SCO211 Science for Sustainability

Level: 2
Credit Units: 5 Credit Units
Language: ENGLISH
Presentation Pattern: EVERY JULY

Synopsis:

Progress in our contemporary society is often built on scientific advancements. Moreover, in this age of rapid mass communication, one needs to distinguish clearly the scientific, pseudo-scientific and non-scientific arguments in socio-economic discussions. This course begins with an exposition of the basic tenets of science and how science progresses. We witness the interaction between the physical and social sciences in the biggest problem that humanity faces in the 21st century: global climate change. Founded on a firm scientific basis, we understand the impacts climate change has on the environment and human society. The dire need to mitigate climate change today provides a strong motivation for developing renewable energy and moving away from fossil fuels as the main energy resource, thereby addressing the energy crisis at the same time. The course culminates in the three-pillar (economic, social and environmental) concept of sustainability and concludes with the critique of a sustainable development initiative. By the end of the course, students will see the importance of multi-disciplinary thinking anchored on science even when working within the social sciences.

Topics:

- Scientific Reasoning
- Pseudo-science
- Basic Climate Science
- Climate Change: Natural Environment
- Climate Change: Human Society
- Weather Hazards
- Risk, Exposure and Vulnerability
- Water Resources
- Non-renewable Energy
- Renewable Energy
- Growth and Urbanisation
- Three Pillars of Sustainable Development

Learning Outcome:

- Explain the scientific basis and impacts of global climate change.
- Describe the four national taps of water resource.
- Examine the different energy resources and the global energy crisis.
- Demonstrate the pseudo-scientific nature of claims in an argument.
- Appraise risks and policy actions related to climate, weather, water and energy
- Apply the three pillars of sustainability to a development initiative.

Assessment Strategies:

Continuous Assessment Component	Weightage (%)
PRE-COURSE QUIZ	10

GROUP BASED ASSIGNMENT	40
QUIZ	20
PRESENTATION	30
Sub-Total	**100**

Examinable Component	**Weightage (%)**
Sub-Total	

Weightage Total **100**