

NAME OF THE COURSE		Systematic Botany				
Code	PMB038	Year of study	3			
Course teacher	Higher lecturer Juraj Kamenjarin, PhD	Credits (ECTS)	6			
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			30		30	
Status of the course	Mandatory	Percentage of application of e-learning	10			
COURSE DESCRIPTION						
Course objectives	Acquired knowledge enables students to acquire and understand the evolutionary development, anatomy, taxonomy and distribution of terrestrial plants; describing the major evolutionary trends, distinguishing basic types and principles of generation changes. Analysis of the structure of typical representatives of typical families terrestrial flora.					
Course enrolment requirements and entry competences required for the course	The necessary competence of students in the subject Cormophyta are prior knowledge of the subjects General Botany and Algae and Fungi					
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	<p>Student will be able to:</p> <ol style="list-style-type: none"> 1. Explain the main methods of systematic botany and outline the main features of the classification system 2. Relate the historical sequence of significant discoveries in the development of systematic botany 3. Distinguish the basic nomenclature of the solutions in appointment of taxa 4. Describe the main evolutionary trends in terrestrial plants 5. Distinguish the basic types and principles of generation changes, give examples, explain the basics of materials and their role in the evolution. 6. Show the structure and main features of macrogroups of terrestrial plants (mosses, gymnosperms, angiosperms) and selected families 7. Show comparative structure and evolutionary sequences of the main organs and organ systems 8. Use laboratory equipment and techniques in analyzing structure of terrestrial plants, and database 9. Analyze the structure of typical representatives of the typical family of terrestrial flora 					
Course content broken down in detail by weekly class schedule (syllabus)	<p>Lectures: / Exercises:</p> <ol style="list-style-type: none"> 1. Basic information about the course, mandatory and optional literature, online resources, tools and material, program, student obligations. Basic definitions, importance, hierarchical systems, classification and naming, informative features, the process of systematic knowledge, phylogenetic terminology, examples. (2 hours) 2. Historical review of the development of systematic knowledge about plants, artificial systems, natural systems, phylogenetic systems (2 hours) 3. Nomenclature and determination, herbarium collections - the role, significance, scope, Index herbariorum, herbarium collections in Croatia, nomenclature. (2 hours) 4. Main group, the scope of the flora in the world and Croatia, diversity, endemism, elements of economic botany, empires, older nomenclature, basics of phylogenetic relationships (2 hours) 5. Changes in generation - features sporophyte and gametophyte, izosporna alternation of generations, heterosporna alternation of generations, endosporni 					

	<p>and egzosporni development, representation by groups, deviations(2 hours)</p> <p>6. Bryophyta S.L. - Moss, kinship relations, the basic characteristics of groups, scope and ecology, classification, relationship between gamatofita and sporophyte; (2 hours)</p> <p>7. Pterydophyta. L. ; basic characteristics, classification, evolution; morphology, alteration generation, propagation (2 hours)</p> <p>8. Gymnospermae, main features, alternation of generations, ovule, diversity (2 hours)</p> <p>9. Angiospermae I - comparative advantages, sporogeneza, gametogenesis, embryogenesis, ginecej (2 hours)</p> <p>10. Angiospermae II - andrecej, sporogeneza, gametogenesis, pollen, flowers, pollination (2 hours)</p> <p>11. Angiospermae III - fertilization, the formation of seeds, fruit structure, classification of fruits, flowers (2 hours)</p> <p>12. Angiospermae IV - review of significant groups I: Lauraceae, Ranunculaceae, Fagaceae, Betulaceae (2 hours)</p> <p>13. Angiospermae V - review of significant groups II: Rosaceae, Fabaceae, Apiaceae, Rutaceae, Malvaceae, Cucurbitaceae, Salicaceae, Brassicaceae, Primulaceae (2 hours)</p> <p>14. Angiospermae VI - review significant group III: Caryophyllaceae, Cactaceae, Composite, Solanaceae, Lamiaceae (2 hours)</p> <p>15. Angiospermae VII - review of significant group IV: Arecaceae, Cyperaceae, Poaceae, Liliaceae SL, Iridaceae, Orchidaceae (3 hours)</p>					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input checked="" type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)			
Student responsibilities						
Screening student work (<i>name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course</i>)	Class attendance	4,0	Research		Practical training	
	Experimental work	2,0	Report		(Other)	
	Essay		Seminar essay		(Other)	
	Tests		Oral exam		(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam						
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	Nikolić, T. (2013): Sistematska botanika - raznolikost i evolucija biljnog svijeta. Alfa d.d., 1-882. Zagreb (udžbenik).			2		
	Nikolić T. (2013): Praktikum sistematske botanike - Raznolikost i evolucija biljnog svijeta. Alfa, Zagreb, 1 - 256.			2		

	Nikolić T. ed. (2007-): Botanički praktikum OnLine. (hypertext dokument http://www.botanic.hr/praktikum/home.htm), PMF, Zagreb.		on-line
	Kamenjarin J. (2021): Systematic Botany – power point lectures		Available at teacher in electronic form
Optional literature (at the time of submission of study programme proposal)	<p>Nikolić T. (2017): Morfologija biljaka. Razvoj, građa I uloga biljnih tkiva, organa I organskih sustava, Alfa d. d., 1 -569, Zagreb (udžbenik)</p> <p>Šugar I. (1990): Latinsko-hrvatski i hrvatsko-latinski botanički leksikon. JAZU, Zagreb.</p> <p>Nikolić, T. (2006): Flora. Priručnik za inventarizaciju i praćenje stanja. Državni zavod za zaštitu prirode, Zagreb. Nikolić T. (1996): Herbarijski priručnik. Školska knjiga, Zagreb</p>		
Quality assurance methods that ensure the acquisition of exit competences	Active participation in class, evaluation of courses and teachers, consultation.		
Other (as the proposer wishes to add)			