COURSE DESCRIPTION CARD

<table>
<tr><th colspan="10">Faculty of Civil Engineering and Environmental Sciences</th></tr>
<tr><td>Field of study</td><td colspan="5"></td><td colspan="2">Degree level and programme type</td><td colspan="2"></td></tr>
<tr><td>Specialization / diploma path</td><td colspan="5"></td><td colspan="2">Study profile</td><td colspan="2">Academic profile</td></tr>
<tr><td rowspan="2">Course name</td><td colspan="5" rowspan="2">Natural medicinal substances from forest materials</td><td colspan="2">Course code</td><td colspan="2">IS-FF-00044S</td></tr>
<tr><td colspan="2">Course type</td><td colspan="2">Erasmus</td></tr>
<tr><td rowspan="2">Forms and number of hours of tuition</td><td>L</td><td>C</td><td>LC</td><td>P</td><td>SW</td><td>FW</td><td>S</td><td>Semester</td><td colspan="2">Summer</td></tr>
<tr><td>15</td><td></td><td>15</td><td></td><td></td><td></td><td></td><td>No. of ECTS credits</td><td colspan="2">3</td></tr>
<tr><td>Entry requirements</td><td colspan="9">Chemistry, Biology</td></tr>
<tr><td>Course objectives</td><td colspan="9">The course covers practical issues related to the use in medicine of natural substances derived from forest raw materials, including familiarization with the chemical composition, structure, pharmacological activity, adverse effects as well as methods of their qualitative and quantitative analysis.</td></tr>
<tr><td>Course content</td><td colspan="9">Lectures: Classification of substances of natural origin by groups of active compounds that determine their activity. Characteristics of chemical composition and structure as well as selected physicochemical properties, pharmacological activity, application, dosage and side effects of selected secondary metabolites derived from forest raw materials. Drugs (including dietary supplements and food for special medical purposes), the components of which are natural compounds derived from vegetable raw materials.
Laboratory exercises: Isolation methods and innovative analytical techniques in qualitative and quantitative determination of active compounds from forest raw materials. Natural harmful and toxic substances found in plants.</td></tr>
<tr><td>Teaching methods</td><td colspan="9">Information and problem lecture with multimedia presentation, laboratory classes - performing tasks and chemical analyzes individually and in a group.</td></tr>
<tr><td>Assessment method</td><td colspan="9">Lecture - written test; laboratory exercises - exercise reports and presentation.</td></tr>
<tr><td>Symbol of learning outcome</td><td colspan="6">Learning outcomes</td><td colspan="3">Reference to the learning outcomes for the field of study</td></tr>
<tr><td>LO1</td><td colspan="6">Student knows innovative technologies related to obtaining therapeutic substances from forest raw materials.</td><td colspan="3">L2P_W04</td></tr>
<tr><td>LO2</td><td colspan="6">He can indicate the risks associated with the effects of side active compounds and is able to identify biologically active compounds in medicine.</td><td colspan="3">L2P_U05</td></tr>
<tr><td>LO3</td><td colspan="6">Student is able to obtain, interpret scientific data from various sources and prepare scientific studies and presentations on their basis.</td><td colspan="3">L2P_U11, L2P_U01</td></tr>
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LO4	Student can interact in a group and define priorities and work plans.	L2P_U13
Symbol of learning outcome	**Methods of assessing the learning outcomes**	**Type of tuition during which the outcome is assessed**
LO1	Written test	L
LO2	Evaluation of reports and presentations.	LC
LO3	Evaluation of reports and presentations.	LC
LO4	Evaluation of reports and presentations.	LC
Student workload (in hours)		**No. of hours**
Calculation	participation in lectures	15
	participation in the laboratory	15
	consultations	5
	preparation for the laboratory and reports	20
	preparation of presentations	5
	preparation for the written test	15
	Total:	75

Quantitative indicators	**Hours**	**No. of ECTS credits**
Student workload – activities that require direct teacher participation	35	1,4
Student workload – practical activities	40	1,6

Basic references	Traditional Herbal Remedies for Primary Health Care. World Health Organization, 2010, ISBN 978-92-9022-382-5 Koh Ling. A guide to medicinal plants. World Scientific Publishing, 2009, ISBN-13978-981-283-709-7 Medicinal mushrooms : recent progress in research and development. Singapore : Springer Nature, 2019. ISBN : 978-981-13-6381-8 Medicinal mushrooms [Elektronski vir] / Jure Pohleven, Tamara Korošec, Andrej Gregori ; [photography by Andrej Gregori ... [et al.] ; translated by Jure Pohleven]. - El. knjiga. - Podkoren : MycoMedica, 2016, ISBN 978-961-93889-1-4 (pdf) *Smith*, *J*., *Rowan*, N. and *Sullivan*, *R. 2002*. *Medicinal Mushrooms*: *Their therapeutic properties* and *current medical usage* with *special emphasis* on *cancer treatments*. University of Strathelyde, Glasgow,	
Supplementary references	Scientific articles on the therapeutic importance of mushrooms and the practical use of medical mushrooms (selection).	
Organisational unit conducting the course	Faculty of Civil Engineering and Environmental Sciences	**Date of issuing the programme**
Author of the programme	Ewa Zapora, PhD	07.04.2020

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work, S – seminar