</b> (pix only), 44-65, 497-522
	16	F	Adaptive responses to environmental variation (PC)	<b>138-148</b> , 139-157
	19	M	<i>MLK - Human Rights Day (no classes)</i>	
	21	W	Why nothing in biology makes sense without evolution: understanding HIV (JS)	<b>F&amp;H: Chapter 1</b>
	23	F	Homologies, histories, and diversities (JS)	Ch. 2
	26	M	Natural selection and adaptation (JS)	Ch. 3
	28	W	Phylogenetic inference and interpretation of evolutionary change (JS)	Ch. 4, 20
	30	F	Genetic variation as the raw material for evolutionary change (JS)	Ch. 5
Feb	2	M	Allele-frequency change as the consequence of fitness differences (JS)	Ch. 6
	4	W	Patterns of selection (dominance and frequency dependence) (JS)	Ch. 6
	6	F	When bad things happen to good genes (the mutation-selection balance) ... (JS)	Ch. 6
	9	M	... and other reasons why <i>not</i> all evolution is adaptive! (migration and drift) (JS)	Ch. 7
	11	W	Catch-up and review for the first midterm	
	13	F	<i>Midterm 1 (on material through Feb 9)</i>	
	16	M	<i>Presidents' Day Holiday (no classes)</i>	
	18	W	Quantitative characters I: polygenes and environmental influences (JS)	Ch. 9, handouts
	20	F	Quantitative characters II: variance components (JS)	Ch. 9, handouts
	23	M	Quantitative characters III: response to selection (JS)	Ch. 9, handouts
	25	W	Studying adaptation: experiments, comparisons, tradeoffs (JS)	Ch. 10
	27	F	Life-history evolution: why life's a grind and then we die (JS)	Ch. 13
Mar	2	M	Sexual selection and sex differences (JS)	Ch. 11
	4	W	Kin selection and social behavior (JS)	Ch. 12
	6	F	Speciation, that "mystery of mysteries" (JS)	Ch. 16
	9	M	Evolution and human health (JS)	Ch. 14
	11	W	Catch-up and review for the second midterm	
	13	F	<i>Midterm 2 (on material through March 9)</i>	
	16-20		<i>Spring break (no classes)</i>	
	23	M	Competition between species: theory (PC)	<b>S&amp;S: 256-262</b> , 258-265
	25	W	Competition between species: what happens in nature (PC)	<b>263-280</b> , 265-282
	27	F	Mutualisms (PC)	<b>316-326</b> , 319-330
	30	M	Predation I: models of predator/prey population dynamics (PC)	<b>281-298</b> , 283-302
Apr	1	W	Predation II: stability and productivity (PC)	<b>588-594</b> , 595-603
	3	F	Herbivory I: ecological and evolutionary impacts (PC)	<b>298-305</b> , 303-310
	6	M	Herbivory II: herbivore responses (PC)	(same as above)
	8	W	Herbivory III: costs and benefits of defense (PC)	(same as above)
	10	F	Herbivory IV: coevolution and induction (PC)	(same as above)
	13	M	Disease (PC)	<b>309-316</b> , 311-319
	15	W	<i>Midterm 3 (on material through April 13)</i>	
	17	F	Diversity of species (PC)	<b>333-336, 557-562</b> , 334-340, 564-570
	20	M	Island biogeography (PC)	<b>394-404</b> , 404-410
	22	W	Ecosystems I: productivity and energy flow (PC)	<b>424-435</b> , 439-449
	24	F	Ecosystems II: nutrient cycles (PC)	<b>468-474</b> , 474-487
	27	M	Ecosystems III: human impacts on global climate (PC)	<b>623-647</b> , 631-656
	29	W	Science and public policy: sustainability (PC)	<b>571-581</b> , 576-591

Lectures by Phyllis Coley (PC) or Jon Seger (JS).

Readings from Smith & Smith (**S&S**, bold = pages in 7<sup>th</sup> ed., unbold=6<sup>th</sup> ed.) or Freeman & Herron (**F&H**)

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## Lecturers

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(JS) = Jon Seger	581-4758	seger@biology.utah.edu

## Teaching Assistants

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## Textbooks

Smith & Smith, *Elements of Ecology*, 7th edition (Benjamin-Cummings, 2009), or 6<sup>th</sup> edition  
Freeman & Herron, *Evolutionary Analysis*, 4th edition (Pearson/Prentiss Hall, 2007)

Selected chapters and page ranges are keyed to individual lectures on the other side of this sheet. But don't think you shouldn't read more widely in these excellent textbooks! You would do well to read both books cover to cover, and to explore the companion web site for Freeman and Herron ([http://wps.prenhall.com/esm\\_freeman\\_evol\\_4](http://wps.prenhall.com/esm_freeman_evol_4)). We will frequently hand out lecture notes and other supplementary readings. These are just as important and just as "required" as readings from the textbooks.

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## Other requirements

We have a wonderful group of teaching assistants this year. They will offer *four* different discussion sessions each week (at times and places to be arranged). Attendance at the discussion sessions is voluntary but *very strongly encouraged*. It's your job to master the material, and it's the TAs' jobs to help you do so. They will schedule office hours, and you should feel free to contact them by e-mail to ask questions or set up appointments to meet with them individually or in small groups, if all your questions aren't being answered at the scheduled discussion sessions. Please *do not* use their laboratory phone numbers except as a *last resort*, because calls inevitably distract the TAs' hard-working, stressed-out lab mates.

There will be several ungraded problem sets, and these are also very important. The problems are designed to illuminate important processes, principles, and concepts. Some problems are based on former exam questions, and all are designed to increase your ability to *think with the material*, which is the only educational outcome that matters, and the one we try to test.

The three midterm exams will contain problems to be solved, short-answer questions, short essay questions, and possibly a few multiple-choice or T/F questions. All exams will be closed-book. You will not need a calculator. The scores for each exam will be "normalized" to the mean and standard deviation for that exam, so you will be rewarded for doing relatively well on a "hard" exam with a low mean. Then your relatively worst score (midterm or half of the final exam) will be dropped in calculating your final point total. Thus your grade will be based on your better performances, not your worst. If you do well on two midterms and the final you can survive even a zero on one midterm and still get an excellent grade. It's always in your interest to take a midterm, no matter how badly you expect to do on it. Each exam is an important learning experience, and you might have a bad day on the final. Each midterm will be worth a maximum of 100 points, and the final will be worth 200.

**Comprehensive Final Exam: Thursday, May 7, 8:00 – 10:00 in the lecture room (ASB 220)**

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## Equal access provisions

The University seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in this class, then reasonable prior notice must be given to the instructor and to the Center for Disability Services, 162 Olpin Union. Call 581-5020 (V/TDD) to make arrangements for these accommodations.

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