Course code	**MK104**		
Course title	**USE OF LIGHT IN MEDICINAL CHEMISTRY**		
General information			
Study programme	Graduate study „Drug research and development“, Graduate study „Medical chemistry“	Academic year	
Lecturer	Doc. Dr. Sc. Nela Malatesti		
Status	**Required**	Elective	
ECTS system			**3**
Comments:			
Course objectives			
Acquiring the basic knowledge on photochemistry and photophysics applied for medicinal chemistry and pharmacy.			
Course description			
- Principles of photochemistry and photophysics (absorption of electromagnetic radiation, electronic transitions, excited states, radiation and radiationless deactivation processes, Jablonski diagram, quantum yields). - Energy transfer and complexes in the excited states, theory and applications (sensitization, htquenching, excimers, exciplexes, electron transfer). - Experimental methods in photochemistry and photophysics applied to medicinal chemistry (absorption and emission spectroscopy, time resolved spectroscopy,) - Photochemical reactions of the most important chromophores (alkenes and polyenes, carbonyl compounds, nitrogen contanining chromophores, aromatic compounds). Photochemical reactions with oxygen and photodynamic therapy -The photochemical reactions will be elaborated on the examples of the photochemical transformations of drugs.			
Learning outcomes			
After the course the students will be acquainted with the principles of photochemistry and photophysics and will be competent in applying the acquired knowledge in spectroscopic methods used in biochemistry, synthesis design and study of the photochemical stability of drugs.			