Course name: Non-chemical Weed Management

ECTS	3
Course status	*optional*
Course final assessment /evaluation of outcomes	credit for evaluation
Prerequisite	non

Main field of study:

Educational profile	general academic
Code of studies and education level	Bachelor/master
Semester of studies	summer
Language of instruction	English

Course offered by:

Name of faculty offering the course	Faculty of Agriculture and Economics
Name of department offering the course	Agroecology and Plant Production
Course coordinator	Agnieszka Synowiec

Learning outcomes:

Symbol of outcome	Description of the learning outcome	Reference to main field of study outcomes	Area symbol*
KNOWLEDGE – student knows and understands			
NWM_W1	the most troublesome arable weeds and their biology	*RO1_W07* *RO1_W11*	RR
NWM_W2	alternative methods of weed control	*RO1_W16*	RR
SKILLS – student is able to			
NWM_U1	design crop rotations to control troublesome weeds	*RO1_U16*	RR
NWM_U2	use appropriate mechanical treatments and other non-herbicidal methods of weed control	*RO1_U14*	RR
NWM_U3	use specialist literature	*RO1_U05*	RR
SOCIAL COMPETENCIES – student is ready to:			
NWM_K1	work in a group and present the results of their work in a group	*RO1_K02* *RO1_K05*	RR
NWM_K2	shares their ideas with other students, is aware of the impact of agricultural production on the environment	*RO1_K06*	RR

Teaching contents

Lectures	**15 hours**
Topics	Introduction to herbology: basic definitions. Weed control strategies. Agronomic methods of weed control (crop rotation, catch crops, intercropping). The role of cover crops and allelopathy in weed control. Mechanical weed control, night cultivation. Alternative weed control methods
Accomplished learning outcomes	*NWM_W1, NWM_W2*
Means of verification, rules and criteria of assessment	*A percentage scale for the assessment of learning outcomes has been adopted, defined as follows:* *1. unsatisfactory grade (2.0): it is given if, in the scope of at least one of the three components (W, U or K) of the subject learning outcomes, the student achieves less than 50% of the applicable outcomes for the given component.*

	A satisfactory grade (3.0): is awarded if the student achieves at least 50% of the applicable effects for a given component in each of the three components (W, U or K). 3. *3) Above satisfactory grade (3.5): awarded on the basis of the arithmetic mean of the three component learning outcomes (W, U or K) (average 61- 70%).* *4 A similar way of calculating grades as presented in para. 3 is adopted for grades of good (4.0 - average 71-80%), above good (4.5 - average 81-90%) and very good (5.0 - average >90%).* *NOTE: The course tutor, based on the student's mastery of the applicable curriculum content of a given subject and based on his/her own teaching experience, formulates the grade using the formal criteria given above.*

Classes:	**15 hours**
Topics	Project "Get to know this weed", familiarization with the most important segetal weeds, their biology, functional traits, and the crops they accompany. Crop rotation and mechanical treatments as methods of weed control - project.

Accomplished learning outcomes	*NWM_U1, NWM_U2, NWM_U3, NWM_K1, NWM_K2*
Means of verification, rules and criteria of assessment	*The calculations performed and activities undertaken during the class will be assessed based on:* *- the correctness of the analyses and calculations, the ability to use source materials and the way in which the results are interpreted.* *The percentage scale of learning outcomes is adopted as for lectures.* *NOTE: The lecturer, on the basis of the degree of mastering by the student of the binding programme contents of the given subject, based on his/her own teaching experience, formulates the evaluation using the formal criteria given above.*

Field training:	**5 hours**
Topics	Herbarium preparation Working with the weed handbook, Assessment of biological traits of weeds Assessment of weed density

Accomplished learning outcomes	*NWM_U1, NWM_U2, NWM_U3, NWM_K1, NWM_K2*
Means of verification, rules and criteria of assessment	*The calculations performed and activities undertaken during the field training will be assessed based on:* *- the correctness of the analyses and calculations, the ability to use source materials and the way in which the results are interpreted.* *The percentage scale of learning outcomes is adopted as for lectures.* *NOTE: The lecturer, on the basis of the degree of mastering by the student of the binding programme contents of the given subject, based on his/her own teaching experience, formulates the evaluation using the formal criteria given above.*

References:

Basic	M. K. Upadhyaya, D. R. Clements, A. (Eds) 2022. Shrestha Persistence Strategies of Weeds ISBN:9781119525622, DOI:10.1002/9781119525622
Supplementary	Weed handbooks Boutagayout, A., Bouiamrine, E. H., Synowiec, A., Oihabi, K. E., Romero, P., Rhioui, W., ... & Belmalha, S. (2023). Agroecological

	practices for sustainable weed management in Mediterranean farming landscapes. *Environment, Development and Sustainability*, 1-55.

Structure of learning outcomes

Area of academic study: RR	3	ECTS

Structure of student activity

Contact hours		38	hrs.	1.5	ECTS**
Including:	lectures	15	hrs.		
	classes and seminars	20	hrs.		
	consultations	2	hrs.		
	participation in research		hrs.		
	obligatory traineeships		hrs.		
	participation in examination	1	hrs.		
e-learning			hrs.		ECTS**
student own work		37	hrs.	1.5	ECTS**

*Areas of academic study in the fields of: H- humanities; S - social studies; P – biological sciences; T – technological sciences; M- medical, sport and health sciences; R – Agricultural, forestry and veterinary sciences; A – the arts
** stated with an accuracy to 0.1 ECTS, where 1 ECTS = 25 - 30 hours of classes