

# RESEARCH BIOLOGY INDICATOR



## COURSE EXPECTED LEARNING OUTCOMES (CELOS)

Symbol	Expected learning results of the module. Complete this module, students made	<b>Expected learning outcomes</b>
KNOWLEGES		
CELO1	Applying the role of indicator species to nature and aquaculture	ELO1
CELO2	Analyze the relationship between indicator organism and environment	ELO2, ELO3
CELO3	Assessment of the environment through indicator organisms	ELO3, ELO4
SOFT SKILLS		
CELO4	Develop skills for independent work, teamwork	ELO6
CELO5	Use communication skills, presentation and report writing	ELO7
ADVANCED SKILLS		
CELO6	Identify some species as common indicator organisms in aquaculture	ELO5, ELO8, ELO9
CELO7	Observe the environment through indicator organisms	ELO5, ELO8, ELO9
ATTITUDES		
CELO8	Conscious of professional ethics	ELO10
CELO9	Demonstrating a sense of self-study and self-study	ELO11

REDITS Number theory

practice

credit)



#### **DUTIES OF STUDENTS**

- Attendance: Students must attend at least 70% for the theory and 90% for the practical.
- Preparing for lectures: Students must read teaching materials, reference books and search for materials provided and introduced by lecturers.
- Attitude: actively participating in questioning, commenting, critical review, evaluation and marketing

#### **LEARNING METHODS**

- Read independent material, ask related questions, listen, answer questions
- Join lectures, watch videos, discuss in groups
- Doing homework, specialized reports
- Practice: Collect samples of indicator organisms
- Summary report on practical part.

### **LEARNING CONTENT**

- Chapter 1: Biological characteristics of the indicator species / species
- Chapter 2: Importance of indicator species for the natural environment and aquaculture
- Chapter 3: Relationship between indicator organism and environment