EUROPEAN UNIVERSITY

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EUROPEAN UNIVERSITY FOR CUSTOMISED EDUCATION

STUDY GUIDE

INTEGRATED PEST MANAGEMENT

Polytechnic University of Viseu

1. IDENTIFYING DATA.	
· Course Name.	Integrated pest Management
· Coordinating University.	Polytechnic University of Viseu
· Partner Universities Involved.	N/A
· Course Field(s).	Agricultural Engineering, Agroecology
· Related Study Programme.	Agricultural Engineering
· ISCED Code.	0888; 0521
· SDG.	1, 2, 3, 10, 12 , 13 , 15

· Study Level.	Bachelor (B)
· EUNICE Key Competencies	• Green – strongly • Orange- moderately • Red – partially • Blank cell - not at all

Problem solving	Strongly
Teamworking	Strongly
Communication	Strongly
Self-management	Strongly
Cognitive flexibility	Moderately
Digital competence	Moderately
Technical competence	Strongly
Global intercultural competence	Strongly

· Number of ECTS credits allocated.	4
· Mode of Delivery.	Online live and/or on-campus
· Language of Instruction.	English/Spanish
· Course Dates.	March 6th – June 5th 2026
· Precise Schedule of the Lectures.	10 hours synchronous Synchronous sessions on Friday morning – 12h00 (CET time) 15 hours tandem work | 35 hours autonomous work (including autonomous field work)
· Key Words.	Pest control, biological control, risk estimate, biodiversity
· Catchy Phrase.	Produce healthy food without pesticides is possible
· Prerequisites and co-requisites.	B2 English Level; EUNICE Students; Preferably agricultural students
· Number of EUNICE students that can attend the Course.	20
· Course inscription procedure(s).	EUNICE Application Portal

2. CONTACT DETAILS.	
· Department.	Agriculture School
· Name of Lecturer.	Cristina Amaro da Costa
· E-mail.	amarocosta@esav.ipv.pt

3. COURSE CONTENT.
Introduction to integrated pest management. Concepts and terminology. Pests and diseases economic importance. Risk assessment. Pests and diseases monitoring and sampling. Harmfulness factors. Economic thresholds and decision-making process. Pest and diseases control measures. Crop strategies: Key pests and diseases. Harmfulness factors evaluation. Economic thresholds and decision-making rules. Crop protection strategies. Control measures selection

4. LEARNING OUTCOMES.
Know the concepts, principles underlying integrated pest management and its components
Know the available control measures, its advantages and limitations
Perform the risk assessment steps in a well-founded manner and apply the appropriate methodologies and techniques
Develop skills that allow the establishment of the most appropriate strategies to protect crops in sustainable production systems

5. OBJECTIVES.
To provide students with knowledge that enables them to understand the concepts, principles and components underlying the integrated pest management as well as their practical application under sustainable farming systems.
To develop skills necessary to perform the pest risk assessment and to apply the appropriate methodologies and techniques.
To know the available control measures, its advantages and limitations and to be able to define pest management strategies in organic farming based on the population ecology theories.
To develop skills that allow them to establish the most appropriate crop protection strategies in organic and integrated production farms.

6. COURSE ORGANISATION.	
UNITS	
1.	INTRODUCTION TO INTEGRATED PEST MANAGEMENT
2.	RISK ESTIMATE, ECONOMIC THRESHOLDS AND DECISION MAKING
3.	PEST AND DISEASES CONTROL
4.	INTEGRATED PEST MANAGEMENT. CROP STRATEGIES
LEARNING RESOURCES AND TOOLS.	

Crop protection lab, field living lab, zoom platform
PLANNED LEARNING ACTIVITIES AND TEACHING METHODS.
The learning method will be based on problem-based learning activities related with the components of a integrated pest management strategy, developed in groups, throughout the semester, including a theoretical component (acquisition of knowledge and understanding of the principles and techniques to be used in crop protection). The presentation and discussion of the concepts will be based on research, information analysis, and general discussion in each module. The practical component includes monitoring the chosen agricultural ecosystem (field and laboratory). Each student will present a seminar. The presentation of the project (written and oral) will be held at the end of the semester in group. The course assessment is continuous.

7. ASSESSMENT METHODS, CRITERIA AND PERIOD.

The assessment (0 to 20 scale, minimum grade 10,0) is based on: CF (Final grade)= 0,60A + 0,20B + 0,10C + 0,10D, with (A) PBL evaluation, (B) peers' assessment, (C) Final test and (D) Commitment, participation and attendance. This will also be discussed and agreed on in the first session.

8. BIBLIOGRAPHY AND TEACHING MATERIALS.

Costa CA et al. (2023) Pest Control In Organic Farming. In: Chandran S, Unni Mr, Thomas S (Eds). Organic Farming, Woodhead Publishing: 41-90.

Dyck, V.A., J. Hendrichs, and A.S. Robinson, editors. 2021. Sterile Insect Technique: Principles and Practice in Area-Wide Integrated Pest Management. 2nd ed. CRC Press, Boca Raton.

Lasso, E., N. Motisi, J. Avelino, and J. Corrales. 2021. FramePests: A Comprehensive Framework for Crop Pests Modeling and Forecasting. IEEE Access. doi: 10.1109/ACCESS.2021.3104537.

Savary, S., L. Willocquet, S.J. Pethybridge, P. Esker, N. McRoberts, et al. 2019. The global burden of pathogens and pests on major food crops. Nat Ecol Evol 3(3): 430–439. doi: 10.1038/s41559-018-0793-y.