



# SH03061: VIROLOGY (VIRUS HỌC)

Credits: 2 credits (Lecture: 1,5 – Practice: 0,5)

## EXPECTED LEARNING OUTCOMES

Course objectives	COURSE EXPECTED LEARNING OUTCOMES After successfully completing this course, students are able to	Expected learning outcomes of program
<b>Knowledge</b>		
CELO1	Presentation of main groups of virus; morphological and structural characteristics of the virus; characteristics of pathogenic virus in plants and animals	ELO4
CELO2	Presentation of the replication processes of the virus.	ELO4
<b>Skills</b>		
CELO3	Working in groups and organize working groups to discuss, analyze, write and present scientific reports.	ELO6
CELO4	Implementing ELISA method in virus diagnosis; implemented research methods in artificial infection, investigation and evaluation of viral diseases in plants	ELO6
<b>Personal autonomy and responsibility</b>		
CELO5	Compliance with rules in practice and theory; Be honest in reporting, taking exams and exams	ELO15
CELO6	Study proactively, raising awareness of self-study, high responsibility	ELO15

## CONTENT

- Chapter 1: Nature, classification and nomenclature of viruses
- Chapter 2: Morphology and structure of virus
- Chapter 3: Regeneration and translation strategy of virus
- Chapter 4: Diversity and evolution of virus
- Chapter 5: Introduction of virus caused disease on plants
- Chapter 6: Introduction of virus caused disease on animals
- Chapter 7: Phages and applications in Biotechnology

### Practice:

- Unit 1: Plant virus diagnosis by ELISA
- Unit 2: Viral infection of virus by TXCH and agroinoculation
- Unit 3: Investigation and evaluation of plant virus disease

## LEARNING METHODS

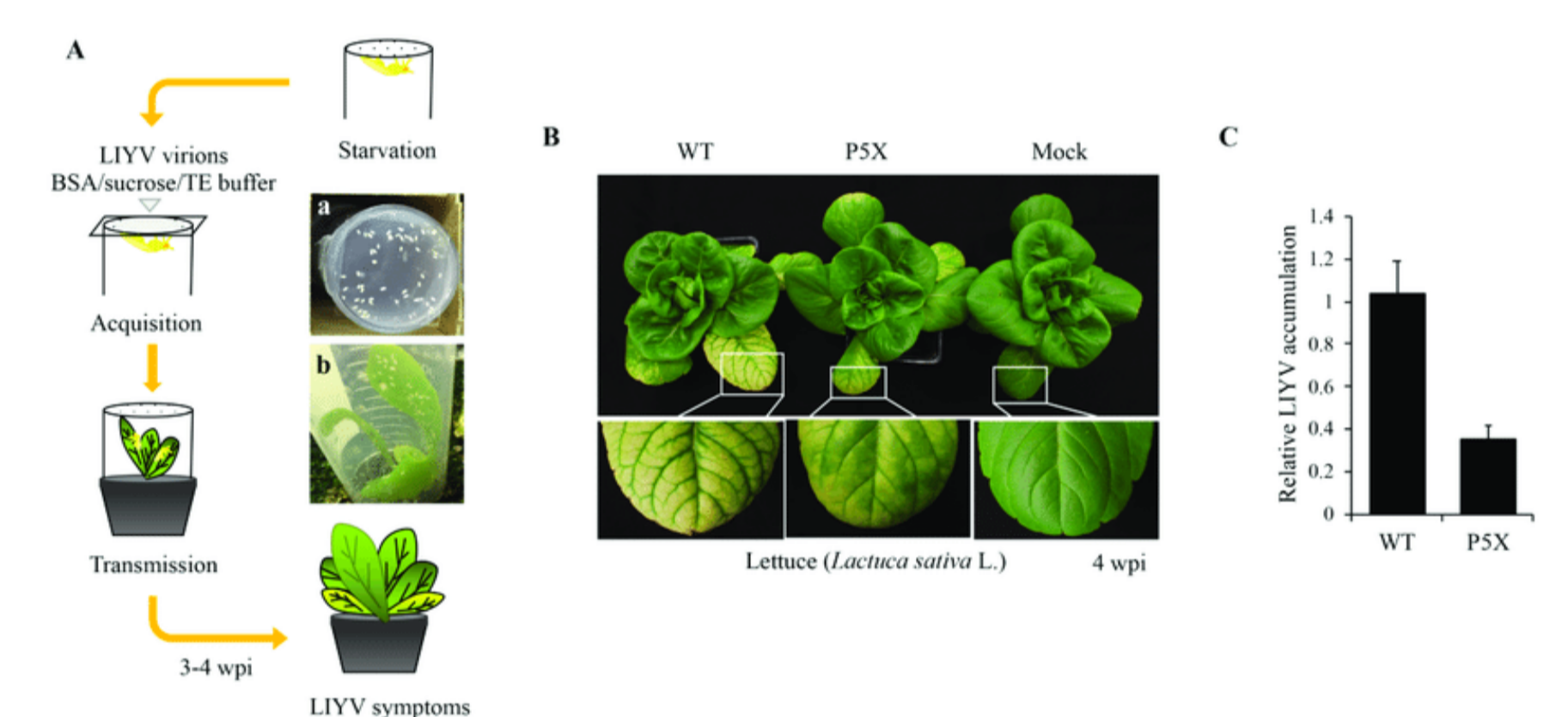
- Students are required to listen to lectures in class
- Read lecture notes, books and references before attending the class.
- Prepare and actively participate in discussion.
- Practicing in the laboratory



TaMV and TMV in tomatoes can look very similar, leaf mosaic and fruit rotting and discoloration. In order to confirm - lab tests must be done

## STUDENT TASKS

- Attendance: Students are required to attend at least 75% of the total theory lectures of the course and 100% of the practicing lectures
- Preparation for the lecture: Students are required to read lecture notes, text books and references before attending the class.
- Group discussion and presentation: Students are required to engage in group discussion.
- For online learning: Students need to install online learning software and fulfill the requirements for online learning.



## ASSESSMENT METHODS

- Grading: 10 marks
- The course average is the sum of the rubric scores multiplied by the weight of each rubric respectively.
- Weighting:
  - ✓ Attendance: 10 %
  - ✓ Practicing: 15%
  - ✓ Midle exam: 15%
  - ✓ Final exam: 60% (Quiz and writing test)

## LECTURERS

1. Assc. Prof., Dr Ha Viet Cuong, (0978056254, [hvcuong@vnua.edu.vn](mailto:hvcuong@vnua.edu.vn))
2. Assc. Prof., Dr Nguyen Xuan Canh (0934190579, [nxcanh@vnua.edu.vn](mailto:nxcanh@vnua.edu.vn))