Study program: Integrated academic studies of Pharmacy

Type and level of the study program: integrated academic studies

Course title: APPLICATION OF INSTRUMENTAL METHODS (PhIII-APINM)

Teacher: Jelena M. Cvejić Hogervorst, Milica T. Atanacković Krstonošić, Mira P. Mikulić

Course status: elective

ECTS Credits: 3

Condition: Instrumental pharmaceutical analysis

Course aim

The main objective of this course is to introduce students to the possibilities of using different instrumental methods in pharmacy and other related fields. Primarily, application of chromatographic and spectroscopic methods is studied. Also, the goal is to analyze numerous practical examples in order to point out the specific application of certain techniques and the selection of suitable methods for solving analytical problems.

Expected outcome of the course:

It is necessary that student learn about application and choice of analytical methods - their purpose, advantages and limitations.
Practical application of learned skills in order to resolve real problems connected with the choice of the best method to analyse samples.

Course description

Theoretical education

1. Basic principles of instrumental methods
2. The choice of instrumental techniques according to the type of analysis
3. Advantages and limitations of certain methods
4. Examples of the application of spectroscopic methods
5. Examples of application of chromatographic methods

Practical education: exercises, other forms of education, research related activities

1. Application of instrumental methods in pharmacy
2. Applications instrumental methods in medicine
3. Applications instrumental methods in food analysis
4. Applications instrumental methods of analysis of cosmetic products

Literature

Compulsory

1. Rouessac F, Rouessac A. Chemical analysis, modern instrumentation methods and techniques, 2nd ed. England: John Wiley & Sons, 2007.

Additional

1. Gratzfeld-Husgen A, Schuster R. HPLC for food analysis. Germany: Agilent technologies, 2001.
2. Pungor E. A practical guide to instrumental analysis. CRC press; 1995.

Number of active classes				Other:
Lectures: 30	Practice: 15	Other types of teaching:	Research related activities:	

Teaching methods: lectures, laboratory work.

Student activity assessment (maximally 100 points)

Pre-exam activities	**points**	**Final exam**	**points**
Lectures	10	Written	70
Practices	20	Oral	
Colloquium		.....	
Essay			