A11EN Environmental Processes

COURSE DETAILS
Course Code: A11EN
Full Course Title: Environmental Processes
SCQF Level: 11
SCAF Credits: 15
Available as Elective: No

DELIVERY LEVEL
Undergraduate: No
Postgraduate Taught: No
Postgraduate Research: No

Additional Information:

COURSE AIMS
The aim is to familiarize students with the basic principles and science of environmental and ecosystems processes, energetics, energy in the environment and to examine the effects of anthropogenic disturbance on these.

LEARNING OUTCOMES – SUBJECT MASTERY
The student shall develop an understanding of:

- Physical earth processes
- Energy flows in the environment and their measurement
- The concepts of ecosystem and structure
- Predicted impacts of climate change on the environment

LEARNING OUTCOMES – PERSONAL ABILITIES
This course shall help students:

- develop statistical and numerical competency, calculating and evaluating energy flows
- develop a cross-disciplinary systems approach to energy, the environment and the development process

SYLLABUS
The content includes:

The physical earth, geological processes, basic oceanography, the atmosphere, atmospheric and ocean processes, the nature of the energy resource and its estimation for wind, waves and tides, cyclical processes (the carbon cycle, water and major elemental cycles).

The nature of living organisms and concepts of the ecosystem and its structure. Primary and secondary production, trophic structure and energy flow. Animal and plant communities in marine and terrestrial environments. The evolution of life on
earth and changes in biodiversity. Species abundance, diversity and population dynamics. Estimation of biological production and its utilisation. Ecosystem change in response to sources of environmental disturbance. Climate change and the environment. Introduction to sources of environmental disturbance and associated ecosystem responses for renewables projects.

A module exemption assignment is used where students already possess a strong background in the environmental and or ecological sciences.

COURSE RELATIONSHIPS
N/A

LOCATION AND ASSESSMENT METHODS

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