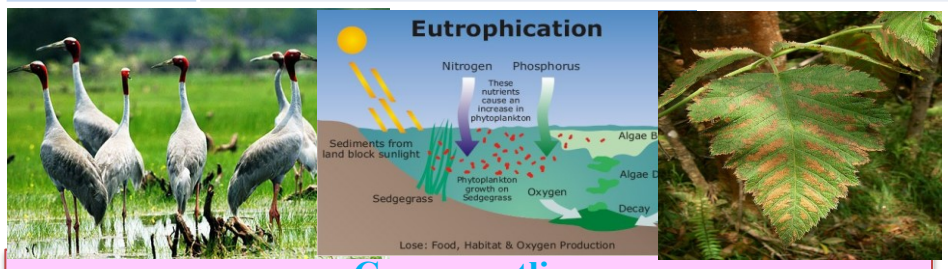
Course name: QL03047: BIOLOGICAL INDICATORS FOR ENVIRONMENT

Credits : 02 (02 - 0 - 06)

EXPECTED LEARNING OUTCOMES

Notation	Expected learning outcomes of the course After successfully completing this course, students are able to:	Program expected learning outcomes
Knowledge:		
CELO1	Explain the scientific basis of using organisms as environmental indicators through the relationship between organisms and their environment;	**ELO2:** Analyze environmental quality including designing and conducting experiments, collecting data, and interpreting results.
CELO2	Distinguish between signales, indicator organisms and typical pollutants of water, air, and soil environments.	**ELO2:** Analyze environmental quality including designing and conducting experiments, collecting data, and interpreting results.
CELO3	Explain the principles of technology using plants in the monitoring and treatment of soil, water and air pollution.	**ELO3:** Evaluate the impact of natural resource exploitation and emissions on environmental quality.
Skills		
CELO4	Analyzing the possibility of applying plant technology to monitoring and treating soil, water and air pollution in some specific cases.	**ELO 6:** Apply systematic, critical, and creative thinking in solving problems in the environmental and related fields.
Attitude		
CELO5	Proactively in self-study, self-seeking information and references on environmental biological indicators	**ELO11:** Define a clear career orientation; possess a passion for one's career and a sense of lifelong learning.



Course outline

Chapter 1: An overview of biological indicator for environment

Chapter 2: Research methods of biological indicator for environmental

Chapter 3: Biological indicators of water environment

Chương 4: Biological indicators of air environment

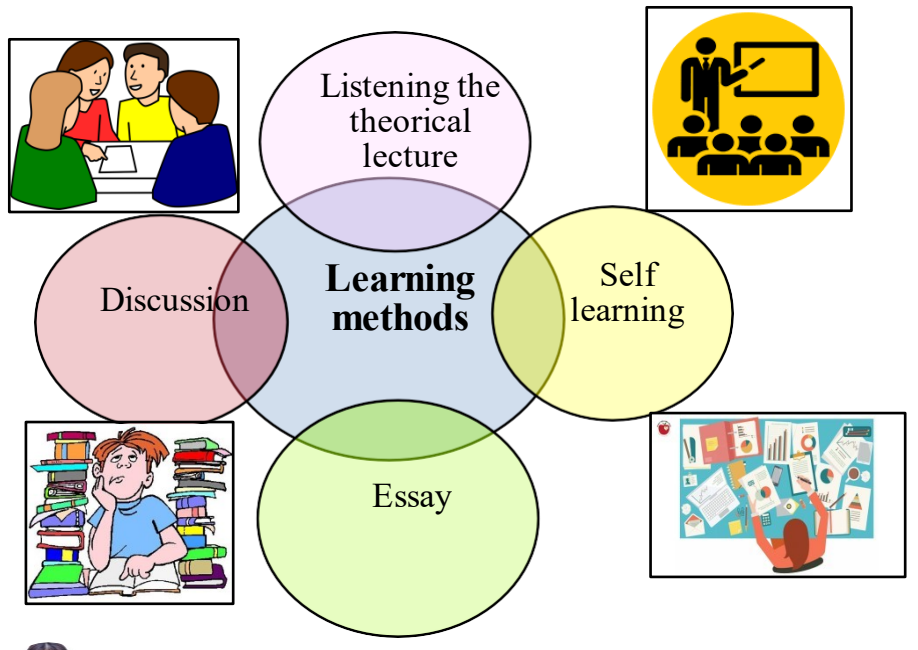
Chương 5: Biological indicators of soil environment

Student tasks

- All students must attend a minimum of 75% of the theory hours and actively participate in classroom by questioning and answering questions
- All students must complete the homework
- All students must attend the final examiation

Assessment methods

1. Grading: 10
2. Weighting:
- Attendance : 10%
- Essay: 20%
- Multiple choice test : 10%
- Final examiation : 60%



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