Study program: Integrated Academic Studies in Pharmacy

Course title: NMR Methods

Teacher: Mihalj M. Poša, Ana S. Pilipović, Zita J. Farkaš Agatić, Kosta J. Popović

Course status: elective

ECTS Credits: 3

Condition: Organic chemistry 2; Physical Chemistry

Course aim

Introduce students to the principles of NMR methods. The application of NMR methods to solve the structure of organic molecules. Dynamic kinetic NMR monitoring process. The use of the NMR method of determining the interaction between the drug and the receptor.

Expected outcome of the course:

Introduce students to the physical and chemical processes of obtaining NMR signal and spectrum. Interpretation of NMR spectra. Students will be able to solve the structure of organic molecules on the basis of NMR spectra

Course description

Theoretical education

1. Magnetic moment nucleus
2. Energy nuclei in a magnetic field
3. Chemical shift
4. Coupling
5. Pulse techniques
6. The resultant magnetic moment vector
   spectral width and speed of the physical and chemical processes
7. Overhauser effect
8. 2D NMR

Practical education

Interpreting the NMR spectrum, solving the structures

Literature

Compulsory

1. Hore J. Nuclear magnetic resonance. Oxford University Press, 1955.

Number of active classes	**Theory:** 30	**Practice:** 15

Teaching methods: lectures, practice

Student activity assessment (maximally 100 points)

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