Biotechnical Faculty / FIELD AND VEGETABLE CROPS / DISEASES AND PESTS OF ORNAMENTAL PLANTS

Course:	DISEASES AND PESTS OF ORNAMENTAL PLANTS			
Course ID	**Course status**	**Semester**	**ECTS credits**	**Lessons** (Lessons+Exercises+Laboratory)
13373	Mandatory	3	5	2+0+2
Programs	FIELD AND VEGETABLE CROPS			
Prerequisites	None			
Aims	The aim is to enable students to learn about the most important diseases and pests of ornamental plants. In the first part of the course, student will acquire knowledge about the causal agents of ornamental plants diseases, about the disease distribution and economic significance, symptoms, morphological description of pathogens, development cycle, hosts and control measures against the most important diseases of ornamental plants. In the second segment based on pests, students will learn about the most important pests of ornamental plants and the damages they cause, in order to be able to make a decision on the method and time of control.			
Learning outcomes	After completing this course, student will be able to: recognize disease symptoms on ornamental plants; describe damages, pathogens, development cycle and epidemiological parameters of certain diseases; recognize the most important pests of ornamental plants according to type of damage; to determine the developmental stage of the pest; to make a decision on the method and time of controlling harmful organisms (diseases and pests) on ornamental plants.			
Lecturer / Teaching assistant	Prof. dr Jelena Latinović, prof. dr Snježana Hrnčić			
Methodology	Lectures, exercises (in laboratory and in field), independent work, consultations, seminar preparation, colloquia and final exam.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction to ornamental plant diseases and parasitic diseases.			
I week exercises	Observation of disease symptoms on ornamental plants.			
II week lectures	Pathogens that cause spotting type diseases on ornamental plants.			
II week exercises	Field exercises: visit to ornamental plant nursery.			
III week lectures	Pathogens that cause powdery mildew and mold type diseases on ornamental plants.			
III week exercises	Laboratory exercises: plant sample processing and microscopy.			
IV week lectures	Pathogens that cause rot and downy mildew diseases on ornamental plants.			
IV week exercises	Observation of disease symptoms on ornamental plants.			
V week lectures	Pathogens that cause wilting and chlorosis of ornamental plants.			
V week exercises	Field exercises: a visit to urban greenery			
VI week lectures	Pathogens that cause rust and smut diseases on ornamental plants. Non-parasitic diseases.			
VI week exercises	Laboratory exercises: plant sample processing, microscopy.			
VII week lectures	Colloquium I. Non-parasitic diseases.			
VII week exercises	Laboratory: presentation and discussion of a seminar paper on a given topic			
VIII week lectures	Introduce to pests of ornamental plants. Correctional Colloquium I			
VIII week exercises	Laboratory exercises: Importance of pests on ornamental plants			
IX week lectures	Pests which belong to order Thysanoptera (polyphagous thrips). Pests which belong to order Hemiptera: Heteroptera			
IX week exercises	Field exerecises: visiting of urban green areas.			
X week lectures	Pests which belong to order Hemiptera: Auchenorrincha (plant hoppers and psyllids). Sternorrincha (aphids).			
X week exercises	Field exerecises: visiting of urban green areas.			
XI week lectures	Pests which belong to order Hemiptera: Sternorrincha (whiteflies, scale insects).			
XI week exercises	Field exerecises: visiting of urban green areas.			

XII week lectures	Pests which belong to order Lepidoptera (polyphagous leafminers and leafrollers).
XII week exercises	Field exerecises: visiting the ornamental plant nurseries.
XIII week lectures	Pests which belong to order Coleoptera.
XIII week exercises	Field exerecises: visiting the ornamental plant nurseries
XIV week lectures	Pests which belong to order Diptera. Colloquium II.
XIV week exercises	Field exerecises: visiting the ornamental plant nurseries.
XV week lectures	Pests which belong to class Acari. Correctional Colloquium II
XV week exercises	Exercises Laboratory exercises: sample processing.
Student workload	

Per week	**Per semester**
5 credits x 40/30=6 hours and 40 minuts 2 sat(a) theoretical classes 2 sat(a) practical classes 0 excercises **2 hour(s) i 40 minuts** of independent work, including consultations	Classes and final exam: **6 hour(s) i 40 minuts x 16 =106 hour(s) i 40 minuts** Necessary preparation before the beginning of the semester (administration, registration, certification): **6 hour(s) i 40 minuts x 2 =13 hour(s) i 20 minuts** Total workload for the subject: **5 x 30=150 hour(s)** Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) **30 hour(s) i 0 minuts** Workload structure: **106 hour(s) i 40 minuts (cources), 13 hour(s) i 20 minuts (preparation), 30 hour(s) i 0 minuts (additional work)**
Student obligations	Presence to lectures and exercises, presence and interactive work during laboratory and field exercises, to take test, seminar essay, colloquiums and final exam
Consultations	Once a week in agreement with the students
Literature	1. Gleason, M.L., Daughtrey, M.L., Chase, A.R., Moorman, G.W. and Mueller, D.S. (2009): Diseases of herbaceous perennials. The American Phytopathological Society, USA. 2. Garibaldi, A., Gullino, M.I., Lisa, V. (2000): Malattie delle Piante Ornamentali. Edagricole – Edizioni Agricole della Calderini s.r.l., Bologna.; 3. Radmila Petanović (2004): Atlas. Štetne grinje ukrasnih biljka, Beograd; 4. Alford. V., D.; (1995): A Colour Atlas of Pests of Ornamental Trees, Shrubs and Flowers, Manson Publishing.
Examination methods	Forms of assessments: Activity on lecturers and exercises _____ 10 points Seminar essay:_____ 10 points (written) Two colloquiums, 20 points each_____(total 40 points) Final exam _____40 points Pass degree: ≥ 50 points; Grades and points: A (≥ 90 to 100 points); B (≥ 80 to < 90); C (≥ 70 to < 80); D (≥ 60 to < 70); E (≥ 50 to < 60); F < 50
Special remarks	
Comment	

Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points