

Zoology (ZOO)

ZOO 126. Human Biology. 3 Credits.

Consideration of selected problems in human biology. Cross-listed with BIOL 126. Does not count toward major or minor.

ZOO 126L. Human Biology Laboratory. 1 Credit.

See Biological Sciences (Biology) for description. Does not count toward major or minor.

ZOO 193. Undergraduate Research. 1-5 Credits.

ZOO 194. Individual Study. 1-5 Credits.

ZOO 196. Field Experience. 1-15 Credits.

ZOO 199. Special Topics. 1-5 Credits.

ZOO 291. Seminar. 1-5 Credits.

ZOO 292. Study Abroad. 1-15 Credits.

ZOO 293. Undergraduate Research. 1-5 Credits.

ZOO 294. Individual Study. 1-5 Credits.

ZOO 296. Field Experience. 1-15 Credits.

ZOO 299. Special Topics. 1-5 Credits.

ZOO 315. Genetics. 3 Credits.

Study of the basis of heredity with emphasis on structure and function of DNA and Mendelian genetics. 3 lectures. Cross-listed with BIOL 315, BOT 315, and PLSC 315. F, S.

ZOO 315L. Genetics Laboratory. 1 Credit.

Study of the basis of heredity with emphasis on structure and function of DNA and Mendelian genetics. 1 two-hour laboratory. Cross-listed with BIOL 315L, BOT 315L, and PLSC 315L. F, S.

ZOO 360. Animal Behavior. 3 Credits.

Description of the principal behavior patterns of animals with consideration of ecological, evolutionary, and internal mechanisms. Prereq: BIOL 151, BIOL 151L. Cross-listed with PSYC 360. S (even years).

ZOO 364. General Ecology. 3 Credits.

Ecological principles associated with organism environment interactions, populations, communities, and ecosystems. Quantitative approach with examples (animal, plant, microbial) included. Prereq: BIOL 150 or BIOL 151. Cross-listed with BIOL 364.

ZOO 370. Cell Biology. 3 Credits.

Structure and function of cells, including cell surfaces, membranes, organelles, cytoskeleton, cell division, cell physiology, and methods used in cell studies. Prereq: BIOL 150, BIOL 150L.

ZOO 379. Study Tour Abroad. 1-6 Credits.

ZOO 391. Seminar. 1-3 Credits.

ZOO 392. Study Abroad. 1-15 Credits.

ZOO 393. Undergraduate Research. 1-5 Credits.

ZOO 394. Individual Study. 1-5 Credits.

ZOO 396. Field Experience. 1-15 Credits.

ZOO 397. Fe/Coop Ed/Internship. 1-4 Credits.

ZOO 399. Special Topics. 1-5 Credits.

ZOO 410. Comparative Chordate Morphology. 3 Credits.

This is a combination lecture/lab course designed to introduce you to the systematics, history, and structure of the chordates, particularly the craniates. Structural and functional similarities and differences among organs and organ systems of representative organisms as well as the use of comparative morphology as a tool to better understand the process of chordate evolution will be emphasized. Prereq: BIOL 150, BIOL 150L, BIOL 151, BIOL 151L, BIOL 252.

ZOO 431. Intermediate Genetics. 3 Credits.

Expansion of classical and molecular concepts of genetics; basic concepts of Mendelian, quantitative, population, molecular, and evolutionary genetics. 2 lectures. Prereq: PLSC 315. Cross-listed with BOT 431 and PLSC 431. F {Also offered for graduate credit - see ZOO 631.}.

ZOO 444. Vertebrate Histology. 3 Credits.

Study of the microscopic anatomy of vertebrate tissues and organs, especially mammals. Classification and identification of epithelium, connective, muscle, and nervous tissue types. Study of these tissues types in the context of major organ systems (circulatory, lymphoid, endocrine, integumentary, digestive, urinary, and respiratory). Prereq: BIOL 150, BIOL 150L, BIOL 151, BIOL 151L.

ZOO 450. Invertebrate Zoology. 3 Credits.

Survey of the biology, classification, and evolution of invertebrates. Emphasis on major phyla, marine, and parasitic taxa. Prereq: BIOL 150, BIOL 150L, BIOL 151, BIOL 151L. S {Also offered for graduate credit - see ZOO 650.}.

ZOO 452. Ichthyology. 3 Credits.

Biology and taxonomy of fishes. Prereq: BIOL 151, 151L. F (even years) {Also offered for graduate credit - see ZOO 652.}.

ZOO 454. Herpetology. 3 Credits.

Primarily a field and laboratory course focusing on amphibians and reptiles. Students must make a commitment to participate in at least one of two 4-day field trips plus an independent review project. Prereq: BIOL 151, BIOL 151L. F/2 (odd years) {Also offered for graduate credit - see ZOO 654.}.

ZOO 456. Ornithology. 3 Credits.

Introduction to the biology, classification, and identification of birds, especially local forms. Early morning field trips required. Prereq: BIOL 151, BIOL 151L. F {Also offered for graduate credit - see ZOO 656.}.

ZOO 458. Mammalogy. 3 Credits.

Biology and taxonomy of mammals. Prereq: BIOL 151, BIOL 151L. F {Also offered for graduate credit - see ZOO 658.}.

ZOO 460. Animal Physiology. 3 Credits.

Study of the physical and chemical principles that govern cell, tissue, organ, organ system, and organismal function. Prereq: BIOL 150, BIOL 151, CHEM 121, CHEM 122. {Also offered for graduate credit - see ZOO 660.}.

ZOO 462. Physiological Ecology. 3 Credits.

Study of the physiological mechanisms underlying life-history trade-offs and constraints in an ecological and evolutionary context. Prereq: BIOL 151, BIOL 151L. S {Also offered for graduate credit - see ZOO 662.}.

ZOO 463. Physiology of Reproduction. 3 Credits.

Comparative anatomy, physiology, and endocrinology of reproduction in mammals. Cross-listed with ANSC 463. {Also offered for graduate credit - see ZOO 663.}.

ZOO 463L. Physiology of Reproduction Laboratory. 1 Credit.

Anatomy, physiology and demonstration and utilization of techniques in large animal reproductive management. Cross-listed with ANSC 463L. Prereq: ANSC 463. {Also offered for graduate credit - see ZOO 663L.}.

ZOO 464. Endocrinology. 3 Credits.

Physiology and anatomy of endocrine glands; chemistry and interrelations of their secretions. Prereq: BIOL 151, BIOL 151L. F/2 (odd years) {Also offered for graduate credit - see ZOO 664.}.

ZOO 465. Hormones and Behavior. 3 Credits.

Study of the organizational and activational role endocrine systems play in regulating animal behaviors. These studies will be explored within an ecological and evolutionary framework. Prereq: BIOL 150 and BIOL 151. {Also offered for graduate credit - see ZOO 665.}.

ZOO 470. Limnology. 4 Credits.

Biological, physical, and chemical features of freshwater ecosystems. Prereq: BIOL 151, BIOL 151L, BIOL 364, one year chemistry. F/2 (odd years) {Also offered for graduate credit - see ZOO 670.}.

ZOO 475. Conservation Biology. 3 Credits.

Integrative approach to the study and conservation of biodiversity. Application of principles from various sub-disciplines of the biological and social sciences to current conservation problems. Prereq: ZOO 315, ZOO 315L. F {Also offered for graduate credit - see ZOO 675.}.

ZOO 476. Wildlife Ecology and Management. 3 Credits.

Application of ecological principles to management of game and non-game wildlife populations. Prereq: BIOL 364. S {Also offered for graduate credit - see ZOO 676.}.

ZOO 477. Wildlife and Fisheries Management Techniques. 3 Credits.

Students will learn techniques used in the study and management of fish and wildlife populations. Students will design an independent field research project to be executed during a field trip (typically 2-4 days in length). {Also offered for graduate credit - see ZOO 677.}.

ZOO 482. Developmental Biology. 3 Credits.

Analysis of the processes of development, with an emphasis on animal development. Topics range from classical embryology to the cellular and molecular basis of development. Prereq: BIOL 150, BIOL 150L, BIOL 151, BIOL 151L. F/2 (even years) {Also offered for graduate credit - see ZOO 682.}.

ZOO 491. Seminar. 1-5 Credits.

ZOO 492. Study Abroad. 1-15 Credits.

ZOO 493. Undergraduate Research. 1-5 Credits.

ZOO 494. Individual Study. 1-5 Credits.

ZOO 496. Field Experience. 1-15 Credits.

ZOO 499. Special Topics. 1-5 Credits.

ZOO 631. Intermediate Genetics. 3 Credits.

Expansion of classical and molecular concepts of genetics; basic concepts of Mendelian, quantitative, population, molecular, and evolutionary genetics. 2 lectures. Cross-listed with BOT 631 and PLSC 631. F {Also offered for undergraduate credit - see ZOO 431.}.

ZOO 650. Invertebrate Zoology. 3 Credits.

Survey of the biology, classification, and evolution of invertebrates. Emphasis on major phyla, marine, and parasitic taxa. S {Also offered for undergraduate credit - see ZOO 450.}.

ZOO 652. Ichthyology. 3 Credits.

Biology and taxonomy of fishes. (even years) {Also offered for undergraduate credit - see ZOO 452.}.

ZOO 654. Herpetology. 3 Credits.

Primarily a field and laboratory course focusing on amphibians and reptiles. Students must make a commitment to participate in at least one of two 4-day field trips plus an independent review project. F/2 (odd years) {Also offered for undergraduate credit - see ZOO 454.}.

ZOO 656. Ornithology. 3 Credits.

Introduction to the biology, classification, and identification of birds, especially local forms. Early morning field trips required. F {Also offered for undergraduate credit - see ZOO 456.}.

ZOO 658. Mammalogy. 3 Credits.

Biology and taxonomy of mammals. F {Also offered for undergraduate credit - see ZOO 458.}.

ZOO 660. Animal Physiology. 3 Credits.

Study of the physical and chemical principles that govern cell, tissue, organ, organ system, and organismal function. {Also offered for undergraduate credit - see ZOO 460.}.

ZOO 662. Physiological Ecology. 3 Credits.

Study of the physiological mechanisms underlying life-history trade-offs and constraints in an ecological and evolutionary context. S {Also offered for undergraduate credit - see ZOO 462.}.

ZOO 663. Physiology of Reproduction. 3 Credits.

Comparative anatomy, physiology, and endocrinology of reproduction in mammals. Cross-listed with ANSC 663. {Also offered for undergraduate credit - see ZOO 463.}.

ZOO 663L. Physiology of Reproduction Laboratory. 1 Credit.

Anatomy, physiology and demonstration and utilization of techniques in large animal reproductive management. Cross-listed with ANSC 663L. {Also offered for undergraduate credit - see ZOO 463L.}.

ZOO 664. Endocrinology. 3 Credits.

Physiology and anatomy of endocrine glands; chemistry and interrelations of their secretions. F/2 (odd years) {Also offered for undergraduate credit - see ZOO 464.}.

ZOO 665. Hormones and Behavior. 3 Credits.

Study of the organizational and activational role endocrine systems play in regulating animal behaviors. These studies will be explored within an ecological and evolutionary framework. {Also offered for undergraduate credit - see ZOO 465.}.

ZOO 670. Limnology. 4 Credits.

Biological, physical, and chemical features of freshwater ecosystems. F/2 (odd years) {Also offered for undergraduate credit - see ZOO 470.}.

ZOO 675. Conservation Biology. 3 Credits.

Integrative approach to the study and conservation of biodiversity. Application of principles from various sub-disciplines of the biological and social sciences to current conservation problems. F {Also offered for undergraduate credit - see ZOO 475.}.

ZOO 676. Wildlife Ecology and Management. 3 Credits.

Application of ecological principles to management of game and non-game wildlife populations. S {Also offered for undergraduate credit - see ZOO 476.}.

ZOO 677. Wildlife and Fisheries Management Techniques. 3 Credits.

Students will learn techniques used in the study and management of fish and wildlife populations. Students will design an independent field research project to be executed during a field trip (typically 2-4 days in length). {Also offered for undergraduate credit - see ZOO 477.}.

ZOO 682. Developmental Biology. 3 Credits.

Analysis of the processes of development, with an emphasis on animal development. Topics range from classical embryology to the cellular and molecular basis of development. F/2 (even years) {Also offered for undergraduate credit - see ZOO 482.}.

ZOO 690. Graduate Seminar. 1-3 Credits.

ZOO 695. Field Experience. 1-15 Credits.

ZOO 696. Special Topics. 1-5 Credits.

ZOO 790. Graduate Seminar. 1-3 Credits.

ZOO 791. Temporary/Trial Topics. 1-5 Credits.

ZOO 793. Indiv Study/Tutorial. 1-5 Credits.

ZOO 795. Field Experience. 1-15 Credits.

ZOO 796. Special Topics. 1-5 Credits.

ZOO 797. Master's Paper. 1-3 Credits.

ZOO 798. Master's Thesis. 1-10 Credits.

ZOO 820. Advanced Cell Biology. 3 Credits.

Study of molecular biology of plant and animal cells including molecules, molecular organization, growth and development, nuclear function, cell cycle, and cellular communication. Prereq: BIOC 702. Cross-listed with BOT 820.

ZOO 850. Advanced Conservation Biology. 3 Credits.

This class will cover recent developments in the field of conservation biology, with a specific focus on recent literature. Areas of focus will include Evolutionary Conservation and Conservation Genetics.

ZOO 860. Evolutionary Ecology. 3 Credits.

Lecture-discussion course on recent developments in evolutionary theory and their implications in the study of animal adaptation, ecology, and behavior. S/2 (odd years).

ZOO 866. Advanced Animal Behavior. 3 Credits.

This course investigates current concepts and research areas in animal behavior, with a focus on topics that lie at the interface between animal behavior, ecology and evolution. Cross-listed with BIOL 766.

ZOO 870. Aquatic Community Ecology. 4 Credits.

Nature and ecological roles of the freshwater biota. Discussion of contemporary issues in aquatic ecology. F/2 (even years).

ZOO 892. Graduate Teaching Experience. 1-6 Credits.

ZOO 895. Field Experience. 1-15 Credits.

ZOO 899. Doctoral Dissertation. 1-15 Credits.