

Course Code	Course Title	Credit Hours
ENE-825	Agricultural Pollution and Control	3 (3+0)

Course Description

This course introduces a variety of agrochemicals, their fate in the environment and impacts on the environment and public health. Similarly, factors affecting the use efficiency of agrochemicals, and their efficient use will be discussed in this course. Moreover, practices and strategies to manage and control agrochemical pollution will be a part of this course.

Course Outline

Agricultural pollution: Environmental issues in agriculture, types of farming systems, agro meteorology, water and nutrients requirement, types of fertilizers, pesticides and other agrochemicals, pathways of agricultural pollutants in the environment (soil, water, air).

Conservation practices: Soil and water conservation practices, water logging and salinity; causes and effects.

Agricultural waste management: Wastewater reuse in agriculture, management and control of agricultural waste (crop residues, animal manure, and food processing waste), Waste management practices (composting, anaerobic digestion, and waste-to-energy technologies), recycling and reuse.

Emerging issues and future directions: Emerging pollutants in agriculture (microplastics, pharmaceuticals, and nanomaterials), technological innovations in pollution control (precision agriculture, drones, and AI), the future of sustainable agriculture (challenges and opportunities, research frontiers in agricultural pollution control)

Recommended Books

1. Cesttic, R., and Srivastava, J. (2000). Agriculture and non-point source pollution control: Good management practices. World Bank.