

NAME OF THE COURSE		Isolation and Application of Essential Oils					
Code	PPB264	Year of study					
Course teacher	Professor Valerija Dunkić	Credits (ECTS)		2			
Associate teachers	Marija Nazlić, assistant	Type of instruction (number of hours)		L	S	E	F
				15		15	
Status of the course	Elective	Percentage of application of e-learning		10%			
COURSE DESCRIPTION							
Course objectives	The aim of this course is to introduce the characteristics of wild plants the rich secondary metabolites mainly essential oils, and their isolation, analysis and chemical composition						
Course enrolment requirements and entry competences required for the course	Passed the examination of the General Botany or Botany						
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"> <li>Describe the structure and function of secondary metabolites in the aromatic herbs</li> <li>Identify the different essential oils chemotype</li> <li>Know the development and application of essential oils</li> <li>To appreciate the importance of using natural herbal products</li> <li>Understanding and application of acquired knowledge about the importance of ecologically clean plants and products on to human health.</li> </ol>						
Course content broken down in detail by weekly class schedule (syllabus)	<p>Lectures: / Exercises:</p> <ol style="list-style-type: none"> <li>Characteristics of xerophytes. CAM - photosynthesis</li> <li>Specific properties of the vegetative organ</li> <li>Surface protection and defence material, secondary metabolites.</li> <li>Essential oils and glycosides of isolation, analysis and biological role.</li> <li>Special emphasis on plants from the Lamiaceae family, with the determination of habitat conditions</li> <li>Glycosides, alkaloids, tannins, vitamins, minerals; an overview of aromatic plants, collection, identification and drying of plant material</li> <li>Methods of isolation of secondary metabolites; GC / MS and GC / FID methods</li> <li>Analysis and identification of chemical components of isolated secondary metabolites; Application of isolated secondary metabolites.</li> </ol>						
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 checked="" type="checkbox"/> field work			<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input checked="" type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)			
Student responsibilities	70% attendance at lectures 100% completed laboratory exercises and described an aromatic plant species						
Screening student work (name the proportion of ECTS credits for each)	Class attendance	0.5	Research		Practical training	0.5	
	Experimental work	0.5	Report		(Other)		

<i>activity so that the total number of ECTS credits is equal to the ECTS value of the course)</i>	Essay		Seminar essay		(Other)	
	Tests		Oral exam	0.5	(Other)	
	Written exam		Project		(Other)	
Grading and evaluating student work in class and at the final exam	Fully completed laboratory exercises, presentation and oral exam					
Required literature (available in the library and via other media)	<b>Title</b>			<b>Number of copies in the library</b>	<b>Availability via other media</b>	
	D. Kuštrak. Farmakognozija Fitofarmacija, Golden marketing – Tehnička knjiga, Zagreb, 2005.					
	Adams, R.P. Identification of essential oil components by gas chromatography/ mass spectroscopy. Fourth ed. Allured Publishing Corp.: Carol Stream IL, USA,					
Optional literature (at the time of submission of study programme proposal)	B. Pevalek-Kozlina. Fiziologija bilja, Profil, Zagreb, 2003.					
Quality assurance methods that ensure the acquisition of exit competences	Methods Quality assurance will be performed at three levels: (1) University Level, (2) Faculty Level by the Commission for Quality Control, (3) Teaching Level					
Other (as the proposer wishes to add)						