

Course Title (Code)	LAI103 Introduction to Natural Life/Science	Instructor(s)	Jason Adachi Melody Mugerza
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Class Style	Lecture	Office Hours	Monday/Wednesday: 15:00–17:00
Track	General Education	Mode of Instruction	Team Teaching
Credits	2	Allocated Year	2026
Active Learning	<p>Interactive</p> <p>Spoken summaries</p> <p>Pair and group work</p> <p>Experimental work</p> <p>Field study work</p> <p>Presentations</p>	Compulsory or Elective	Elective for TC track
Course Overview	Introduces concepts, experimental techniques, and scientific methodologies for exploring a natural life system. Examines aspects of the theory of evolution, morphology and physiology of the organisms composing the natural life systems, i.e., Monera, Protista, Animalia, Plantae and Fungi.		
Course Objectives	<p>Content Objectives:</p> <ul style="list-style-type: none"> • Be familiar with the basic principles of evolutionary ecology (e.g. adaptation, natural selection, sexual selection, and biological interactions), • Be familiar with similarity and diversity as the two faces of evolution, • Be familiar with diversified organisms around us. <p>Language Objectives:</p> <ul style="list-style-type: none"> • Know the vocabulary, and sentence structures necessary to discuss topics related to natural science, • Know how academic science papers and reports are organized in English, • Learn how to write a scientific report in English. 		
Prerequisite			
Course Schedule	No	Contents	Homework
	1	What are the characteristics of living things and how do you determine if a thing is alive? (Asking yes/no and WH questions.)	<p>Group discussion: “Is a virus alive?”</p> <p>Observation activity: Identifying life characteristics</p> <p>Activity: Observe living vs non-living samples (plant leaf, soil organisms, seeds).</p> <p>Read the text and answer comprehension questions.</p>
	2	What is the scientific method? What is spontaneous generation?	<p>Simple Experiment: Testing mold growth on bread under different conditions.</p> <p>Read the text and answer comprehension questions.</p>
	3	What do we know about the first life (the first thing displaying these characteristics)? How might it have formed?	Read the text and answer comprehension questions.

		Group timeline creation: evolution of life on Earth Field Assignment #1 Observation of biodiversity on campus.
4	Why are there differences among living things? How are prokaryotic and eukaryotic cells different? How are unicellular and multicellular organisms different?	Microscope observation of plant cells (onion or leaf epidermis). Read text and answer comprehension questions.
5	How are anaerobic/aerobic, heterotroph/autotroph and asexual/sexual different?	Yeast respiration experiment (Balloon inflation with yeast + sugar.) Read text and answer comprehension questions.
6	What are the light reactions in photosynthesis?	Experiment (Photosynthesis Leaf Disc Assay) Read text and answer comprehension questions. Assignment (Experiment Report #1)
7	Why do organisms change over time? What are evolution and adaptation?	Simulation game: survival of different traits. Prepare for the midterm review and exam
8	Midterm Review Midterm Exam	Read text and answer and comprehension questions.
9	How are features passed from parent to offspring? What are the principles of basic genetics?	Trait observation survey in class. Experiment (Class data collection of simple traits.) Read text and answer comprehension questions.
10	Fundamentals of Mendelian Genetics	Probability in inheritance. Read text and answer comprehension questions.
11	Patterns of inheritance.	Predict offspring traits. Solve inheritance problems in groups. Read text and answer comprehension questions.
12	What is Darwinian natural selection?	Feeding tool natural selection simulation. Read text and answer comprehension questions.
13	Animal Behavior and Communication	Students analyze short video clips of animals (e.g., birds, insects, mammals). Reading text and answering questions Field assignment #3
14	Microorganisms and the Invisible World	Microbe Growth Experiment

			Read text and answer comprehension questions.														
	15	Human Biological Adaptations	Human Adaptation Investigation Preparation of Final Exam														
Grading	<p>Grades will be determined as follows:</p> <table> <tr> <td>Homework.</td> <td>15%</td> </tr> <tr> <td>Quizzes</td> <td>15%</td> </tr> <tr> <td>Participation and activities</td> <td>10%</td> </tr> <tr> <td>Experiments and Field Reports.</td> <td>20%</td> </tr> <tr> <td>Mid-semester examination</td> <td>20%</td> </tr> <tr> <td><u>Final examination</u></td> <td><u>20%</u></td> </tr> <tr> <td>Total</td> <td>100%</td> </tr> </table>			Homework.	15%	Quizzes	15%	Participation and activities	10%	Experiments and Field Reports.	20%	Mid-semester examination	20%	<u>Final examination</u>	<u>20%</u>	Total	100%
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Textbooks	Course materials will be provided by instructors																
References																	
NOTES	Missing the equivalent of 5 classes will result in an automatic failure. This includes late arrivals and early departures from class. Note that absence or tardiness will generally not be accepted as a valid excuse for incompleteness or late submission of any task or assignment. Appropriate and timely communication by students to the instructors is expected.																