

Study Programme: BSc in Biology			
Degree level: Bachelor degree			
Course Title: Systematics of Vascular Plants with Basics of Phylogeny			
Professor: Goran Anačkov, PhD associate professor			
Required/Elective Course: Required course			
Number of ECTS: 8			
Prerequisites:			
Course Objective: Introduction to basic systematic groups of higher plants, their morphology, evolution and phylogeny.			
Course Outcome: Obtaining basic knowledge of plant systematics. The basis for other botanical courses. General knowledge of the origin, kinship, diversity and characters of some vascular plant groups.			
Course Content:			
<i>Theoretical part</i>			
Systematics as science, the basic concepts and research methods. Taxonomy and systematics, taxonomic categories, binary nomenclature, subordination of systematic units. The history of the Earth and plant life. The main evolutionary directions of selected vascular plants and phylogenetic concepts. Adaptive radiation, ancestral lines and outcome groups. The first land plants: Rhyniophyta, Zosterophylophyta, Bryophyta, Psilotophyta, Lycopodiophyta, Equisetophyta, Polypodiophyta; organization, reproduction and evolutionary significance. Occurrence of seeds. Plants with seeds. Gymnosperms, characteristics and distribution. Angiosperms, characteristics and basic groups. The characteristics of main groups in monocotyledonous and dicotyledonous plants.			
<i>Practical part</i>			
Taxonomy as a fundamental basis of Systematics, determination of plants, the basic concept and rules. External morphology and breeding systems of selected representatives of the systematic groups: thalloid and true mosses, isosporic and heterosporic lycopods, ferns, horsetails, gymnosperms and angiosperms.			
Reading List:			
1. Tatić, B., Blečić, V. (1996): Sitematika i filogenija kormofita. Zavod za udžbenike i nastavna sredstva, Beograd.			
2. Mägdefrau, K., Ehrendorfer, F. (1988): Botanika, sistematika, evolucija i geobotanika. Školska knjiga, Zagreb.			
3. Takhtajan, A. (2009): Flowering Plants, 2nd ed. Springer Science+Business Media, Berlin.			
4. Simpson, M. (2006): Plant Systematics. Elsevier Academic Press, Amsterdam.			
5. Judd, W., Campbell, C., Kellogg, E., Stevens, P., Donoghue, M. (2008): Plant systematics: a phylogenetic approach, 3rd ed. Sinauer Associates, Inc., Sunderland.			
Total hours:			8
Lectures: 4	Practicals: 4	Other:	Student research work:
Methods of instruction: Theoretical lectures, laboratory exercises.			
Assessment (maximum number of points 100)			
Requirements	points	Final exam	points
Active participation in lectures		Practical exam	30
Active participation in practicals		Oral exam	40
Test(s) or			
Pre-exam testing	30		
Remark: Required prepared personal herbarium collection, during Field work 1 and 2, according to standards.			