

Course Title	LAI313 The Global Environment		Instructor(s)	Melody Mugerza
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Class Style	Lecture		Office Hours	
Track			Mode of Instruction	Solo
Credits	2		Allocated Year	Spring 2024
Active Learning	<p>Category 2-(3): Presentations</p> <p>2-(5): Surveys and Interviews</p> <p>Category 4: Interactive Lectures, Facilitated Discussions, Case Studies, Think-Pair-Share and Think-Group- Share</p>		Compulsory or Elective	Elective
Course Overview	<p>This course studies major current environmental issues and their causes. Complexity of environmental issues and the importance of balanced, objective, and critical analysis are key themes of the course. The course focuses on study of natural ecosystems, the interdependency of living things, their surroundings, and the impact of humans on ecosystems. Key topics include: ecology, climatic impacts and change, food and agriculture, energy sources, and biological diversity.</p>			
Course Objectives	<p>I. Overall Objectives: In this course, the students will learn concepts about ecosystems and the global environment, and understand the current environmental challenges and ways by which people and society could restore, preserve, and protect the environment.</p> <p>II. Learning Content:</p> <ul style="list-style-type: none"> Students will gain an understanding about the natural environment and basic concepts about the Earth's ecosystems and interactions between biotic and abiotic factors in the environment. Students will learn to apply the scientific method in analyzing changes in the environment by performing field investigations and/or using data from secondary sources. Students will demonstrate critical analysis and scientific writing in their reports, homeworks, and discussions. <p>III. Attainment Objectives:</p> <ol style="list-style-type: none"> 1) to evaluate major environmental topics in a rational and critical manner 2) to understand and discuss human value and responsibility as a species in the biosphere 3) to understand and discuss biodiversity, conservation, and good environmental management 4) to recognize natural resources (renewable/non-renewable), their degree of symmetry and asymmetry 5) to develop an awareness on the impact of advanced technology and the balance between improvement of living standards and resource waste, and degradation of life support systems <p>IV. Additional Objectives:</p> <ul style="list-style-type: none"> help students appreciate and value the diversity and richness of our environment improve students' English proficiency thru writing, listening, and speaking; improve critical thinking skills and build-up confidence in expressing their opinions/ideas during group discussions, think-pair-share, and recitations 			
Prerequisite				
Course Schedule	No	Contents		Homework
	1	Introduction to Global Environment		Introduction to course, syllabus. Facts and some challenges in our

		environment. Group discussion and questions
2	Ecosystems, Climate, and Biomes	What is Climate? What are Ecosystems? Team problem solving exercise
3		Biomes presentation
4	Population ecology	Population growth models, limiting factors affecting population growth, and factors affecting survivorship.
5	Population Dynamics	What are populations, and why do populations change?
6	Resources and Energy	Non-renewable, renewable, and perpetual resources.
7	Biodiversity and Extinction	Biodiversity, measures of biodiversity Why we need to protect plant and animal diversity?
8	Field Study	Biodiversity Index. Outdoor Activity
9	Biodiversity Presentation	Group presentation
9	Conservation	Definition of conservation, IUCN Redlist, conservation strategies, and global bioresources conservation.
10	Pollution	The normal atmosphere, major atmospheric pollutants, major air pollution problems Greenhouse gases. Climate Change - Fiction or Reality? So What?
11	Water	Global water distribution, water resources, availability, scarcity, and shortage.
12	Environmental Health	Environmental Toxicants – types, sources, and effects
13		What are hazardous and intractable wastes? Responsible Waste Management
14	Pesticides	Why we need pesticides? Benefits and problems
15	Biomagnification	What is biomagnification?
Grading	15% Participation (Discussions, Asking Questions, Team Classroom Tasks) 20% Homework 25% Individual Report, Seminar/Presentation 40% Exams	

Textbooks	
References	Zehnder, C., Manoylov, K., Mutiti, S., Mutiti, C., VandeVoort, A. and Bennett, D., 2018. Introduction to environmental science.
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