Course: **Phytopharmacy**		
Semester	ECTS	Teaching hours
V	**5**	**3L + 1P**

Basic undergraduate academic studies: Plant production (6 semester, 180 ECTS)

Course description

Introducing students to the basic concepts of pesticides, as well as issues related to their application, movement in the environment and the legal basis related to pesticides trade. Also, introduction to pesticide active substances that are on the list of permitted for use in agriculture and other areas. The aim of the course is to instruct students on personal and collective protection in the application of pesticides, as well as measures to be taken in case of their inadequate application.

Learning outcomes

After passing the exam, the student will acquire knowledge that allows him to:

- Define different groups of pesticides with special reference to plant protection products
- Know the physical and chemical properties of pesticides and the formulations that are applied
- Describe the mechanisms of pesticides action and all the basic groups of fungicides, insecticides and herbicides and active substances that are classified by groups
- acquire knowledge on the basic regulations related to plant protection products in the European Union and Montenegro
- Choose protective equipment for working with pesticides and know their impact on human health and the environment
- Calculate the dose and concentration of applied fungicides, insecticides and herbicides

Lecturer: Prof. Nedeljko Latinović, PhD

Learning methods: Lectures, Laboratory practice, Field work, Seminars

Weekly class schedule

I week	Lectures	Introduction. Areas of pesticides application. Plant protection products. Control of vector-borne diseases
	Practicum	Instructions for the application of plant protection products
II week	Lectures	Classification and nomenclature of pesticides
	Practicum	Calculation of water consumption for treatment
III week	Lectures	Physical and chemical properties of pesticides
	Practicum	Dose and concentration calculation
IV week	Lectures	Forms of pesticide formulation. Integrated plant protection
	Practicum	Organizing the treatment of field crops
V week	Lectures	Mode of action of pesticides
	Practicum	Organizing the treatment of vegetable crops
VI week	Lectures	Mode of action of pesticides
	Practicum	Organizing the treatment of vegetable crops
VII week	Lectures	Fungicides
	Practicum	Organizing orchard treatment
VIII week	Lectures	Fungicides, bactericides
	Practicum	Organizing orchard treatment
IX week	Lectures	Zoocides
	Practicum	Organizing vineyard treatment
X week	Lectures	Zoocides. Plant protection products in organic agriculture. Pesticides and bees
	Practicum	Use of protective equipment
XI week	Lectures	Herbicides
	Practicum	Handling of devices for application of plant protection products
XII week	Lectures	Herbicides
	Practicum	Field practice
XIII week	Lectures	Legal bases of production, trade and application of pesticides
	Practicum	Legislation in the field of plant protection products
XIV week	Lectures	Pre-harvest interval. MRL. Consequences of pesticide application.
	Practicum	Field practice

XV week	Lectures	Pesticide toxicology and first aid.
	Practicum	Field practice

Literature: Matthews, G. (2016): Pesticides – Health, Safety and the Environment (sec. ed.). Wiley Blackwel, UK; O'Connor-Marer, P.J (2000): The Safe and Effective Use of Pesticides. University of California, Oakland, California; Material from Internet; Lectures presentation.

Forms of knowledge assessment and grading:

Activities in lectures and exercises: 5 points
Seminar paper: 5 points
Two colloquia: 40 points
Final exam: 50 points
A passing grade is obtained if at least 50 points are accumulated cumulatively

Grading	A	B	C	D	E
Number of points	90-100	80-89	70-79	60-69	50-59

Data prepared by Prof. dr Nedeljko Latinović