ECCI 4101/ECII 4103/ECSI 4201: ENVIRONMENTAL MANAGEMENT

(Term 3: January – March 2023)

Lecturer: Evans M. Ouko, PhD
Office Hours: By mutual agreement

Purpose

- To explore the meanings and the implications of the environment and sustainable development concepts with a focus on ecological principles and natural resources utilisation by humans
- To analyse the relationship between the environment, economic and social systems for more sustainable management and development
- To identify earth's major ecosystems, their functions, processes and benefits to humans
- To analyse anthropological impacts on the environment through natural resources utilisation and identify possible technological and policy solutions to emerging problems

Expected Learning Outcomes

- To be able to show why the sustainable development paradigm is integral to national and global development processes with emphasis on threatened ecological systems and processes
- To be able to analyse the impacts of socioeconomic factors on selected ecosystems
- To be to engage in environmental impact assessments, policy and technological analysis for more sustainable projects and development processes

Course Content:

This course examines the confluence of the environment and development concepts and the impact of this on environmental management. The emergence and evolution of the Sustainable Development (SD) paradigm and alternative perspectives and approaches are discussed. The history of the global environment movement including major international conferences and agreements will be integral to the discussions. Human impacts of development processes and the environmental change that this portends are emphasized. Important themes to be considered include: Introduction to environmental resources; land and land forms; soils and their management, forests and their management ; water and marine; aquaculture and management techniques; energy sources and impacts on the environment,; mining, geology; ecology, principles of ecology; energy flow in ecosystems application of ecology; anthropogenic effects on fresh water and marine aquatic ecosystems development; gender issues; use of participatory rural/urban issues; community preparedness; pollution and waste management; identification of sources of pollution; impact of pollution on environment; toxic/hazardous waste,; recycling, E-waste, reusing of resources; garbage disposal; environmental law; Environmental Impact Assessment (EIA); forestry, water resources; reclamation programs; wasteland conservation; Effects of war on the environment: types of military weapons, military activities; environmental law; global environmental conventions; environmental conservation; environmental impact assessment and audit.

Learning Material

Instructor provides the appropriate materials

Recommended Texts:

1. Marten G.G. (2008) Human Ecology: Basic Concepts for Sustainable Development, Earthscan, London UK
2. Elliot J.A. (2006) An Introduction to Sustainable Development, 3rd Edn., Routledge, Oxon OX England
3. Adams W.M. (2009) Green Development: Environment and Sustainability in a Developing World, 3rd Edn., Oxon OX England

4. Sayer J. And Campbell B. (2004) The Science of Sustainable Development: Local Livelihoods and the Global Environment, Cambridge University Press, Cambridge, UK

Grading:

Exams:

CAT 1	15%
CAT 2	15%
Final exam	70%

Requirements: To qualify to sit for University examinations, a student must register for prescribed course units in a programme and maintain an attendance of 75%.

Week	Topic
1	• What is the Environment? • Important Concepts • The Environment and its Resources
2	• Biosphere and the Science of Ecology • The Ecosystem Concept • Atmosphere, Climate and Organisms • The Soil Environment
3	• The Aquatic Environment • The Biogeochemical Cycles • Human Impacts and Land Use Changes • **Example**: E-Waste and its Environmental Consequences
4 **CAT 1**	• Linking environment, Development and Human Wellbeing • Environmental Impact Assessment • Sustainable Development Goals (SDGs) • Globalisation, Development and Underdevelopment • **CAT 1**
5	• Intensity of Demand on Ecosystems • Human Ecology • Population and the Environment • Green Growth
6	• Technology and Sustainable Development • Actors, Policies and Institutions in Environmental Management • Sustainable Rural livelihoods • Gender and Development Theories
7	• Sustainable Urban livelihoods • Measuring Sustainable Development • **Example**: Water and Air Pollution
8 **CAT 2**	• **Ten** Major Global Environmental Challenges • **CAT 2**
9	• ICT and Sustainable Development • Revision