MAMMALS OF THE SOUTHERN APPALACHIANS – Course Syllabus

Instructors: Edward Pivorun and Rada Pedric

Textbook: *Mammalogy*, fifth or sixth edition (2011/13) or ebook by Terry A. Vaughan, James M. Ryan, and Nicholas J. Czaplewski. Jones and Bartlett Publ. www.jbpub.com.

Field Guides:

Mammals and their Skulls. North and South Carolina Interactive CD series. Available free at beginning of class.

Mammals of the Smokies. Great Smoky Mountains Association. Great Smoky Mountains bookstore (or online).

Tentative Schedule of Lectures, Lab Activities, and Field Activities (Emphasis on Appalachian species)

Lecture (10:00 AM – 12:00 PM, except Jun 15 - 9:00 AM). [8:00 –10:00 AM daily, check live traps]

Date		**Lecture Topic**	**Readings**
Jun	15M	Mammalian Characteristics	Chapters 1-2
	16 T	Reptilian to Mammalian Transition/Eutheria	Chapters 3-7
	17W	Insectivores (Soricomorpha)	Chapters 14
	18 Th	Chiroptera	Chapters 15
	19 F	Rodetia/Lagomorpha	Chapters 13
	20 Sa	Carnivora/Artiodactyla	Chapters 16/18
	21Su	Mid-term test. Time to research presentation topics.	
	22 M	Thermoregulation/metabolism	Chapter 21
	23 T	Metabolism/hibernation	Chapter 21
	24 W	Water balance/kidney function	Chapter 21
	28 Th	Reproduction in mammals	Chapter 20
	26 F	Student Presentations	
	27 Sa	Final Exam - Packing	

Date		Laboratory Activity (1:30 – 3:00 PM)
Jun	15 M	Skulls/dentition/skeleton overview
	16 T	Insectivores
	17 W	Chiroptera
	18 Th	Rodentia
	19 F	Lab Exam
	20 Sa	Carnivores
	21 Su	no lab – Time to research presentation topics.
	22 M	Lagomorphs
	23 T	Artiodactylids
	24 W	Lab Exam
	25 Th	Analog to digital interfacing and sensors.
	26 F	Data loggers. GPS and map software.
	27 Sa	Final Report Due

Date		Field Activity (8:00 – 10:00 AM & 3:00 – 5:00 PM)
Jun	15 M	Sherman live trapping set-up
	16 T	Live-trapping
	17 W	Live-trapping
	18 Th	Live-trapping
	19 F	Live-trapping
	20 Sa	Live-trapping
	21 Su	
	22 M	Live-trapping
	23 T	Live-trapping
	24 W	Live-trapping
	25 Th	Live-trapping
	26 F	Final trapping
	27 Sa	Goodbye Ceremony

Mammals course at Highlands - Summer 2020

The mammals course at Highlands this year will emphasize the mammalian fauna of the Southern Appalachians. We will have traditional lectures on mammalian anatomy, evolution, orders, physiology and ecology for about 1 ½ hours every morning. Field work will emphasize live trapping techniques. Mammals tend to be nocturnal. Thus, all traps will be set out in the late afternoon and will be checked early the next morning. These efforts will allow the student to become familiar with as many living local species of mammals as possible. The field work will examine the importance of specific habitats for the distribution and density of specific species.

After a short break, we will move into the lecture setting until noon. In the early afternoon, after lunch, we will spend another 1 ½- 2 hours to do some more of the traditional mammalogy labs on anatomy, identification and keying. An interactive DVD/flash drive provided to each student contains high resolution images of the skulls of each species native to the Appalachian forests. This is an excellent study aid that is used in conjunction with the actual skulls and study skins of each species.

In addition, we will work with GPS units and mapping software. We will also utilize analog to digital interfacing transducers to measure, temperature, pH, humidity, salinity and light intensity in the field. Data loggers will also be set to allow us to determine temperature and humidity fluctuations over 24 hr cycles. Bat ultrasonic detectors will also be used to detect bat activity.

Laboratory space will be available all afternoons and later in the evenings for recording data, identifying specimens, and generally processing the results of the day's activity. Grading will be based on two exams and 2 "short papers/presentations". One paper will be a 3 page (or so) summary of a local species of mammal. This paper will emphasize a species that is not your typical charismatic species such as the black bear, deer, etc. This will be completed within the first week and presented to the class during the second. A second presentation will be on a topic supplied by the instructor. The four assignments will receive equal weighting and the grading scheme will be 90% or higher needed for an A, 80% - 89% needed for a B, 70% - 79%% needed for a C, and 60% - 69% needed for a D.

Students need to bring hiking shoes or boots, field clothing and rain gear.