

Faculty of Medicine / PHARMACY / BOTANICS

Course:	BOTANICS			
Course ID	Course status	Semester	ECTS credits	Lessons (Lessons+Exercises+Laboratory)
5096	Mandatory	2	7	3+0+3
Programs	PHARMACY			
Prerequisites	None.			
Aims	Acquiring knowledge about the basics of morphology, anatomy, physiology and ecology of pharmaceutically important plants. Localization of primary and secondary metabolites and their biological roles. Introduction to the classification systems as information systems. Identification of selected groups of medicinal plants.			
Learning outcomes	Capacitating students to: explain the morphological and anatomical characteristics of plant organs important for pharmacy; describe and explain the basic physiological processes of plants; correctly name and classify selected taxa; predict the properties of taxa based on their systematic affiliation; access the requested information about the plants of interest to pharmacy; recognize groups of medicinal plants.			
Lecturer / Teaching assistant	Mijat Božović, Danka Caković			
Methodology	Theoretical and practical classes, field work, consultation.			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Introduction; Plant cell; Organization of plant body.			
I week exercises	Plant cell and starch granules.			
II week lectures	Plant tissues: meristem and permanent.			
II week exercises	Meristem tissue.			
III week lectures	Plant organs: seedling, root, shoot.			
III week exercises	Vascular tissues.			
IV week lectures	Flower and plant reproduction.			
IV week exercises	Stem and root cross sections.			
V week lectures	Plant physiology.			
V week exercises	Secondary growth; Leaf anatomy.			
VI week lectures	COLLOQUIUM I			
VI week exercises	Stamen and ovary cross sections.			
VII week lectures	Plant taxonomy and nomenclature; Algae, fungi and lichens.			
VII week exercises	TEST			
VIII week lectures	Mosses, horsetails, ferns, gymnosperms.			
VIII week exercises	Algae, fungi and lichens.			
IX week lectures	Flowering plants: Magnoliopsida class (Magnoliaceae-Primulaceae).			
IX week exercises	Mosses, horsetails, ferns, gymnosperms.			
X week lectures	Flowering plants: Magnoliopsida class (Rosaceae-Scrophulariaceae).			
X week exercises	Floral formula; Dicotyledon representatives.			
XI week lectures	Flowering plants: Magnoliopsida class (Rubiaceae-Asteraceae).			
XI week exercises	Monocotyledon representatives.			
XII week lectures	Flowering plants: Liliopsida class.			
XII week exercises	Plant identification (Magnoliopsida).			
XIII week lectures	Field work: plant representatives of the (sub)mediterranean part of Montenegro.			
XIII week exercises	Plant identification (Liliopsida).			

XIV week lectures	Field work: plant representatives of the continental part of Montenegro.					
XIV week exercises	Plant identification; Herbarium preparing.					
XV week lectures	COLLOQUIUM II					
XV week exercises	Plant identification; Herbarium preparing.					
Student workload						
Per week			Per semester			
7 credits x 40/30=9 hours and 20 minuts 3 sat(a) theoretical classes 3 sat(a) practical classes 0 excercises 3 hour(s) i 20 minuts of independent work, including consultations			Classes and final exam: 9 hour(s) i 20 minuts x 16 =149 hour(s) i 20 minuts Necessary preparation before the beginning of the semester (administration, registration, certification): 9 hour(s) i 20 minuts x 2 =18 hour(s) i 40 minuts Total workload for the subject: 7 x 30=210 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) 42 hour(s) i 0 minuts Workload structure: 149 hour(s) i 20 minuts (courses), 18 hour(s) i 40 minuts (preparation), 42 hour(s) i 0 minuts (additional work)			
Student obligations			Attending theoretical, practical and field classes.			
Consultations			2 hours by week.			
Literature			1) Jančić: Botanika farmaceutika, Službeni glasnik Beograd, 2012. 2) Domac: Flora Hrvatske, Školska knjiga Zagreb, 2002. 3) Petković, Merkulov, Duletić-Laušević: Anatomija i morfologija biljaka sa praktikumom, Biološki fakultet Beograd, 2014. 4) Tatić, Blečić: Sistematika i filogenija viših biljaka, Zavod za udžbenike i nastavna sredstva Beograd, 1984; 5) Nešković, Konjević, Čulafić: Fiziologija biljaka, NNK Internacional Beograd, 2003; 6) Stevanović, Janković: Ekologija biljaka sa osnovama fiziološke ekologije biljaka, NNK Internacional Beograd, 2001.			
Examination methods			Colloquium 2x15 points; Test 10 points. Final exam (herbarium 20 points + final colloquium 40 points).			
Special remarks			Herbarium preparation and a minimum of 10 points are required prior to final colloquium.			
Comment			Students themselves bear the costs of field work.			
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