Course Code:	AGRI114
Course Name:	ECOLOGY
Credit / ECTS:	3 Credit/ 4 ECTS
Catalogue Description:	This course explores the interactions between organisms and their environment, emphasizing the balance of ecosystems, biodiversity, and the impact of human activity on natural habitats. Topics include ecological principles, energy flow, nutrient cycling, species interactions, population dynamics, community structure, and conservation biology. The course also examines current environmental challenges, such as climate change, habitat loss, and the importance of maintaining ecosystem services. Through lectures, field studies, and case analysis, students will gain a deeper understanding of how ecological processes sustain life on Earth and the importance of preserving these processes for future generations.
Course Objectives:	To provide students with a fundamental understanding of ecological concepts, principles, and systems. To explore the relationships between organisms and their environment and how these interactions shape ecosystems. To examine the roles of biodiversity, energy flow, and nutrient cycling in maintaining ecosystem health. To understand the impact of human activities on ecosystems and develop strategies for conservation and sustainable practices.To engage students in real-world ecological issues through case studies and fieldwork, fostering critical thinking and problem-solving skills.
Learning Outcome (s):	**1-** Describe the structure and functioning of ecosystems, including energy flow, nutrient cycling, and species interactions. **2-** Analyze the dynamics of populations, communities, and ecosystems, and understand factors affecting their stability. **3-** Evaluate the role of biodiversity in ecosystem resilience and its importance for ecosystem services. **4-** Identify the impact of human activities, such as urbanization, deforestation, and climate change, on ecological systems. **5-** Apply ecological knowledge to real-world environmental issues and propose conservation strategies. **6-** Use field methods and data collection techniques to assess ecological processes and patterns. **7-** Critically analyze ecological research and case studies, applying theoretical knowledge to practical problems.
Weekly Topics	**1-** The Environment and Ecosystems, Ecological Principles and Concepts **2-** Population Ecology, Species Interactions **3-** Community Ecology, Biodiversity and Conservation **4-** Energy Flow and Nutrient Cycling **5-** Ecosystem Services, Human Impact on Ecosystems **6-** Climate Change and Ecosystems **7-** Population Dynamics and Conservation Biology **8-** Restoration Ecology, Field Methods in Ecology **9-** Current Issues in Ecology and Future Directions