Appendix No. 1.5 to the Resolution No. 61/2025
of the Rector of the University of Rzeszów

SYLLABUS

REGARDING THE QUALIFICATION CYCLE FROM 2026/2027TO2029/2030
ACADEMIC YEAR 2027/2028

1. BASIC COURSE/MODULE INFORMATION

Course/Module title	**Plant Protection**
Course/Module code *	
Faculty (name of the unit offering the field of study)	Faculty of Technology and Life Sciences
Name of the unit running the course	Institute of Agricultural Sciences, Environmental Protection and Management Department of Agroecology and Forest Utilization
Field of study	Agriculture
Qualification level	first-cycle studies
Profile	general academic
Study mode	stationary
Year and semester of studies	Year 2, semester 4
Course type	Major
Language of instruction	English
Coordinator	dr hab. inż. Zbigniew Czerniakowski, prof. UR
Course instructor	dr hab. inż. Zbigniew Czerniakowski, prof. UR (lecture) dr Beata Jacek (classes) dr inż. Tomasz Olbrycht (classes)

* - as agreed at the faculty

1.1. Learning format – number of hours and ECTS credits

Semester (no.)	Lectures	Classes	Laboratories	Seminars	Practical classes	Internships	Field classes	**ECTS credits**
4	30		45				10	6

1.2. Course delivery methods

x- conducted in a traditional way
- involving distance education methods and techniques

1.3. Course/Module assessment (exam, pass with a grade, pass without a grade)
exam

2. PREREQUISITES

The student should possess basic knowledge of botany, zoology, agroecology, soil science, fertilization, and crop cultivation.

3. OBJECTIVES, LEARNING OUTCOMES, COURSE CONTENT, AND INSTRUCTIONAL METHODS

3.1. Course/Module objectives

O1	Familiarizing students with the macroscopic diagnosis of abiotic and biotic plant diseases (determining the location of symptoms, their extent, the type of lesions, and severity)
O2	Providing students with fundamental knowledge regarding the biology of plant disease agents (viruses, bacteria, fungus-like organisms, and fungi)
O3	Providing students with fundamental knowledge regarding the biology of major plant pests
O4	Familiarizing students with the assessment of damage caused by diseases and pests, as well as their impact on the qualitative and quantitative yield of agricultural crops
O5	Developing skills in identifying harmful organisms based on symptoms observed on plants
O6	Familiarizing students with methods for preventing and controlling plant diseases and pests, as well as the environmental impact of the methods employed

3.2. COURSE/MODULE LEARNING OUTCOMES

Learning Outcome	The description of the learning outcome defined for the course/module	Relation to the degree programme outcomes
LO_01	the student knows and understands the economically most significant diseases and pests affecting field crops, vegetables, and fruit crops	K_W01
LO_02	knows and understands how to utilize cultivated plants based on local environmental conditions	K_W02
LO_03	knows and understands methods for preventing and controlling plant diseases and pests	K_W03
LO_04	knows and understands concepts regarding the impact of harmful organisms (agrophages) in agroecosystems and understands management practices aligned with sustainable rural development	K_W08
LO_05	is able to make decisions regarding pest or disease control based on data concerning infestation/infection severity, pesticide efficacy, and an analysis of the costs and ecological consequences of the treatment	K_U02
LO_06	is able to predict the impact of pest or disease presence on crop yield quantity and quality, taking into account environmental and meteorological conditions	K_U06

LO_07	is able to identify diseases based on symptoms and etiological signs, and pests based on signs of feeding damage	K_U09
LO_08	is prepared to work both individually and as part of a team	K_U10
LO_09	is prepared to decide on the application of appropriate plant protection methods and techniques while adhering to occupational health and safety regulations	K_K01

3.3. Course content

A. Lectures

Content outline
Definition; harmfulness of plant diseases; objectives and branches of phytopathology
Stages of macroscopic plant disease diagnosis (locating symptoms, extent, type of lesions, severity)
Development of an infectious disease (infection, incubation, progression of the disease proper, plant death or recovery and compensation)
Epidemiology of plant diseases (types of epidemics and their harmfulness, influence of weather conditions on epidemic development and progression)
Definition; harmfulness of plant pests; objectives and branches of entomology
Diagnosis of plant damage caused by pests
Taxonomy and morphology of key pests
Population dynamics of pests
Plant resistance to pests – types and mechanisms of resistance
Pest control – plant protection methods

B. Laboratories

Content outline
Common abiotic diseases of agricultural crops and methods for their prevention and control
Common viral plant diseases and methods for their prevention and control
Common bacterial plant diseases and methods for their prevention and control
Common plant diseases caused by members of the Kingdom Protista and methods for their prevention and control
Common plant diseases caused by members of the Kingdom Chromista and methods for their prevention and control
Common plant diseases caused by members of the Kingdom Fungi (Phyla Ascomycota and Basidiomycota, and anamorphic fungi) and methods for their prevention and control
Biology of plant pests (overwintering stages, number of generations, fecundity)
Common nematode pests of plants and methods for their prevention and control
Common arachnid pests of plants and methods for their prevention and control
Common insect pests of plants and methods for their prevention and control
Diagnosis of diseases and pests of agricultural crops and methods for their prevention and control – field classes

3.4. Methods of Instruction

Lectures: lecture with a multimedia presentation.
Laboratory classes: group work, preparing a presentation, group discussion.
Field classes: case studies, discussion.

4. Assessment techniques and criteria

4.1 Methods of evaluating learning outcomes

Learning outcome	Methods of assessment of learning outcomes (e.g. test, oral exam, written exam, project, report, observation during classes)	Learning format (lectures, classes…)
LO-01	exam, observation during classes	lectures, laboratories
LO-02	exam, presentation	laboratories
LO-03	exam, presentation	laboratories
LO-04	exam, presentation	laboratories
LO-05	exam, test, presentation, report	lectures, laboratories, field classes
LO-06	presentation	laboratories
LO-07	observation during class	laboratories, field classes
LO-08	observation during class	laboratories
LO-09	exam, presentation, report	lectures, laboratories, field classes

4.2 Course assessment criteria

Laboratory classes: graded credit (final grade determined based on component assessments: presentation and test).
Field classes: Preparation of a report in the form of a multimedia presentation; active participation in classes.
Lecture: exam.
To pass the course, all intended learning outcomes must be achieved.
A passing grade is determined by the number of points obtained (>50% of the maximum possible score). The final result depends on points earned during the course for tests and the presentation. Grading scale: Satisfactory (dst) = 50–60%; Satisfactory Plus (dst+) = 61–70%; Good (db) = 71–80%; Good Plus (db+) = 81–90%; Very Good (bdb) = 91–100%.

5. Total student workload needed to achieve the intended learning outcomes – number of hours and ECTS credits

Activity	Number of hours
Course hours	85
Other contact hours involving the teacher (consultation hours, examinations)	35

Non-contact hours - student's own work (preparation for classes or examinations, projects, etc.)	**30**
Total number of hours	**150**
Total number of ECTS credits	6

* One ECTS point corresponds to 25-30 hours of total student workload

6. Internships related to the course/module

Number of hours	
Internship regulations and procedures	

7. Instructional materials

Compulsory literature: materials provided by the teacher and online resources on the topics covered
Complementary literature: online resources on the topics covered

Approved by the Head of the Department or an authorised person