



Energy and Environmental Engineering (EEEN)

OUTCOMES-BASED APPROACH (OBA) TEACHING

Mission Statement

- To educate and equip students with fundamental knowledge and practical experience in energy and environmental engineering covering the related areas of generation, storage, consumption, distribution, and management.
- To prepare our graduates to embark on a broad base of successful careers as practitioners, academics, entrepreneurs, and leaders in the field of energy and environmental engineering and beyond.

Programme Objectives

1. Fundamental understanding and knowledge of the scientific principles and mathematics in energy technologies and systems
2. Application of acquired knowledge in analyzing and solving energy and environmental engineering problems
3. Practical experience in energy system design, operation and development
4. Experience in using engineering tools
5. Ability to pursue specialized areas within the related fields of energy and environmental engineering
6. Effective communication, management, and teamwork skills
7. Ethical values and responsibilities as professional engineer and member of local and world communities
8. Motivation in professional development and life-long learning

Desired Outcomes

General Criteria	Description of Desired Outcomes for EEEN Programme
(1)	Acquired basic knowledge related to energy and environmental engineering, including physics, mathematics, thermodynamics, energy technologies, power systems, environmental economics, building control and assessment, air pollution, etc. (K,S)
(2)	Acquired the ability to design and conduct experimental studies and computational analysis, as well as to analyze and interpret the data obtained (K,S)
(3)	Developed the ability to design and build engineering components, structures, processes or systems to meet targeted needs in specific energy and environmental applications (K,S)
(4)	Acquired the ability to function as a member of an interdisciplinary team (S,V)
(5)	Acquired the ability to identify, formulate and solve real-life engineering problems and tradeoffs related to energy system and optimization, environmental monitoring and control, and green building technologies (K,S)
(6)	Acquired the understanding of professional and ethical responsibilities in the field of energy and environmental engineering (V)
(7)	Developed proficiency in technical communication (both oral and written) (S)
(8)	Acquired a broad understanding of the importance of economic, environmental, political, social and other global implications of energy and environment-related issues (V)
(9)	Acquired knowledge in historical and contemporary issues (S,V)
(10)	Acquired the ability of independent and lifelong learning (V)
(11)	Acquired the ability to use the techniques, skills and tools to practice in the energy and environmental engineering discipline and be aware of entrepreneur opportunities (K,S)
(12)	Acquired the ability to use the computer/IT tools relevant to the discipline along with an understanding of their processes and limitations (K,S,V)
(13)	Established a good understanding and vision of the energy and environmental industries in terms of technologies, tradeoffs and impacts (K)

K = Knowledge outcomes

S = Skills outcomes

V = Values and attitude outcomes