UNIVERSITY OF NOVI SAD
FACULTY OF MEDICINE

Study program: Integrated Academic Studies in Pharmacy

Course title: Stereochemistry

Teacher: Mihalj M. Poša, Ana S. Pilipović

Course status: elective

ECTS Credits: 3

Condition: Organic Chemistry I

Course aim

Stereochemistry application in complex biomolecules

Expected outcome of the course:

Introducing students to the stereochemistry of simple organic molecules in order to be able to apply knowledge of organic compounds that have pharmacological significance.
Mastering the skills of working with molecular models to help understand space occupied by the selected classes of organic molecules.

Course description

Theoretical education

1. Elements of symmetry
2. Symmetry operations
3. Group theory
4. Discrete mathematics of symmetry operations
5. Quantum chemistry and molecular symmetry
6. The conformational analysis
7. Stereochemistry of biomolecules: steroid compounds, sugars, proteins, etc.
8. Pharmacophore
9. Isostere and bioisostere
10. Construction of pharmacophore approach of active analogues

Practical education

1. Working with molecular models
2. Application of computer software to solve stereochemical problems

Literature

Compulsory

1. Organic chemistry, Paula Yurnakis Bruce, Prentice Hall, 2004.

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

Teaching methods

Lecture, practice

Student activity assessment (maximally 100 points)

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