

SOUTHEAST COMMUNITY COLLEGE
DIVISION OF ARTS AND SCIENCES
Sciences
Revision Date: 07-01-19

I. CATALOG DESCRIPTION

Course Number: BIOS1120
Course Title: Introduction to Zoology
Prerequisite(s): None
Catalog Description: This course will provide a survey of the animal kingdom. There is an emphasis on animal form and function, taxonomy, developmental biology, and the diversity of animal life. Laboratory exercises include observations and dissections of selected specimens. Lab is required concurrently.

Credit Hours: 4.0
Class Hours: 45
Lab Hours: 30
Total Contact Hours: 75

II. COURSE OBJECTIVES: *Course will:*

- A. Introduce the major groups of animal life, including their form and function, taxonomic classification, phylogeny, behavior, and ecology.
- B. Describe the fundamental biological processes that govern animal life, including cellular processes, heredity, reproductive and developmental strategies, and evolution.
- C. Introduce the diversity of life on earth and discuss threats to biodiversity as a result of human activities.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

- A. Student Learning Outcomes: *Student will be able to:*
 - 1. Describe the principles of science as well as the definition of zoology.
 - 2. Understand the processes of evolution and natural selection and how they apply to the animal life on earth.
 - 3. Understand how animals interact with others in their population as well with the living and nonliving components of their ecosystems.
 - 4. Describe the architecture and characteristics of animals that make them different than other life forms.
 - 5. Understand what a phylogeny is and how phylogenies can help understand evolutionary relationships among animals.
 - 6. Describe the form, function, and diversity of the phylum Porifera (sponges)
 - 7. Describe the form, function, and diversity of the phylum Cnidaria (jellyfishes and their allies).
 - 8. Describe the form, function, and diversity of the acoelomate animal phyla.
 - 9. Describe the form, function, and diversity of the pseudocoelomate animal phyla.
 - 10. Describe the form, function, and diversity of the phylum Mollusca (mollusks).
 - 11. Describe the form, function, and diversity of the phylum Annelida.
 - 12. Describe the form, function, and diversity of the phylum Arthropoda.
 - 13. Describe the form, function, and diversity of the phylum Echinodermata.
 - 14. Describe the form, function, and diversity of the phylum Chordata.
 - 15. Describe the form, function, and diversity of the subphylum Vertebrata.
- B. General Education Learning Outcomes
 - 1. GELO #3: Critical Thinking & Problem Solving
 - Outcome: Collect, identify, interpret and analyze data.
 - Outcome: Synthesize information to arrive at reasoned solutions to problems.

Outcome: Evaluate ideas presented in writing, media, speech, or artistic presentations.

Outcome: Evaluate the validity of arguments, alternatives, data, outcomes, and/or impacts of actions.

Outcome: Acquire and integrate knowledge and construct relationships across disciplines.

2. GELO #5: Analytical, Quantitative, and Scientific Reasoning

Outcome: Apply mathematical and scientific methods to solve problems from an array of contexts and everyday situations.

Outcome: Understand and create logical arguments supported by quantitative and scientific evidence and communicate those arguments in a variety of formats.

Outcome: Effectively develop strategies, algorithms, or experiments (or performing experiments) to better describe the systems or to solve the problems.

Outcome: Manipulate formulas, data sets, graphs, tables, etc. in a way to produce a meaningful outcome.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)

- A. The Science of Zoology and a review of Darwinian Evolution
- B. Animal Ecology and Behavior
- C. Animal Architecture
- D. Taxonomy and Phylogeny of Animals
- E. Phylum Porifera – the Sponges
- F. The Radiata – Cnidarians and Ctenophores
- G. Acoelomate Phyla, Gnathiferans, and Lophotrochozoans
- H. Phylum Mollusca – the Mollusks
- I. Phylum Annelida – the Segmented Worms, and the Ecdysozoan Worms
- J. Phylum Arthropoda Part I – Amandibulates and Aquatic Mandibulates
- K. Phylum Arthropoda Part II – Terrestrial Mandibulates
- L. Phylum Chordata – the Chordates: Invertebrate Chordates
- M. Phylum Chordata – the Chordates: Fishes and early Tetrapods
- N. Phylum Chordata – the Chordates: Amphibians
- O. Phylum Chordata – the Chordates: Non-avian and Avian Reptiles
- P. Phylum Chordata – the Chordates: Mammals

V. INSTRUCTIONAL MATERIALS

- A. Required Text(s):
 - 1. Hickman et al. *Animal Diversity*. McGraw-Hill. 7th ed. 2015. ISBN-13: 9780073524252
 - 2. Smith. *Exercises for the Zoology Laboratory*. Morton. 3rd ed. ISBN-13: 9781617310621.
- B. Other Resources:
 - 1. None.

VI. METHODS OF PRESENTATION/INSTRUCTION

- A. Methods of presentation typically include a combination of the following:
 - 1. Lecture = Powerpoint lectures plus occasional short videos.
 - 2. Lab = Hands-on experiments, dissections, and observational activities plus occasional short videos and demonstrations.

VII. METHODS OF EVALUATION

- A. Methods of evaluation typically include a combination of the following:
 - 1. Exams
 - 2. Quizzes

		3. Homework from lecture and lab			
B.	SCC GRADING SCALE				
	A+	95-100	C+	75-79	F 59 or less
	A	90-94	C	70-74	
	B+	85-89	D+	65-69	
	B	80-84	D	60-64	

VIII. SPECIFIC COURSE REQUIRMENTS

A. None.