Appendix B – Descriptions of Courses Relevant to the Wildlife Ecology Major

All course descriptions and information regarding the last time a course was offered can be found online on the Course Guide (http://public.my.wisc.edu/).

Department	#	Title
Agronomy	370	Grassland Ecology
Biology Core Curriculum	301	Evolution, Ecology, and Genetics *(Starting Spring 2014 course number will be 381)*
	302	Evolution, Ecology, and Genetics Laboratory *(Starting Spring 2014 course number will be 382)*
	303	Cellular Biology *(Starting Spring 2014 course number will be 383)*
	304	Cellular Biology Laboratory *(Starting Spring 2014 course number will be 384)*
	323	Organismal Biology *(Starting Spring 2014 course number will be 485)*
	324	Organismal Biology Laboratory *(Starting Spring 2014 course number will be 486)*
Botany	130	General Botany
	400	Plant Systematics
	Course Description: Plant systematics; the integration of taxonomy (identification, nomenclature, classification emphasizing flowering plants), evolution (speciation, reproductive biology, adaptation, convergence, biogeography), and phylogenetics (phenetics, cladistics, morphology and molecules). Lab emphasis on representative families and genera of flowering plants in Wisconsin, use of keys and manuals, plant collection. Recommended for botany majors; lecture and lab.	
	401	Vascular Flora of Wisconsin
	Course Description: Taxonomic survey of the vascular plants of Wisconsin, with emphasis on the angio-sperms. Lecture, lab and field work.	
Chemistry	103	General Chemistry I
	104	General Chemistry II
	108	Chemistry in Our World
	109	Advanced General Chemistry
Communication Arts	100	Introduction to Speech Composition
Community and Environmental Sociology	248	Environment, Natural Resources, and Society
	434	People, Wildlife and Landscapes
	541	Environmental Stewardship and Social Justice
Comparative Biosciences	404	Vertebrate Physiology
English	100	Introduction to College Composition
Environmental Studies	339	Environmental Conservation
	Course Description: Ecological and cultural background of conservation, problems of resource and environmental quality management, and pressing issues of population, food, energy, and pollution.	
	343	Environmental Economics
	361	Wetlands Ecology
	368	Environmental Law, Toxic Substances, and Conservation
	375	Field Ecology Workshop
	449	Government and Natural Resources
	575	Assessment of Environmental Impact
Forest and Wildlife Ecology	101	Orientation to Wildlife Ecology
	Course Description: Introduction to the Wildlife Ecology major and the profession of wildlife management/conservation. Emphasis on preparing students for a successful career.	
	306	Terrestrial Vertebrates: Life History and Ecology
	Course Description: Life history, ecology, distribution, and taxonomy of reptiles, amphibians, and mammals. Birds will be covered only briefly. North American (particularly Wisconsin) species will be emphasized. Designed as a foundation	

	for detailed study of vertebrates or to satisfy a basic interest in natural history.	
	318	Principles of Wildlife Ecology
	Course Description: Major environmental factors affecting wildlife; structure and behavior of wildlife populations; regional wildlife communities and their conservation.	
	335	Human/Animal Relationships: Biological and Philosophical Issues
	360	Extinction of Species
	Course Description: A comprehensive treatment of the ecology, causes, and consequences of species extinction. Ecology and problems of individual species, habitat alteration and degradation, socio-economic pressures and conservation techniques and strategies.	
	675	Climate Change and Natural Resources
	375	Conservation Genetics (Zach's new course)
	375	Complexity and Conservation of White-tailed Deer (Tim's capstone course)
	375	Wildlife Habitat Relationships (Anna's new course)
	379	Principles of Wildlife Management
	Course Description: Ways of conserving desired numbers of animals for the overall best interests of society, be they aesthetic, ecological, economic, commercial or recreational; includes management of endangered species, exploited species, wildlife communities in nature reserves, and wildlife pests.	
	401	Physiological Animal Ecology
	Course Description: Physiological adaptation and function in wild animals, primarily birds, mammals, reptiles, amphibians. Focus on interactions between animals and their environment, and relationships between animal physiology and the ecology and dynamics of populations.	
	402	Dendrology
	404	Wildlife Damage Management
	Course Description: Theory and application of wildlife management from a species-specific and situational perspective. Introduction to career options in wildlife damage management.	
	410	Principles of Silviculture
	Course Description: Ecologically-based forest management principles for sustainable timber production, maintenance or restoration of biological diversity, and maintenance of aesthetic quality and site productivity. Includes coverage of even-aged and uneven-aged management, reforestation principles, and ecological restoration techniques.	
	424	Wildlife Ecology Summer Field Practicum
	Course Description: Two week field class emphasizing research and habitat management techniques through individual and group field work, tours, demonstrations and lectures. Class held in northern Wisconsin, transportation and lodging provided.	
	452	World Forest History
	500	Insects in Forest Ecosystem Function and Management
	515	Renewable Resources Policy
	Course Description: Historical and philosophical basis for and principal laws relating to forest, wildlife and related resources; roles of science and values in natural resources policy making; the policy process; the main federal and state renewable resource management agencies; ethics and professionalism.	
	531	Natural Resource Economics
	548	Diseases of Wildlife
	550	Forest Ecology
	561	Wildlife Management Techniques
	Course Description: Preparation of collections, analyses of food habits, sex and age determinations, censuses, trapping and banding, planting food and cover, research techniques.	
	565	Principles of Landscape Ecology
	590	Integrated Resource Management
	599	Wildlife Research Capstone
	Course Description: Capstone synthesis for wildlife ecology majors preparing themselves for a wildlife research career. Students develop a professional-quality research proposal for an extended project, carry out a pilot ecological field study, and design and implement a social survey questionnaire.	
	632	Ecotoxicology: The Chemical Players
	633	Ecotoxicology: Impacts on Individuals
	634	Ecotoxicology: Impacts on Populations, Communities and Ecosystems

	651	Conservation Biology
	Course Description: Application of ecological principles and human dimensions to the conservation of biological diversity. Topics: biodiversity science; conservation planning; population ecology; habitat loss, species exploitation, invasive species, pollution; human attitudes and activities as they affect the biosphere; approaches to monitoring interventions.	
	652	Decision Methods for Natural Resource Managers
	655	Animal Population Dynamics
	Course Description: Fluctuations of animal populations: techniques of study, documentation, controls.	
	658	Forest Resources Practicum
Life Sciences Communications	100	Introduction to Communication: Inquiry and Exposition
Math	112	Algebra
	113	Trigonometry
	114	Algebra and Trigonometry
	171	Calculus with Algebra and Trigonometry I
	211	Calculus
	217	Calculus with Algebra and Trigonometry II
	221	Calculus and Analytic Geometry
Physics	103	General Physics
	201	General Physics
	207	General Physics
Physiology	335	Physiology
Statistics	224	Introductory Statistics for Engineers
	301	Introduction to Statistical Methods
	Course Description: Distributions, measures of central tendency, dispersion and shape, the normal distribution; experiments to compare means, standard errors, confidence intervals; effects of departure from assumption; method of least squares, regression, correlation, assumptions and limitations; basic ideas of experimental design.	
	371	Introductory Applied Statistics for the Life Sciences
	Course Description: The course will provide students in the life sciences with an introduction to modern statistical practice. Topics include: exploratory data analysis, probability and random variables; one-sample testing and confidence intervals, role of assumptions, sample size determination, two-sample inference; basic ideas in experimental design, analysis of variance, linear regression, goodness-of fit; biological applications.	
	541	Introduction to Biostatistics
	571	Statistical Methods for Bioscience I
Zoology	101	Animal Biology
	102	Animal Biology Laboratory
	151	Introductory Biology
	152	Introductory Biology
	315	Limnology-Conservation of Aquatic Resources
	Course Description: General limnology. Physical, chemical and biological characteristics and processes of lakes. Environmental problems and rehabilitation of lakes.	
	316	Laboratory for Limnology-Conservation of Aquatic Resources
	Course Description: Biological, physical, and chemical characteristics and their interrelationships in Wisconsin lakes and streams.	
	410	Evolutionary Biology
	Course Description: Evolutionary biology, emphasizing how modern scientists study evolution. Topics include: nature and mechanisms of microevolution, macroevolution, adaptation, speciation; systematics and taxonomy; quantitative genetics and measurement of natural selection; phylogenetic analyses of behavior, physiology, morphology, biochemistry; current controversies in evolution.	
	430	Comparative Anatomy of Vertebrates
	466	General Genetics
	Course Description: Genetics in eukaryotes and prokaryotes. Includes Mendelian genetics, mapping, molecular genetics, genetic engineering, cytogenetics, quantitative genetics, and population genetics. Illustrative material includes viruses,	

	bacteria, plants, fungi, insects, and humans.	
	504	Modeling Animal Landscapes
	510	Ecology of Fishes
	Course Description: Interactions of fishes with their physical, chemical, and biotic environment; physiological ecology, community ecology and fisheries sciences. Lake Mendota perch fishery and Shedd Aquarium field trips.	
	511	Ecology of Fishes Lab
	Course Description: Anatomy and taxonomy of Wisconsin fishes and projects in fish ecology.	
	520	Ornithology
	Course Description: Comprehensive introduction to bird biology with emphasis on evolution, ecology, and behavior. Topics include the evolutionary origin of birds and flight, anatomy and physiology, functional morphology, feather structure, flight mechanics, migration, visual and audile communication, and reproductive strategies.	
	521	Birds of Southern Wisconsin
	Course Description: Outdoor labs and indoor lectures emphasizing visual and audile identification of southern Wisconsin birds. Saturday field trips throughout Wisconsin.	
	535	Ecosystem Analysis
	548	Ecology of Rivers and Streams
	611	Comparative and Evolutionary Physiology