



Pharmacy - Integrated academic studies

FOURTH YEAR- Semester VII

2023/24 School Year

PHYTOTHERAPY

Name of the course:

PHYTOTHERAPY

ECTS credits - 6; No. of hours active teaching per week: 4 (Lectures-3, Practice-1)

Teachers and instructors:

	Name and surname	E-mail address	Academic rank
1.	Miroslav Sovrlić	sofke-ph@hotmail.com	Assistant professor
2.	Jovica Tomović	jovicatovic2011@gmail.com	Assistant professor
3.	Aleksandar Kočović	salekkg91@gmail.com	Assistant

Course structure:

Course contents	Weeks	Lectures	Practice	Course Coordinator
Rational phytotherapy; Pharmacologically active plant substances; Production, quality control, efficacy and safety of herbal medicinal products; European monographs; Pharmacological evaluation of natural products for some therapeutic areas; Aromatherapy and apitherapy.	15	3	1	Asst. Prof. Miroslav Sovrlić

Students' knowledge assessment:

Students' knowledge assessment goes on during the whole semester and it includes points gained for completing practice work and progress tests as well as for the final written exam. The points can be gained according to the following model:

Points	
Pre-exam requirements	60 points
Taking progress tests	30 points
Doing practice work	30 points
Exam requirements	40 points
Written examination	40 points

In order to pass the exam, the student must achieve more than 50 percent of the points in all forms of teaching.

Grades:

The student gains a final grade which describes the quality of his knowledge and the results achieved in the course. The interrelation between points and final grades is given in the following table:

Num. achieved points	Num. grade	Definition
0 – 50	5	UNSATISFACTORY
51 – 60	6	PASS
61 – 70	7	SATISFACTORY
71 – 80	8	GOOD
81 – 90	9	VERY GOOD
91 – 100	10	EXCELLENT

LITERATURE:

Textbook	Authors	Publisher	Availability in the library
Fundamentals of Pharmacognosy and Phytotherapy, 3rd Edition	Heinrich M, Barnes J, Prieto-Garcia J, Gibbons S, Williamson E.	Elsevier Science. 2018.	YES
Herbal medicine. 3rd Edition	Barnes J, L Anderson, Phillipson D.	London: Pharmaceutical Press. 2007.	YES
Stockley's Herbal Medicines Interactions: A Guide to the Interactions of Herbal Medicines, 2nd Edition	Williamson E, Driver S, Baxter K.	Macmillan Distribution. 2013.	YES
Handbook of Drug-Nutrient Interactions	Boullata J, Armenti V.	Humana Press. 2010	YES

All lectures (PowerPoint presentations) are available on the website of the Faculty of Medical Science: www.medf.kg.ac.rs

PROGRAM

UNIT I (FIRST WEEK):

Lectures (3 classes)	Practice (1 classes)
Introduction to phytotherapy. Herbal medicinal products. Rational phytotherapy.	Botanical classification, identification, collection, and storage of medicinal plants.

UNIT II (SECOND WEEK):

Lectures (3 classes)	Practice (1 classes)
Phytochemicals and their pharmacology actions.	Herbal extraction methods. Herbal formulations.

UNIT III (THIRD WEEK):

Lectures (3 classes)	Practice (1 classes)
Production, quality control, efficacy and safety of herbal medicinal products.	European monographs.

UNIT IV (FOURTH WEEK):

Lectures (3 classes)	Practice (1 classes)
Herbal medicinal products for diseases of the cardiovascular system.	Formulations and monographs of plants used in the treatment of cardiovascular diseases.

UNIT V (FIFTH WEEK):

Lectures (3 classes)	Practice (1 classes)
Herbal medicinal products for central nervous system disorders.	Formulations and monographs of plants used in the treatment of CNS disorders.

UNIT VI (SIXTH WEEK):

Lectures (3 classes)	Practice (1 classes)
Herbal medicinal products for gynecological and urinary system conditions.	Formulations and monographs of plants used in the treatment of urogenital diseases.

UNIT VII (SEVENTH WEEK):

Lectures (3 classes)	Practice (1 classes)
Herbal medicinal products for diseases of the respiratory system.	Formulations and monographs of plants used in the treatment of respiratory diseases.

UNIT VIII (EIGHT WEEK):

Lectures (3 classes)	Practice (1 classes)
Herbal medicinal products for digestive system disorders.	Formulations and monographs of plants used in the treatment of digestive system disorders.

UNIT IX (NINTH WEEK):

Lectures (3 classes)
Herbal medicinal products for improving metabolism
and products with hormonal action.

Practice (1 classes)
Discuss evidence-based herbal
medicines used for weight loss.

UNIT X (TENTH WEEK):

Lectures (3 classes)
Herbal medicinal products for
musculoskeletal system and skin
conditions.

Practice (1 classes)
Formulations and monographs of plants used in the
treatment of arthritis, osteoporosis, back pain, and wound
healing.

UNIT XI (ELEVENTH WEEK):

Lectures (3 classes)
Antimicrobial and antioxidant
natural drugs.

Practice (1 classes)
Tests for antioxidant and antimicrobial activity and their relevance
to herbal medicinal products.

UNIT XII (TWELFTH WEEK):

Lectures (3 classes)
Immunomodulatory and anticancer herbal
medicinal products.

Practice (1 classes)
Discuss evidence-based herbal medicines used for
herbal anticancer drugs.

UNIT XIII (THIRTEENTH WEEK):

Lectures (3 classes)
Herb-drug interactions, contraindications,
toxicity, and side effects.

Practice (1 classes)
Digital tools and resources of clinically significant
interactions between herbal medicines and drugs.

UNIT XIV (FOURTEENTH WEEK):

Lectures (3 classes)
Aromatherapy and apitherapy.

Practice (1 classes)
Bee products and essential oils in pharmacy.

UNIT XV (FIFTEENTH WEEK):

Lectures (3 classes)
Course review

Practice (1 classes)
Course review

LESSON SCHEDULE FOR THE COURSE FUNDAMENTALS OF PHYSICAL CHEMISTRY

week	date	time	Location	form	course unit title	teacher
1				L	Introduction to phytotherapy. Herbal medicinal products. Rational phytotherapy.	Asst. Prof. Miroslav Sovrlić
				P	Botanical classification, identification, collection, and storage of medicinal plants.	Asst. Prof. Miroslav Sovrlić Asst. Aleksandar Kočović
2				L	Phytochemicals and their pharmacology actions.	Asst. Prof. Miroslav Sovrlić
				P	Herbal extraction methods. Herbal formulations.	Asst. Prof. Miroslav Sovrlić Asst. Aleksandar Kočović
3				L	Production, quality control, efficacy, and safety of herbal medicinal products.	Asst. Prof. Miroslav Sovrlić
				P	European monographs.	Asst. Prof. Miroslav Sovrlić Asst. Aleksandar Kočović
4				L	Herbal medicinal products for diseases of the cardiovascular system.	Asst. Prof. Miroslav Sovrlić
				P	Formulations and monographs of plants used in the treatment of cardiovascular diseases.	Asst. Prof. Miroslav Sovrlić Asst. Aleksandar Kočović
5				L	Herbal medicinal products for central nervous system disorders.	Asst. Prof. Miroslav Sovrlić
				P	Formulations and monographs of plants used in the treatment of CNS disorders.	Asst. Prof. Miroslav Sovrlić Asst. Aleksandar Kočović

LESSON SCHEDULE FOR THE COURSE FUNDAMENTALS OF PHYSICAL CHEMISTRY

week	date	time	Location	form	course unit title	teacher
6				L	Herbal medicinal products for gynecological and urinary system conditions.	Asst. Prof. Miroslav Sovrlić
				P	Formulations and monographs of plants used in the treatment of urogenital diseases.	Asst. Prof. Miroslav Sovrlić Asst. Aleksandar Kočović
7				L	Herbal medicinal products for diseases of the respiratory system.	Asst. Prof. Miroslav Sovrlić
				P	Formulations and monographs of plants used in the treatment of respiratory diseases.	Asst. Prof. Miroslav Sovrlić Asst. Aleksandar Kočović
PROGRESS TEST 1						
8				L	Herbal medicinal products for digestive system disorders.	Asst. Prof. Miroslav Sovrlić
				P	Formulations and monographs of plants used in the treatment of digestive system disorders.	Asst. Prof. Miroslav Sovrlić Asst. Aleksandar Kočović
9				L	Herbal medicinal products for improving metabolism and products with hormonal action.	Asst. Prof. Miroslav Sovrlić

LESSON SCHEDULE FOR THE COURSE FUNDAMENTALS OF PHYSICAL CHEMISTRY

week	date	time	Location	form	course unit title	teacher
				P	Discuss evidence-based herbal medicines used for weight loss.	Asst. Prof. Miroslav Sovrlić Asst. Aleksandar Kočović
10				L	Herbal medicinal products for musculoskeletal system and skin conditions.	Asst. Prof. Jovica Tomović
				P	Formulations and monographs of plants used in the treatment of arthritis, osteoporosis, back pain, and wound healing.	Asst. Prof. Jovica Tomović Asst. Aleksandar Kočović
11				L	Antimicrobial and antioxidant natural drugs.	Asst. Prof. Jovica Tomović
				P	Tests for antioxidant and antimicrobial activity and their relevance to herbal medicinal products.	Asst. Prof. Jovica Tomović Asst. Aleksandar Kočović
12				L	Immunomodulatory and anticancer herbal medicinal products.	Asst. Prof. Jovica Tomović
				P	Discuss evidence-based herbal medicines used for herbal anticancer drugs.	Asst. Prof. Jovica Tomović Asst. Aleksandar Kočović
13				L	Herb-drug interactions, contraindications, toxicity, and side effects.	Asst. Prof. Jovica Tomović

LESSON SCHEDULE FOR THE COURSE FUNDAMENTALS OF PHYSICAL CHEMISTRY

week	date	time	Location	form	course unit title	teacher
				P	Digital tools and resources of clinically significant interactions between herbal medicines and drugs	Asst. Prof. Jovica Tomović Asst. Aleksandar Kočović
14				L	Aromatherapy and apitherapy.	Asst. Prof. Jovica Tomović
				P	Bee products and essential oils in pharmacy.	Asst. Prof. Jovica Tomović Asst. Aleksandar Kočović
15				L	Course review	Asst. Prof. Miroslav Sovrlić Asst. Prof. Jovica Tomović Asst. Aleksandar Kočović
				P		
PROGRESS TEST 2						
EXAM (January examination deadline)						