

Course name:

PLANT PROTECTION

ECTS	5
Course status	obligatory
Course final assesement/evaluation of outcomes	exam
Prerequisites	Basic knowledge of agriculture

Main field of study:

field of study name (capital letters)

Profile of study	General-academic
The code of studies (education level)	SI/SM (bachelor/master)
Semester of studies	winter
Language of instruction	English

Course offered by:

Name of faculty offering the course	Faculty of Agriculture and Economics
Name of department offering the course	Department of Microbiology and Biomonitoring
Course coordinator	Dariusz Ropek

Learning outcomes of the course:

Symbol of outcome	Description of learning outcome	Reference to	
		main field of study outcomes	discipline#

KNOWLEDGE – student knows and/or understands:

PPP_W1	fundamentals of plant protection	RO1_W14	RR
PPP_W2	main groups of plant pests, weeds and pathogens	RO1_W14	RR
PPP_W3	methods of pesticide application	RO1_W13	RR
PPP_W4	safe use of pesticides and their effect on environment	RO1_W18	RR

SKILLS – student is able to:

PPP_U1	determine weeds, pests and pathogens of crops	RO1_U22	RR
PPP_U2	choose the optimal method of pest control	RO1_U22	RR

SOCIAL COMPETENCE- student is ready to:

PPP_K1	gather and interpret relevant data	RO1_K03	RR
PPP_K2	communicate information, ideas, problems and solutions	RO1_K08	RR

Teaching contents:

Lectures	20	hours
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Topics of the lectures	<p>1-2. Introduction to plant protection, aim of the subject, basic terms, relation to other subjects.</p> <p>3-5. Plant pathogens: viruses, bacteria, fungi: symptoms, structure, transmission, vectors, disease cycle, detection, methods of plant protection.</p> <p>6-9. Plant pests: nematodes, mites, insects, slugs, mammals - characteristics, biology, economically important species.</p> <p>10-11. Monitoring of pests and diseases in plant protection. Chemical plant protection of pest and diseases - pesticides, composition, use, efficiency, legislation. Environmental impact of plant protection.</p> <p>12-13. Non-chemical plant protection of pests and diseases - good agricultural practice. Biological plant protection - principles, parasitoids, pathogens, conditions for use, efficiency.</p> <p>14-16. Positive and negative aspects of weed occurrence in agroecosystems</p> <p>17-18. Chemical weed control. Herbicides - their composition, use, efficiency, legislation. Impact of herbicides on environment.</p> <p>19-20. Non-chemical weed control. Cultural, mechanical and alternative ways to manage weeds in the crops.</p>
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Accomplished learning outcomes	RO1_W13, RO1_W14, RO1_W18
Verification methods, rules and criteria of outcome assessment	Written exam – test (60%)

Classes	15	hours
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Topics of the classes	<p>1-2. Diseases and pests of cereals and grasses.</p> <p>3-4. Diseases and pests of potato and sugar beet.</p> <p>5-6. Diseases and pests of pea, bean, soya, alfalfa, clover and other forage crops.</p> <p>7-8. Diseases and pests of technical crops.</p> <p>9-10. Storage diseases and pests</p> <p>11-15 Weeds: their identification, biological and ecological characteristics. Selection of herbicides to their control.</p>
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Accomplished learning outcomes	RO1_U22, RO1_K03, RO1_K08
Verification methods, rules and criteria of outcome assessment	Evaluation of student presentations, written report from laboratory classes (30%)

Field trip	10	hours
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Topics of field trip	<p>1-5. Determination of pest and diseases in the field conditions.</p> <p>6-10. Determination of weeds in the field conditions.</p>
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Accomplished learning outcomes	RO1_U22, RO1_K03, RO1_K08
Verification methods, rules and criteria of outcome assessment	Determination of pests, diseases and weeds (10 %)

References:

Basic	<p>1. Hajek, Ann E. <i>Natural Enemies: An Introduction to Biological Control</i>. Cambridge University Press, 2004.</p> <p>2. Barker, G. <i>Terrestrial Molluscs as Crop Pests</i>, CABI Publishing: 2002.</p> <p>3. Ropek D. <i>Plant protection. in: Agroecology (edit. Ropek D.) Publishing House of the University of</i></p>
Supplementary	<p>1. Ware W.G. <i>Complete guide to pest control</i>. Thompson publications, 1996.</p> <p>2. Ware W.G. <i>The Pesticide book</i>. Thompson publications, 2000.</p> <p>3. Hance R. J., Holly K., <i>British Crop Protection Council 1990 Weed control handbook: principles</i>.</p>

Structure of learning outcomes:

Discipline: # RR	5	ECTS**
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Discipline: # (provide appropriate symbol - if the course relates to more than one academic discipline)		...	ECTS**
Structure of student activities:			
Contact hours	51	hours	2 ECTS**
including:	lectures	20 hours	
	classes and seminars	25 hours	
	consultations	4 hours	
	participation in research	... hours	
	mandatory traineeships	... hours	
	participation in examinations	2 hours	
e-learning	...	hours	... ECTS**
student own work	75	hours	3 ECTS**

Syllabus valid from the academic year 2021/2022

* where 10 hours of classes = 1 ECTC (in case of 15 h → 2 ECTS)

** stated with an accuracy to 0.1 ECTS, where 1 ECTS = 25 - 30 hours of classes

academic discipline code: RR - agriculture and horticulture