

<b>Course title</b> Wykład monograficzny - Wprowadzenie do fotochemii/ Monographic lecture - Introduction into photochemistry		<b>ECTS code</b> 13.3.0401	
<b>Name of unit administrating study</b> Faculty of Chemistry			
<b>Studies</b>			
<b>Field of study</b>	<b>Type</b>	<b>Form</b>	
Chemistry	Master	Full-time studies	
<b>Teaching staff</b> Prof. dr hab. Janusz Rak			
<b>Forms of classes, the realization and number of hours</b>		<b>ECTS credits</b>	
<b>A. Forms of classes, in accordance with the UG Rector's regulations</b> lecture		classes 30 h tutorial classes 10 h student's own work 35 h. TOTAL: 75 h - 3 ECTS	
<b>B. The realization of activities</b> In-class learning			
<b>Number of hours</b> lecture 30 h			
<b>The academic cycle</b> 2020/2021 winter semester			
<b>Type of course</b> obligatory		<b>Language of instruction</b> Polish	
<b>Teaching methods</b> Lecture with multimedial presentation		<b>Form and method of assessment and basic criteria for evaluation or examination requirements</b>	
		<b>A. Final evaluation, in accordance with the UG study regulations</b> Course completion (with a grade)	
		<b>B. Assessment methods</b> written test	
		<b>C. The basic criteria for evaluation or exam requirements</b>  Passing with no less than 51% of the maximum score. Students who do not reach the required threshold take an oral examination.	
<b>Required courses and introductory requirements</b> <b>a. Formal requirements</b> , spectrochemistry <b>b. Prerequisites</b>  ability to describe chemical reaction in the context of thermodynamics and kinetics, knowledge on the basics of molecular spectroscopy.			
<b>Aims of education</b> Familiarization of students with basic concepts and laws of photochemistry; developing ability to describe photochemical processes and reactions and to judgement the possibility of their use in practice.			
<b>Course contents</b>  interactions between electromagnetic radiation and matter, basic terms and photochemistry laws, excited states of molecules, Jablonski diagram, the radiation and radiation-less deactivation processes of the excited state, solvent effects, radiation-less inter-molecular energy transfer, kinetics of photochemical reactions,			

basic types of photochemical reactions, photochemistry of nucleic acids and proteins, process of vision, photosynthesis, equipment and methods in photochemical studies.

#### **Bibliography of literature**

##### **A. Literature required to pass the course**

S. Paszyc, „Podstawy fotochemii”, PWN, Warszawa, 1981.

J. P. Simons, „Fotochemia i spektroskopia”, PWN, Warszawa, 1976.

J. A. Barltrop, J. D. Coyle, „Fotochemia. Podstawy”, PWN, Warszawa, 1987

P. Suppan, „Chemia i Światło”, PWN, Warszawa, 1997.

##### **B. Extracurricular readings**

K. Pigoń, Z. Ruziewicz, „Chemia Fizyczna. Fizykochemia molekularna”, PWN, Warszawa, 2005

#### **Knowledge**

##### **A student:**

- has knowledge on concepts, rules and theories functioning in photochemistry,
- explains the radiation and radiation-less process of excited state deactivation,
- characterizes electron and energy transfer processes in the excited states,
- identifies basic photochemical reactions,
- mentions photochemical processes in proteins and nucleic acids.

#### **Social competence**

##### **A student:**

- can work independently,
- keeps caution and criticism in expressing opinions.