BIOLOGY 208 LECTURE SYLLABUS – SPRING 2010

		Assigned reading: Smith & Smith 7th (S&S), Freeman 3rd (F), Carroll (C)
Course Introduction (1 lecture)		S&S 1-15, F 1-17, 1125-1127 C ix-xi, C 2-3
Unit I. Evolution and Behavioral Ecology		
11 Lectures	A. Genetic Variation	S&S 72-96, F 481-502
	B. Natural Selection	F 503-525, 526-542, 1167-1170
	C. Individual Selection and Group Selection	S&S 158-179, 308-329, C 4-35
	D. Outbreeding vs. Inbreeding	C 36-51, 112-131
	E. Genetic Drift – Minimum Viable Populations	
	F. Mating Systems and Sexual Selection	
	G. Reproductive Isolation and Speciation	
	H. Adaptive Radiation, Macro-evolution, and Phylogeny	
	I. Coevolution, Mutualism versus Antagonism	
	J. Extinction and the Extinction Crisis	
Unit II. Systematic Biology		F 543-565
3 Lectures	A. Biodiversity	
	B. Taxonomic Method	
	C. Phenetics	
	D. Cladistics	

FIRST-HOUR EXAMINATION – Wednesday, February 24, 2010

Unit III. Adaptations to the Physical Environment		S&S 16-71, 97-157 S&S 480-516, 556-567
5 Lectures	A. Solar Radiation, Temperatures, and Climates	
	B. Water and Nutrients	
	C. Plant and Animal Adaptations to Environment	
	D. Biogeography	
Unit IV. Population Growth and Regulation		S&S 180-253
5 Lectures	A. Life Tables	
	B. Population Structure and Growth	
	C. Life History Patterns – r- & K-selection, Bet-hedging	
	D. Intraspecific Competition	
	E. Population Regulation: Density-dependent vs. Density-independent Regulation	
Unit V. Population Interactions		S&S 254-307
5 Lectures	A. Interspecific Competition	
	B. Niche Theory	
	C. Predator-Prey Relations	
	D. Controls on Population Size – Bottom-up Versus Top-down	

SECOND-HOUR EXAMINATION – Friday, April 9, 2010

Unit VI. Community Ecology S&S 330-411

5 Lectures
- A. Community Structure
- B. Community Dynamics
- C. Significance of Species Diversity
- D. Stability and Diversity
- E. Succession
- F. Landscape Ecology

Unit VII. Ecosystem Structure and Function S&S 412-485, S&S 568-649

5 Lectures
- A. Ecosystem Productivity
- B. Trophic Structure and Energy Flow
- C. Biogeochemical Cycles
- D. Global Cycles and Human Impacts
- E. Global Environmental Change
- F. Ecological Footprint