



Field Zoology, Biology 12

J. Bellemin

Sec. 1106, room Nat Sci #129, Monday, Wednesday, 12:30 to 4:45PM

Tentative Class Schedule Fall 2009

Texts:

Animal Diversity 5th ed. by Hickman, Roberts, and Larson (required).....reading assignments in []
A Natural History of California by Allan Schonherr (recommended).....reading assignments in ()
Marine Life of Southern California 2nd ed. by Donald J. Reish (recommended but out of print)
Field Guide to the Birds of North America 4th ed. by National Geographic Society (recommended)

Topics:	Lecture	Laboratory
Aug. 31	Introduction California Ecosystems	Introduction
Sep. 2	basic ecology, terms, concepts, energy (chapter 2)	intro to the microscope
Sep. 7	Labor Day Holiday	
Sep. 9	energy relations, trophic structure	ecology lab [chapter 2]
Sep. 14	nutrient cycles, life associations	interspecific relationships
Sep. 16	taxonomy, classification	classification [chapters 3, 4]
Sep. 21	biomes, succession (chapter 1)	classification
Sep. 23	Exam I Water Habitats and Invertebrates	Practical I
Sep. 28	lakes, streams, vernal pools (553-574, 525-532) coastline, ocean, tides (627-660, 672-700)	protozoa [chapter 5]
Sep. 30	protozoa, cnidaria, mollusca	cnidaria [chapter 7]
Oct. 5	mollusca	mollusca [chapter 10]
Oct. 7	arthropod survey, arachnida	arachnids [chapter 12]
Oct. 12	crustacea	crustacea [chapter 12]
Oct. 14	insecta	insecta [chapter 12]
Oct. 19	echinoderms	echinoderms [chapter 14]
Oct. 21	Exam II Fish and Amphibians	Practical II
Oct. 26	introduction to chordates, agnatha	chondrichthyes [chap 15, 16]
Oct. 28	chondrichthyes	osteichthyes { SEA Lab }
Nov. 2	osteichthyes (590-617)	osteichthyes
Nov. 4	amphibians (617-625)	amphibians [chapter 17]
Nov. 9	Exam III	Practical III
Nov. 11	Reptiles, Birds, and Mammals	
Nov. 16	reptiles (625-626)	turtles, tortoises [chap 18]
Nov. 18	reptiles	lizards, snakes
Nov. 23	birds	birds [chapter 19]
Nov. 25	birds	birds
Nov. 30	mammals	mammals [chapter 20]
Dec. 2	mammals	mammals { SBWR }
Dec. 7	mammals	mammals
Dec. 9	marine mammals (660 –671)	marine mammals and birds { MMCC and Bird Rehab }
Dec. 14	Exam IV	Practical IV
Dec. 16	Final Exam	

Grading: (point totals may vary as items are deleted or added)

4 lecture exams	100 points each = 400 points
4 laboratory practicals	50 points each = 200 points
8 quizzes ??? (or what ever number we have)	10 points each = 80 points
13 lab reports 10-20 points each = 170 points	
field trip attendance	40 points total = 40 points
final examination	<u>150 points each = 150 points</u>
	1040 points

Extra Credit: Points may be earned by attending weekend fieldtrips and suggested lectures.

Field Trips:

Field trips are not completely scheduled but I will try to have about five perhaps to some of the following places. Some of these will be optional (and therefore earn extra credit) but several will be during class time therefore attendance is required and written assignments will be given.

Bird Banding, Zuma Canyon, Santa Monica Mountains
Mammal Trapping, Deep Canyon, Santa Rosa Mts. and Living Desert, Palm Desert, or elsewhere
Cabrillo Aquarium, San Pedro
Intertidal tide pools trip, Royal Palms State Beach
Bird Walk to Madrona Marsh, Harbor Lake, or Alondra Park Island
Los Angeles Natural History Museum to see bird, mammal, insect, etc. collections
Edison SEA Lab, King Harbor, Redondo Beach
Marine Mammal Care Center and Bird Rehabilitation Center, San Pedro

Further Reading: (Reading listed refers to pages in A Natural History of California and animals are listed by area.)

Sierra Nevada:Coast Ranges:

birds pgs. 103-106,129-132,147-150,163-166
mammals pgs. 106-108,132-138,150-153
amphibians pg. 126
reptiles pgs. 126-128
invertebrates pgs. 162-163

Mountain tops:

invertebrates pg. 210
amphibians pgs. 211-214
birds pgs. 214-215
mammals pgs. 215-227

Pacific Northwest Mountains:

amphibians pgs. 249-251
birds pgs. 251-254
mammals pgs. 254-260

butterflies pgs. 296-298
amphibians pgs. 298-303
reptiles pgs. 303-305
birds. pgs. 305-312

Cismontane Southern California:

invertebrates pgs. 362-363
amphibians pgs. 363-365, 390-391
reptiles pgs. 364-374,391-393
birds pgs. 374-378
mammals pgs. 378-387

Deserts:

desert animal strategies pgs. 483-515

Great Central Valley:

mammals pgs. 532-533,549-552
insects pgs. 535-536
birds pgs. 536-538, 544-548
reptiles pgs. 543-544

Several good field guides are available for fish, reptiles, birds, and mammals other than the ones I recommended. I will show you some in class and you may decide if you wish to purchase anything.

Important Dates to Remember:

Last day to drop without notation on permanent record is September 25, 2009.

Last day to drop with a "W" is November 20, 2009.

You must drop yourself if you want to be sure to make these deadlines. If you simply do not attend class I might think you are just sick and not drop you in time.

Contact Information: Jbellemi@elcamino.edu 310 6603593 ex 3354

Office located in Natural Science Building, Nats 110, office hours T-TH, 11 AM, Wed, 11:45AM.

Course Objectives:

1. Describe the concepts of ecology including, species, population, community, ecosystem, niche, habitat, and biosphere.
2. Compare and contrast Darwinian evolution and natural selection concepts as well as current alternate ideas such as punctuated equilibrium.
3. Describe the structure of organic molecules such as carbohydrates, lipids, and proteins and how they function in the body.
4. Discuss the physiological processes of photosynthesis and cellular respiration.
5. Describe major biogeochemical cycles such as carbon, hydrogen, nitrogen, and phosphorus, giving sources and uses of these nutrients.
6. Relate the flow of energy through the environment via trophic levels with the concept of food webs, food chains, and food pyramids.

7. Compare some typical animals and plants of all eight major terrestrial biomes; tundra, taiga, deciduous forest, temperate rainforest, chaparral, desert, grassland, and tropical rainforest, listing if and where they occur in California.
8. Discuss primary and secondary succession using examples in our local Southern California area.
9. Describe the biological regulation factors of animal populations such as competition, predation, symbiosis, mutualism, commensalism, parasitism.
10. Identify and characterize the population biology life strategies of "r" and "K" selection.
11. Assess various abiotic factors including water and its properties, describing how these factors and properties affect animal life and choice of terrestrial and aquatic habitats.
12. Identify selected Protozoa to be found in fresh water.
13. Diagram the different life forms of the Cnidaria and identify the local tide pool anemones, and common hydroids and sea jellies.
14. Identify all five different classes and body plans of the Mollusca, listing local tide pool species.
15. Key out and identify local insect and spider species using preserved collections and live specimens.
16. Differentiate the anatomical structures of the major Arthropod groups including arachnids, insects and crustacea.
17. Identify five different classes of Echinoderms and name species in our local tide pools.
18. Describe major differences between the three existing classes of fish: agnatha, chondrichthyes, osteichthyes.
19. Identify local fish species through color slides, preserved specimens and live examples.
20. Examine the major types of amphibians and be able to list and recognize those that occur in California.
21. Differentiate between the major groups of turtles, tortoises, snakes and lizards and be able to identify our local California species
22. Explain the evolution of the higher bird and mammal groups from the dinosaurs describing the development of endothermy and other important characteristics.
23. Identify 85 species of local birds from color slides and recognize the calls of certain selected bird species.
24. Describe the major types of mammals that could be found in California and identify species from live specimens, color slides and study skins.

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