



SZKOŁA GŁÓWNA
GOSPODARSTWA
WIEJSKIEGO

General Plant Pathology

Educational subject description sheet

Basic information

<p>Field of study Course Offer for exchange students - second cycle studies, including uniform master studies (MA programmes)</p> <p>Speciality -</p> <p>Organizational unit Course Offer for exchange students</p> <p>Study level second cycle studies, including uniform master studies (MA programmes)</p> <p>Study form full-time studies</p> <p>Education profile General academic</p>	<p>Didactic cycle 2024/25</p> <p>Subject code PWMPWM2S_D.B100000.06372.24</p> <p>Lecture languages english</p> <p>Mandatory Elective subjects</p> <p>Block General subjects</p> <p>Disciplines</p>	
Coordinator	Marek Szyndel, Marcin Wit	
Teacher	Marek Szyndel, Marcin Wit, Elżbieta Paduch-Cichal, Ewa Mirzwa-Mróż, Wojciech Wakuliński	
Period Winter semester	Examination Pass with grade	Number of ECTS points 3
	Activities and hours Lecture: 15 Laboratory exercises: 15	

Goals

Code	Goal
C1	Introducing students to the diversity of plant pathogens that affect plant health. Etiology of plant diseases, problems and prospects in plant protection. Methods used to define plant-associated microbial taxa. Selected examples of plant diseases that threaten global food security and plant production.

Subject's learning outcomes

Code	Outcomes in terms of	Effects	Examination methods
Knowledge - Student knows and understands:			
W1	has knowledge about biology of main plant pathogens caused losses in horticulture productions		Written credit, Test (written or computer based)
W2	has knowledge about diagnosing of the serious plant diseases based on pathogens etiology and disease symptoms		Written credit, Test (written or computer based)
W3	knows many different methods of control of the most important plant diseases and has knowledge about the organization of plant protection processes		Written credit
Skills - Student can:			
U1	the ability to diagnose plant diseases on the basis of symptoms and etiological signs		Test (written or computer based)
U2	the ability to apply the knowledge of etiology and epidemiology to select a method of plant disease prevention		Written credit, Test (written or computer based)
Social competences - Student is ready to:			
K1	readiness to identify cases of failure to comply with the proper rules of plant protection		Written credit

Study content

No.	Course content	Subject's learning outcomes	Activities
1.	Introduction to plant pathology. Characteristics of infectious agents of disease of plants: viruses and viroids, bacteria and phytoplasmas, Chromista and fungi. Principle of plant pathogenesis. Plant disease epidemiology. Prevention of disease in plants, integrated methods of the plant pathogens control and plant protection management.	W1, W2, W3, U2, K1	Lecture
2.	Plant disease diagnosis. The examples of plant diseases caused by viroids, viruses, phytoplasmas, bacteria, Protozoa (Plasmodiophorida), Chromista (Oomycota) and fungi (Chytridiomycota, Ascomycota, Basidiomycota), pathogen life cycles, main disease symptoms. Identification of plant pathogens. Mycotoxigenic fungi and mycotoxins in agricultural crops.	W1, W2, W3, U1, U2, K1	Laboratory exercises

Course advanced

Activities	Methods of conducting classes
Lecture	Lecture
Laboratory exercises	Discussion, Laboratory (experiment), learning by experiment, Observation

Activities	Examination method	Percentage
Lecture	Written credit	70%
Laboratory exercises	Test (written or computer based)	30%

Activities	Credit conditions
Lecture	The periodic written tests during laboratory class and written final exam The evaluation consist: the evaluation of the laboratory tests - 30%, the written exam - 70 %. For passing the subject student needs all positive grades from laboratory works and the final exam.
Laboratory exercises	The periodic written tests during laboratory class and written final exam The evaluation consist: the evaluation of the laboratory tests - 30%, the written exam - 70 %. For passing the subject student needs all positive grades from laboratory works and the final exam.

Literature

Obligatory

1. Agrios G.N. 2005. Plant Pathology, Fifth ed. Elsevier Academic Press, Burlington, MA. 922 pp
2. Bos L., 1999. Plant viruses, unique and intriguing pathogens. A textbook of plant virology. Backhuys Publishers, Leiden,
3. Campbell R. 1989. Biological control of microbial plant pathogens. Cambridge Univ. Press.
4. Durate Diaz. 2005. The mycotoxin blue book. Nottingham University Press.

Optional

1. Janse J.D. 2005. Phytobacteriology: principles and practice. CABI Publishing
2. Jeffries P., Young T. W. K. 1994. Interfungal parasitic relationships. CAB International, Wallingford, UK
3. Mukerji K. G., Garg K. L. 1988. Biocontrol of plant diseases. CRC Press. vol.1-2
4. L.M. Smith, J. Dunez, R.A. Lelliott, D.H. Phillips and S.A. Archer (eds.): European handbook of plant diseases. Blackwell Scientific Publications, Oxford 1988
5. Trigiano R.N., Windham M.T., Windham A.S. (eds.) 2004. Plant Pathology. Concepts and Laboratory Exercises. CRS Press Boca Raton

Calculation of ECTS points

Activity form	Activity hours*
Lecture	15
Laboratory exercises	15
Preparation for the exam	40
Preparation for exercises	20
Student workload	Hours 90
Number of ECTS points	ECTS 3

* hour means 45 minutes