MAMMALOGY - BIO. 525
Spring, 2008

As stated in the Catalog, completion of the English Placement Test and Writing Competency requirements is a prerequisite for all upper division biology courses. The specific prerequisite for this course is Principles of Organismal Biology (Bio 201B). These requirements do not apply to graduate students enrolled in the course.

This course is an overview that explores various aspects of mammalian biology. Although natural history, ecology, evolutionary history, cellular level functions, etc. will be mentioned, ***the organismic level is the primary focus of this course***. Rather than covering any subject in great depth, the course provides a basic, broad understanding of Mammalia. The lectures deal with topics such as the origin and zoogeography of mammals, their basic reproductive biology, temperature and water regulation, social systems, locomotion, etc. The labs concentrate very heavily on the systematics, classification, and identification of mammals, although topical subjects such as specimen preparation, reproduction, and locomotion are included.

There are three non-comprehensive lecture exams and three non-comprehensive lab exams. The lecture exams are short answer and essay. Copies of old lecture exams are in this manual. Lab exams consist of 50 questions concerning mostly taxonomic identifications. Keys of your own design are ***required*** for lab exams ***for taxonomic identifications only (not for anatomy, etc.).*** Either a term paper on a subject approved by the instructor, a lecture delivered to the class, or the mounting of 10 mammal skins of at least 6 different species must be completed by each student. The mounting option includes the trapping and preparation of skins, unless specimens are available from other sources. The papers and skins may be turned in any time during the semester, but *must* be submitted by **5pm, Friday, May 2**. ***Five points (from 75) will be deducted for each day that your paper or skins are late. No exceptions.***

The lecture portion of the course is worth 50% of the final grade (each lecture exam = 1/6 = 100 pts.) and the lab portion and term paper or museum mounts are worth 50% (each lab exam and the term paper/museum mounts = 1/8 = 75 pts.). Percentages rather than grades are given for individual exams. There are 600 possible points for the course. No extra credit points are given (except perhaps a point or two on a lab exam). The lowest final percentages for A-, B-, C-, etc. will start at 90%, 80%, 70%, etc., but may be adjusted a few points downward depending upon how the entire class performs. If you do poorly on early exams, but show dramatic improvement and you are within a point or two of the next highest grade, the higher grade will be given. *Nota bene*: Poor attendance indicates a lack of interest in doing well in the course.

There will be two ***required*** Friday overnight trips for live-trapping, one to Anza-Borrego Desert and one to Santa Margarita Field Station (near Temecula). ***You must attend both of these trips. No exceptions. Failure to do so without an excused absence (very rare) will result in the loss of one-half a grade from the your final grade (e.g., a B becomes a B-) for each trip missed.***

MAMMALOGY, Archibald, J. D., 2008. Aztec Shops. (Bound lecture outlines, lab handouts, etc. Also downloadable from the course website)
TEXT: Feldhammer, G. A. et al. 2007. Mammalogy, 3rd ed., The Johns Hopkins University Press.
LAB MANUAL: Martin, R. E. et al. 2001. A Manual of Mammalogy, 3rd ed., McGraw-Hill.
OPTIONAL BOOK: Ingles, L. G. 1965. Mammals of the Pacific States, Stanford.

Instructor: David Archibald, LS262, 594-6917, darchibald@sunstroke.sdsu.edu
Lecture & Lab LS269, MW 1-4:40pm. Office hrs: M & W 11-12 or by appointment. On M & W mornings I may be in the vertebrate collections (LS257) or in the classroom, (LS 269) preparing the lab for that day.

The administration requires the inclusion of the following: "This course requires students to participate in field trips, research, or studies that include course work that will be performed off-campus. Participation in such activities may result in accidents or personal injury. Students participating in the event are aware of these risks, and agree to hold harmless San Diego State University, the State of California, the Trustees of the California State University and Colleges and its officers, employees, and agents against all claims, demands, suits, judgements, expenses and costs of any kind on account of their participation in the activities."

MAMMALOGY - BIO. 525
Lecture Schedule - Spring, 2008

Day	Date	Lecture Topic	Pgs in Feldhammer et al.** & chapters in Martin et al.
W	01/23	Introduction, Mammalian Grade: Soft Anatomy	p.1-19
M	01/28	Mammalian Grade: Hard Anatomy	p.104-108; ch.2, 3, 6
W	01/30	Synapsida, Mammaliaform Origins, & Definition of Major Clades	p.48-66
M	02/04	Origin of Mammalia and the Tribosphenic Molar	"
W	02/06	Early Mammalia and Major Clades and the Eutherian/Placental Radiation	"
M	**02/11***	**LECTURE EXAM 1**	
W	02/13*	The Mammal Atlas for San Diego County, Guest Lecture, Mr. Scott Tremor, SDNHM	
M	02/18	Zoogeographic Principles	p.68-77; ch.1
W	02/20	Zoogeography: Gondwana & getting to Australia	p.80-81
M	02/25	Zoogeography: The Great American Faunal Interchange	p.81-83
W	02/27	Hair, Mammary Glands, & Cranial Adornments	p.96-104, 207-209; ch.4 & 5
M	**03/03**	**No Lecture - LAB EXAM 1**	
W	03/05	Reproductive Anatomy and Variations	p.192-204
M	03/10	Reproductive Strategies I	"
W	03/12	Reproductive Strategies II	p.204-207
M	**03/17**	**LECTURE EXAM 2**	
W	**03/19**	Water Regulation	p.176-182
M	03/24	Temperature Regulation I	p.156-176, 182-189
W	03/26	Temperature Regulation II	"
M	03/31	Spring Break	
W	04/02	Spring Break	
M	04/07	Echolocation	p.261-264, 343-345
W	04/09	Conservation Genetics of Mammals, Guest Lecture, Dr. Oliver Ryder, CRES (SD Zoo)	
M	**04/14**	**No Lecture - LAB EXAM 2**	
W	04/16	Student presentations and/or †"Life of Mammals"	
F-Sat	4/18-4/19	Required fieldtrip to Santa Margarita Field Station	
M	04/21	Student presentations and/or †"Life of Mammals"	
W	04/23	Locomotion: Mechanics	p.108-115
M	04/28	Locomotion: Adaptations	p.108-115, ch. 7
W	04/30	Social Systems I	p.406-445
F-Sat	5/2-5/3	Required fieldtrip to Anza-Borrego Desert	
M	05/05	Social Systems II	"
W	**05/07**	**No Lecture - LAB EXAM 3**	

* I will be away in this week lecturing in Ireland and Spain.

** Some pages and chapters repeated for various lectures and for various labs.

<u>LECTURE FINAL</u>: MONDAY, MAY 12, 1:00-3:00 PM, LS 269 (Please note that we are using the time slot scheduled for the laboratory final exam rather than the Wednesday time slot of May 14).

Term paper or specimens are due no later than 5pm, Friday, May. *Five points (from 75) will be deducted for each day that your paper or skins are late. No exceptions.*

†We will view parts of David Attenborough's 2003 8.3 hour "Life of Mammals" if we have time in lab or near the end of the semester as time permits.

MAMMALOGY - BIO. 525
Lab Schedule - Spring, 2008

Day	Date	Lab Topic	Chapters in Martin et al. pages Feldhammer et al.**
W	01/23	Soft Anatomy & Hard Anatomy	ch.2, 3, 7; p.104-108
M	01/28	Hard Anatomy	"
W	01/30	Specimen Preparation (Read chapters **BEFORE** this lab.)	ch.29 & 31
M	02/04	Dentition	ch.3
W	02/06	Monotremes and Marsupials	ch.9,10,11; p.218-240
M	**02/11***	**No formal lab - LECTURE EXAM 1**	
W	02/13*	Monotremes and Marsupials	"
M	02/18	Monotremes and Marsupials	"
W	02/20	Afrotheria (Tenrecoidea, Macroscelidea, Tubulidentata, Hyracoidea, Sirenia, and Proboscidea), Xenarthra, Lipotyphla	ch. 12, 17, 21, 24, 25, p.242-252, p.302-309, 311-312, 370-382
M	02/25	Scandentia, Dermoptera, and Primates	ch. 13, 15, 16, p.252-254, 280-299
W	02/27	Scandentia, Dermoptera, Primates, and Lab Review	"
M	**03/03**	**LAB EXAM 1**	
W	03/05	Chiroptera	ch.14, p.256-278
M	03/10	Chiroptera	"
W	03/12	Chiroptera	"
M	**03/17**	**No formal lab - LECTURE EXAM 2**	**"**
W	03/19	Lagomorpha and Rodentia	ch.22, 23, p. 292-325, 327-331
M	03/24	Lagomorpha and Rodentia	"
W	03/26	Lagomorpha and Rodentia	"
M	03/31	Spring Break	
W	04/02	Spring Break	
M	04/07	Lagomorpha and Rodentia	ch.22, 23, p. 292-325, 327-331
W	04/09	Lagomorpha, Rodentia, and Lab Review	"
M	**04/14**	**No Lecture - LAB EXAM 2**	
W	04/16	Pholidota and Carnivora	ch.18, 19, p.309-311, 314-328
F-Sat 4/18-4/19		Required fieldtrip to Santa Margarita Field Station	
M	04/21	Pholidota and Carnivora	ch.18, 19, p.134-135, 200-224
W	04/23	Pholidota and Carnivora	"
M	04/28	Locomotion Lab & Perissodactyla	ch.26, p.384-390
W	04/30	Artiodactyla (including Cetacea)	ch.20, 27, p.330-346, 384-385, 390-402
F-Sat 5/2-5/3		Required fieldtrip to Anza-Borrego Desert	
M	05/05	Artiodactyla (including Cetacea) and Lab Review	"
W	**05/07**	**LAB EXAM 3**	

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** Some pages and chapters repeated for various lectures and for various labs.

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