

Zoology (ANSC) CTY Course Syllabus

Week 1, Day 1	Topics	Activities/Materials
Morning	Introduction Goals & Expectations Go over syllabus Lab safety protocol Pre-assessment Fields of science	“Get to know you” games Discussion Take pre-assessment test Make a poster collage of fields of science
Afternoon	Discuss/review scientific method Characteristics of Life Introduction to animals Animal Classification	M & M sampling activity Discussion
Evening	Experimental design	Brainstorming research projects and methodology

Week 1, Day 2	Topics	Activities/Materials
Morning	Cell biology Organelles Cell reproduction – Mitosis, Meiosis	View microscope slides of cells & tissues Build a cell Model mitosis & meiosis and view microscope slides
Afternoon	Protozoa – ancestors to animals Evolution of multicellularity Primitive animals: sponges and jellyfish	View microscope slides Dissection: sponge Watch movie: “Ocean Drifters” – take notes
Evening	Review material from class	Answer review questions Write up notes from movie

Week 1, Day 3	Topics	Activities/Materials
Morning	Triploblastic acoelomate animals Pseudocoelomate animals Parasitology: flatworms, nematodes	Online parasitology research – computer lab
Afternoon	Molluscs Discuss hatchery visit	Dissection: clam Field trip: visit the CDDE Marine Lab Shellfish Hatchery
Evening	Review material from class	Answer review questions Giant Squids – fact or fiction?

Week 1, Day 4	Topics	Activities/Materials
Morning	Annelids Leeches in medicine	Dissection: earthworm Earthworm behavior lab Neurophysiology in leeches – computer lab Online research on medicinal leeches
Afternoon	Arthropods – Arachnids, Crustacea How to write a formal lab report How to interpret data in graphical form	Lab experiment: Effects of drugs on <i>Daphnia</i> Analysis & discussion of experiment
Evening	Review material from class	Write up lab report on lab experiment Draw graphs

Week 1, Day 5	Topics	Activities/Materials
Morning	Arthropods – Insects, Myriapoda	Dissection: lubber grasshopper & crayfish Watch movie: “Microcosmos”
Afternoon	Arthropod sampling & identification	Outdoor lab: sample on campus for arthropods
Sunday Evening	Review insect diversity learned in class	Write up notes from movie Rewrite lab report on Daphnia lab

Week 2, Day 6	Topics	Activities/Materials
Morning	Echinoderms Hemichordates Urochordates Evolution of vertebrates	Dissection: starfish Set up brine shrimp hatching experiment
Afternoon	Fish – Agnatha, Cartilaginous fish, Bony fish Adaptations to life in water Evolution of jaws	Dissection: perch Watch movie: “Great Predators: Sharks” Take data on brine shrimp experiment
Evening	Review material learned in class	Answer review questions Write up notes from movie

Week 2, Day 7	Topics	Activities/Materials
Morning	Amphibians Adaptations to life on land	Dissection: frog Outdoor lab: hunt for native amphibians
Afternoon	Reptiles Dinosaurs More adaptations to life on land	Watch movie: “Dinosaur Hunt” Take data on brine shrimp experiment
Evening	Review material learned in class	Write up notes from movie Read articles on fish to amphibian transition

Week 2, Day 8	Topics	Activities/Materials
Morning	NO CLASS	
Afternoon	NO CLASS	
Evening	Oral presentation skills	Give “mini-presentations” Take data on brine shrimp

Week 2, Day 9	Topics	Activities/Materials
Morning	Birds biology & biodiversity Adaptations for flight	Listen to bird call CDs Finish “mini-presentations” Take data on brine shrimp experiment
Afternoon	Scientific research	Go to library and begin research on major projects
Evening	Review material learned in class	Work on projects

Week 2, Day 10	Topics	Activities/Materials
Morning	Mammals Marsupials vs. mammals – convergent evolution Primates	Dissection: fetal pig “Opposable Thumbs” activity
Afternoon	Domesticated animals: Animal care & Animal husbandry	Dissection: owl pellets
Sunday Evening	Review material learned in class Prepare for zoo visit tomorrow	Write lab report on brine shrimp lab

Week 3, Day 11	Topics	Activities/Materials
Morning	Go to Roger Willams Park Zoo (9am)	Write an ethogram on animal of choice Complete zoo activity “Amazing Animals”
Afternoon	Return from Roger Willams Park Zoo (3pm)	Continued...
Evening	Animals observed at zoo Adaptations observed at zoo	Discussion of notes, activities from zoo Finish up lab reports Work on projects

Week 3, Day 12	Topics	Activities/Materials
Morning	Intro to Ecology Population Ecology Community/Ecosystem Ecology	Watch movie: “Sexual Encounters of the Floral Kind” – complete study guide “Design an ecosystem” activity
Afternoon	Visit the ocean/intertidal zone Learn adaptations to life in the intertidal	Outdoor lab: sampling the marine and intertidal ecosystem
Evening		Discuss visit to the ocean Work on projects

Week 3, Day 13	Topics	Activities/Materials
Morning	Give oral presentations!!	Give oral presentations!!
Afternoon	Conservation Biology Endangered species	Watch movie: “America’s Endangered Species” – take notes & write them up
Evening		Online research: Endangered species – computer lab Review for post-assessment

Week 3, Day 14	Topics	Activities/Materials
Morning	CTY SPE survey “Science Fair” with the other CTY science classes	Teach others about your project and interview other students about their research
Afternoon	Take post-assessment Wrap up topics covered in course Clean up lab/classroom	
Evening	NO CLASS	

Week 3, Day 15	Topics	Activities/Materials
Morning	Watch movie “March of the Penguins”	
Afternoon	NO CLASS	