1. COURSE DECRIPTION – GENERAL INFORMATION			
1.1. Course teacher	Assistant Professor Željka Vanić, PhD Associate Professor Mario Jug, PhD	1.6. Year of study	4th
1.2. Name of the course	**Prescription pharmacy**	1.7. Credit value (ECTS)	4,5
1.3. Associate teachers	Zora Palac, MPharm	1.8. Type of instruction (number of hours L+E+S+e-learning)	0+40+5
1.4. Study programme (undergraduate, graduate, integrated)	Integrated study of Pharmacy	1.9. Expected enrolment in the course	130
1.5. Status of the course	Compulsory	1.10. Level of use of e-learning (1, 2, 3 level), percentage of instruction in the course on line (20% maximum)	2nd
2. COURSE DESCRIPTION			
2.1. Course objectives	Students will gain expert knowledge and skills related to drug prescription, preparation of personal medicines, packaging, labelling and dosage control, while respecting the current legal framework, health policy and guidelines, and professional ethical principles in legal pharmacy and deontology. This course will provide bases for: Student practice II, Pharmaceutical care and Professional Training for Pharmacists.		
2.2. Enrolment requirements and required entry competences for the course	Enrolment: Drug formulation-completed lecturers and laboratory exercise Requirement for exam: Drug formulation-passed examination		
2.3. Learning outcomes at the level of the study programme to which the course contributes	• Professional skills in recognizing and avoiding of clinically significant prescription errors and interactions with pharmaceuticals in prescription pharmacy • Application of expert knowledge and skills in preparation of personal medicine by applying the rules of good laboratory and manufacturing practice, as well as relevant European and ISO directives. • Application of expert knowledge and skills to provide patient advice on proper administration of drugs.		

<table>
<tr><td>2.4. Expected learning outcomes at the level of the course (4-10 learning outcomes)</td><td colspan="6">After completing this course the student will be able to:
1. List and describe protocols of drug dispensing and relative legislation;
2. Analyse the validity of prescription drug order with respect to proper drug dosing and absence of pharmaceutical relevant interactions between formulation components and its harmonization with current legal framework, health policy and guidelines as well as relevant European and ISO directives;
3. Prepare a personal medicine, packed in a suitable container appropriately labelled by applying the rules of good laboratory and manufacturing practice, as well as to advice a patient regarding proper drug administration;
4. To list and describe basic principles regarding the drug dosing adjustment for patients of different age and pathology, as well as to prepare personal medicine from commercially available medicines.</td></tr>
<tr><td>2.5. Course content broken down in detail by weekly class schedule (syllabus)</td><td colspan="6">SEMINARS:
• Principles of managing pharmacy practise, prescription drug order, dispensing, dosing, legal framework
• Drug dosage forms in prescription pharmacy
• Calculation in prescription pharmacy
• Dosology
• Personal medicines, drug doses adjustment for patients of different age and pathology-preparation of personal medicines from commercially available medicines
LABORATORY EXERCISE:
• Powders
• Ointments
• Liquid oral dosage forms
• Admixtures and veterinary drug formulations
• Drops for ophthalmic, nasal, otic and oral application</td></tr>
<tr><td rowspan="2">2.6. Type of instruction</td><td colspan="2">lectures
<u>seminars</u> and workshops
<u>exercises</u>
online in entirety
mixed e-learning
field work</td><td colspan="3">independent study
multimedia and the internet
<u>laboratory</u>
work with the mentor
(other)</td><td>2.7. Comments:</td></tr>
<tr><td colspan="6"></td></tr>
<tr><td>2.8. Student responsibilities</td><td colspan="6">Regular seminar attendance and completed laboratory exercises</td></tr>
<tr><td rowspan="6">2.9. Screening of student’s work (specify the proportion of ECTS credits for each activity so that the total number of CTS credits is equal to the credit value of</td><td>Class attendance</td><td>0.5</td><td>Research</td><td></td><td>Practical training</td><td>3</td></tr>
<tr><td>Experimental work</td><td></td><td>Report</td><td></td><td></td><td></td></tr>
<tr><td>Essay</td><td></td><td>Seminar essay</td><td></td><td>(Other--describe)</td><td></td></tr>
<tr><td>Tests</td><td></td><td>Oral exam</td><td></td><td>(Other—describe)</td><td></td></tr>
<tr><td>Written exam</td><td>1</td><td>Project</td><td></td><td>(Other—describe)</td><td></td></tr>
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the course)						
2.10. Grading and evaluation of student work over the course of instruction and at a final exam	Monitoring and evaluation of experimental work and final test.					
2.11. Required literature (available at the library and via other media)	**Title**					
	R. Senjković, V. Petričić, M. Bećirević, Oblikovanje lijekova (praktikum), Liber, Zagreb, 1997.					
2.12. Optional literature	Bećirević Laćan, Mira; Begović-Dolinić, Vlasta; Buhač, Ines; Colnago, Franjka; Jurišić, Blaženka; Medić-Šarić, Marica; Nevečerel, Mirjana; Smolčić-Bubalo, Asja; Šušteršić, Tanja; Vrsalović, Mirjana**,** Formulae Magistrales Croaticae, Hrvatska ljekarnička komora, Zagreb, 2010.					
2.13. Methods of monitoring quality that ensure acquisition of exit competences	Assessment of learning outcomes during laboratory exercise (learning outcome 3) as well as written exam (learning outcomes 1-4); harmonization of teaching methodology with the obtained results.					