

Nazwa zajęć/ <i>Course title:</i>	Medicinal and aromatic plants	ECTS	3
Nazwa zajęć w j. angielskim/ <i>Course title in English:</i>	Medicinal and aromatic plants		
Zajęcia dla kierunku studiów/ <i>Degree program name:</i>	Horticulture		

Język kursu/ <i>Course language:</i>	English	Poziom studiów/ <i>Study level:</i>	II
Typ studiów/ <i>Form of studies:</i>	<input checked="" type="checkbox"/> intramural <input type="checkbox"/> extramural	Status zajęć/ <i>Course status</i>	<input type="checkbox"/> podstawowe/ <i>basic</i> <input checked="" type="checkbox"/> kierunkowe/ <i>major</i> <input type="checkbox"/> obowiązkowe/ <i>mandatory</i> <input checked="" type="checkbox"/> do wyboru/ <i>elective</i>
		Semestr/ <i>Semester:</i>	1 <input type="checkbox"/> semestr zimowy/ <i>winter semester</i> <input checked="" type="checkbox"/> semestr letni/ <i>summer semester</i>
Rok akademicki/ <i>Academic year:</i>		2022/2023	Numer katalogowy/ <i>Catalogue number:</i> OGR-O2_S-1L07.28 a

Koordynator zajęć/ <i>Course coordinator:</i>	Dr hab. Katarzyna Bączek, prof. SGGW		
Prowadzący zajęcia/ <i>Teachers responsible for the course:</i>	Employees of the Department of Vegetable and Medicinal Plants, Institute of Horticulture Sciences, SGGW		
Założenia, cele i opis zajęć/ <i>Aims, objectives and description of the course:</i>	<p>The aim of the subject is to acquaint the students with diversity of medicinal plants growing wild and cultivated in Poland – in respect of the number of species, their occurrence (habitat type), plant part collected as a raw material, its chemical composition and application. The methods of preservation of natural resources of medicinal plants will be presented, including the rules of sustainable harvesting. During field practices the students will have an opportunity to identify the species of medicinal plants. They will see the results of experiments on introduction of these plants into cultivation.</p> <p>Lectures: Classification of plant raw materials (2h). Characteristics of the Polish and European medicinal plant raw materials market. The products obtained from medicinal plants (2h). Biologically active constituents of plant raw materials (5h). Factors influencing the quality of plant raw materials (2h). Main threats for wild growing medicinal plants and their habitats. Rules of the sustainable exploitation of natural resources of medicinal plants. Methods of plant conservation (2h). Cultivation of medicinal and aromatic plants. Problems concerning introduction of wild growing medicinal plants into cultivation (2h). Classes: Characteristics of chosen medicinal plants: morphological traits necessary for identification of a species, habitat requirements, occurrence in plant communities, time and method of raw material harvesting, organoleptic traits making possible identification of the raw material, main biologically active compounds, pharmacological activity and application of the raw material (8h). Basic methods of quality evaluation of medicinal and aromatic plant raw materials (2h). Visit to the experimental field of the Department of Vegetable and Medicinal Plants: identification of medicinal plants while growing; to get acquainted the students with the <i>ex situ</i> collection of wild growing medicinal plants and the experiments on introduction of these plants into cultivation (5h).</p>		
Formy dydaktyczne, liczba godzin/ <i>Teaching forms, number of hours:</i>	a) lecture; number of hours 15.; b) laboratory classes; number of hours 15;		
Metody dydaktyczne/ <i>Teaching methods:</i>	Lectures, classes, discussion, consultations		
Wymagania formalne i założenia wstępne/ <i>Formal requirements and prerequisites</i>	The student has knowledge on plant taxonomy, organography and chemistry.		
Efekty uczenia się/ <i>Learning outcomes:</i>	treść efektu przypisanego do zajęć/ <i>the content of the effect assigned to the course:</i>		Odniesienie do efektu kierunkowego/ <i>Relation to the course outcomes</i>
Wiedza (absolwent zna i rozumie) / <i>Knowledge: (the graduate knows and understands)</i>	W1	Knows the factors affecting the quality of plant raw materials and methods of quality evaluation.	K_W01 K_W02 K_W04
	W2	Knows the groups of main biologically active compounds and their activity.	K_W01 K_W06
	W3	Knows the rules and methods of sustainable harvesting of these plants.	K_W04
	W4	Knows the threats for wild growing medicinal plants and the methods of <i>in situ</i> and <i>ex situ</i> plant conservation.	K_W07 K_W09
Umiejętności (absolwent potrafi) / <i>Skills: (the graduate is able to)</i>	U1	Is able to identify the most important species of medicinal plants and raw materials obtained from these plants.	K_U01 K_U012
	U2	Is able to carry out a preliminary evaluation of the quality of plant raw materials.	K_U02 K_U08
	U3	Is able to establish and carry out herbal garden.	K_U03 K_U04 K_U06
Kompetencje (absolwent jest gotów do)	K1	Presents active attitude in the process of learning.	K_K01 K_K03

<i>/Competences: (the graduate is ready to)</i>	K2	Is aware of the need to act in accordance with the principles of ethics in medicinal plant production.	K_K04	3
<i>Treści programowe zapewniające uzyskanie efektów uczenia się: /Program contents ensuring the achievement of the learning outcomes:</i>		Classification of plant raw materials. Characteristics of the Polish and European medicinal plant raw materials market. The products obtained from medicinal plants. Biologically active constituents of plant raw materials. Factors influencing the quality of plant raw materials. Main threats for wild growing medicinal plants and their habitats. Rules of the sustainable exploitation of natural resources of medicinal plants. Methods of plant conservation. Cultivation of medicinal and aromatic plants. Problems concerning introduction of wild growing medicinal plants into cultivation. Basic methods of quality evaluation of medicinal and aromatic plant raw materials.		
<i>Sposób weryfikacji efektów uczenia się/ Methods of the verification of the learning outcomes:</i>		Effects W1, W2, W3, W4, U2, U3, K2 – written exam Effects U1, U2, U3 – tests during the classes and identification of medicinal raw materials Effects U1, K1 – herbarium prepared by the student		
<i>Szczegóły dotyczące sposobów weryfikacji i form dokumentacji osiąganych efektów uczenia się /Details on the verification methods and of the ways of documenting the learning outcomes:</i>		Exam papers, tests, student evaluation sheet		
<i>Elementy i wagi mające wpływ na ocenę końcową/Elements and weights influencing the final grade:</i>		Exam – 50%, tests – 30%, herbarium – 20%		
<i>Miejsce realizacji zajęć/ Teaching place:</i>		Lecture room, laboratory, experimental field of the Department of Vegetable and Medicinal Plants		
<i>Literatura/Literature:</i>		<ol style="list-style-type: none"> <li>Duke J.A., Bogenschutz-Godwin M.J., duCellier J., Duke P.-A.K. 2002. Handbook of medicinal herbs. Second edition. CRC Press, Boca Raton, London, New York, Washington D.C.</li> <li>Hamilton A.C. 2004. Medicinal plants, conservation and livelihoods. Biodiversity and Conservation 13: 1477-1517.</li> <li>Heywood V.H., Iriondo J.M. 2003. Plant conservation: old problems, new perspectives. Biological Conservation 113: 321-335.</li> <li>Li T.S.C. 2000. Medicinal plants. Culture, utilization and phytopharmacology. CRC Press, Boca Raton, London, New York, Washington D.C.</li> <li>WHO guidelines on good agricultural and collection practices (GACP) for medicinal plants. WHO, Geneva 2003.</li> <li>WHO, IUCN, WWF. 1993. Guidelines on the Conservation of Medicinal Plants. Castel Cary Press, Somerset, UK.</li> <li>Wichtl M. (Ed.) 2004. Herbal Drugs and Phytopharmaceuticals. CRC Press, Boca Raton, London, New York, Washington D.C.</li> </ol>		
<i>UWAGI/ANNOTATIONS</i>				

*\*) 3 – zaawansowany i szczegółowy, 2 – znaczący, 1 – podstawowy/ 3 – significant and detailed, 2 – considerable, 1 – basic,*

*Wskaźniki ilościowe charakteryzujące moduł/przedmiot/Quantitative summary of the course:*

<i>Szacunkowa sumaryczna liczba godzin pracy studenta (kontaktowych i pracy własnej) niezbędna dla osiągnięcia zakładanych dla zajęć efektów uczenia się - na tej podstawie należy wypełnić pole ECTS /Estimated number of work hours per student (contact and self-study) essential to achieve the presumed learning outcomes - basis for the calculation of ECTS credits:</i>	75 h
<i>Łączna liczba punktów ECTS, którą student uzyskuje na zajęciach wymagających bezpośredniego udziału nauczycieli akademickich lub innych osób prowadzących zajęcia/ Total number of ECTS credits accumulated by the student during contact learning:</i>	1.2 ECTS