



SH02008: MICROBIAL ECOLOGY (SINH THÁI VI SINH VẬT)

Credits: 2 credits (Lecture: 2 – Practice: 0)



EXPECTED LEARNING OUTCOMES

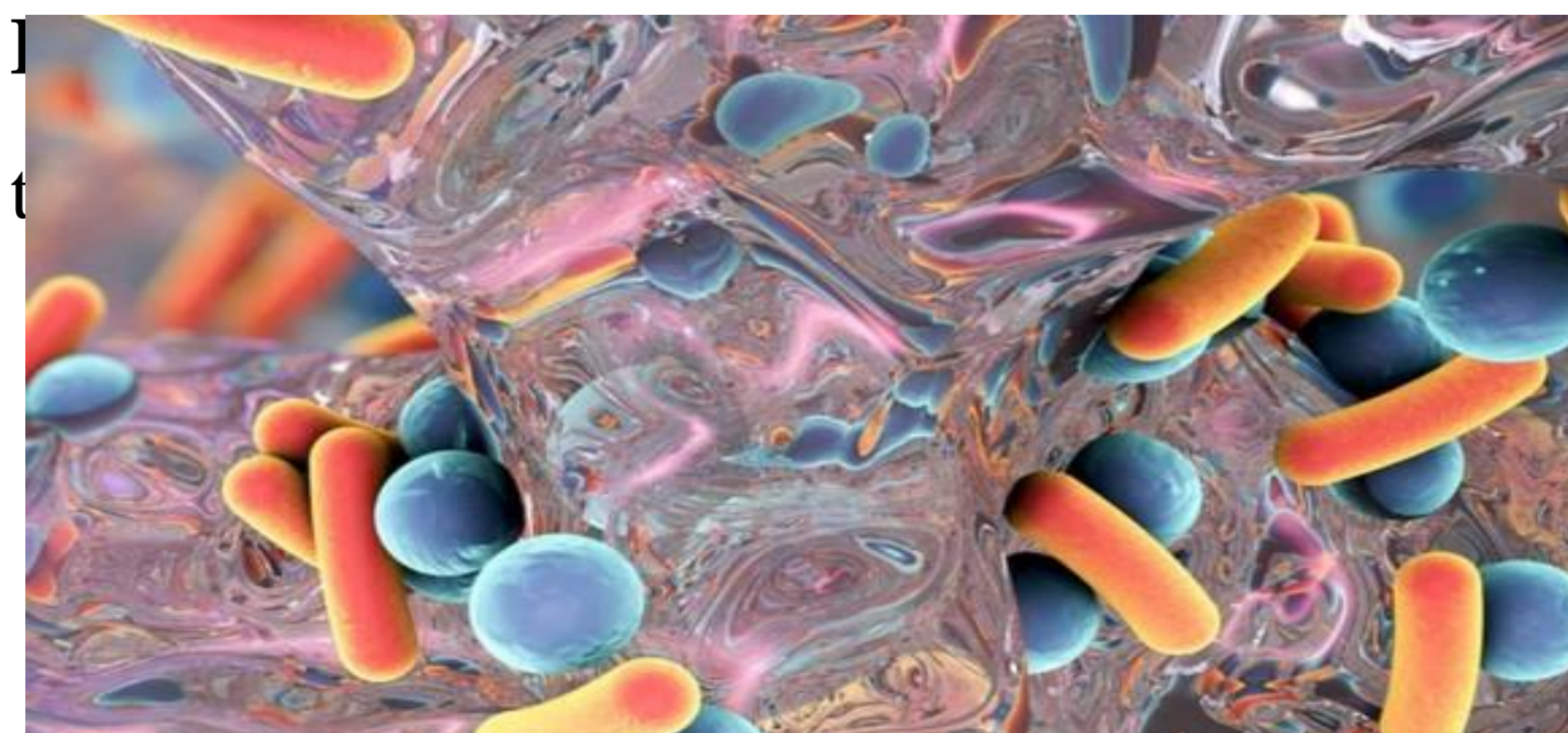
Course objectives	COURSE EXPECTED LEARNING OUTCOMES After successfully completing this course, students are able to	Program expected learning outcomes
Knowledge		
CELO1	Describe the main methods in the study of microbial diversity and ecology;	ELO3, ELO4
CELO2	Describe the diversity of microbial groups and the natural habitats of microorganisms;	ELO3, ELO4
CELO3	Analyze the relationship between microorganisms, between microorganism and plants/animals;	ELO3, ELO4
CELO4	Explain the interactions and information exchange of microorganisms in their life processes;	ELO3, ELO4
CELO5	Analyze the role of microorganisms in natural biogeochemical processes.	ELO3, ELO4
Skills		
CELO6	Analyze and answer questions related to lessons creatively	ELO6
Personal autonomy and responsibility		
CELO7	Update and acquire new knowledge and experience to improve one's professional qualifications. Demonstrate honestly in report, tests, and exams	ELO15

CONTENT

- **Chapter 1:** Overview of microbial diversity and ecology
- **Chapter 2:** The natural habitats of microorganisms
- **Chapter 3:** Microbial interactions
- **Chapter 4:** Plant-microbe interactions
- **Chapter 5:** Animal-microbe interactions
- **Chapter 6:** Information exchange in microorganisms in the process of life
- **Chapter 7:** The role of microorganisms in natural biochemical processes
- **Chapter 8:** Research methods in microbial ecology

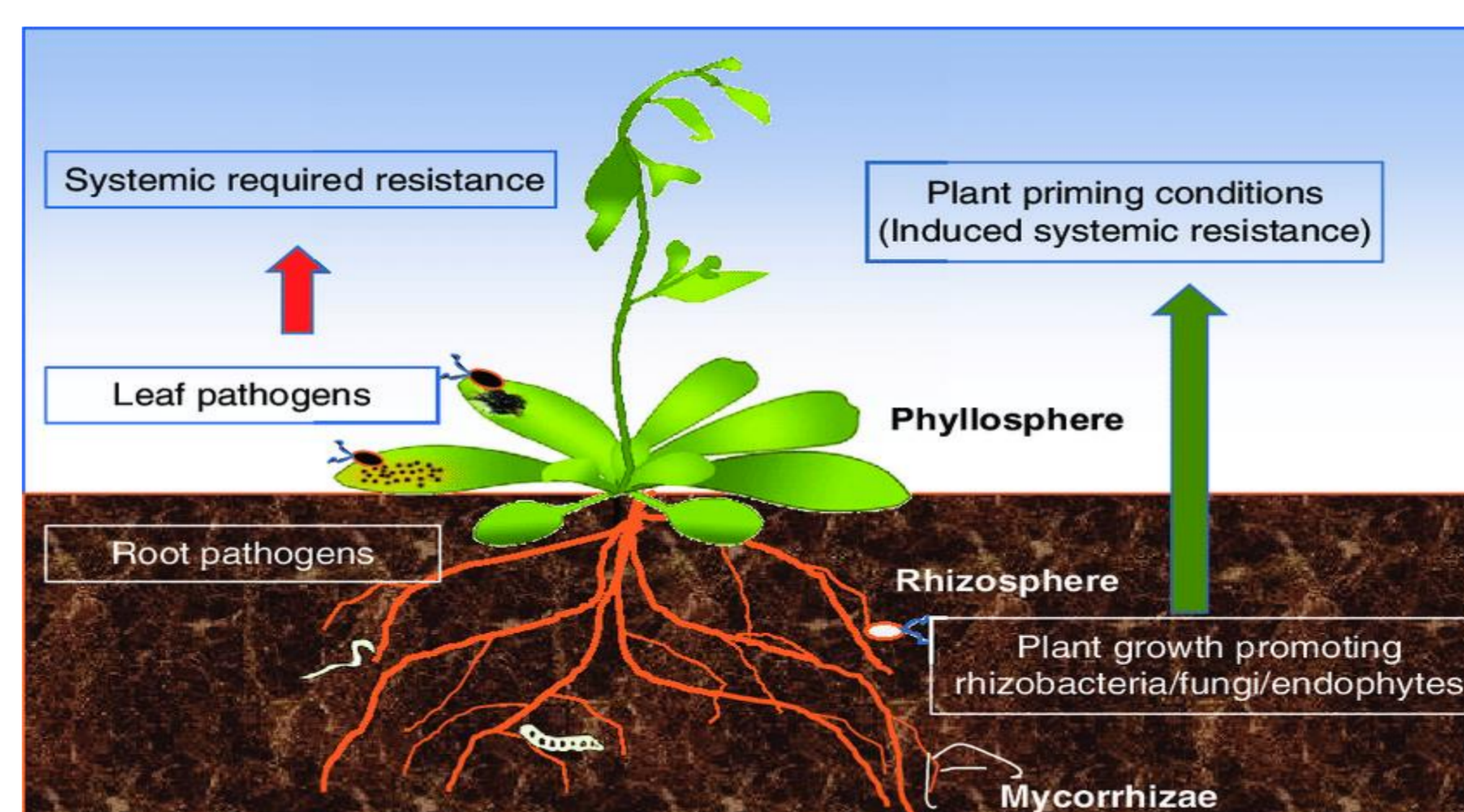
STUDENT TASKS

- **Attendance:** All students taking this course must attend at least 2/3 of the total theoretical hours of the course, actively participate in discussions.
- **Discussion:** discuss the questions that the lecturer raises in the lessons.
- **Preparing for the lesson:** All students attending this course must prepare for the lesson according to the learning plan given by the lecturer.
- **Mid-term exam:** Students who do not take the midterm exam will be given a score of zero.



LEARNING METHODS

- Read lecture notes, books and references before attending the class.
- Students are required to listen to lectures in class and perform other learning activities such as solving practice problems after class.
- Prepare and actively participate in discussion.



ASSESSMENT METHODS

- Attendance: According to regulations of VNUA.
- Exercise and progress tests: Students must complete the exercises, 15-minute tests, group discussion and presentation with satisfied results.
- Mid-term exam: Midterm exam is 50 minutes long with a 50-question quiz.
- Final exam: Final exam is 50 minutes long with a 50-question quiz.
- For online evaluation: Students need to install software and fulfill the requirements for online evaluation.
- Grading: 10 marks
- Weighting:
 - ✓ Attendance: 10 %
 - ✓ Formative assessment: 30%
 - ✓ Final exam: 60%

LECTURERS

1. Assoc. Prof. Dr. Nguyen Xuan Canh, 0934190579, nxcanh@vnua.edu.vn
2. Assoc. Prof. Dr. Nguyen Van Giang, 0986383847, nvgiang@vnua.edu.vn
3. MSc. Tran Thi Hong Hanh, 0988029388, tthanh@vnua.edu.vn
4. MSc. Nguyen Thanh Huyen, 0966201281, thanhhuyen@vnua.edu.vn