Karta przedmiotu / Course description

Informacje ogólne o przedmiocie / General information about the course	
1. Kierunek studiów / Major of study: MEDICAL BIOTECHNOLOGY	**2. Poziom kształcenia / Study level:** I **3. Forma studiów / Form of study: stationary**
4. Rok / Year:	**5. Semestr / Semester: winter/summer**
6. Nazwa przedmiotu / Course name: „MODERN ANALYSIS OF ORGANIC COMPOUNDS”	
7. Status przedmiotu / Course status: FACULTY	
8. Jednostka realizująca przedmiot, adres, e-mail: **Name of Department, mailing address, e-mail: Department of Organic Chemistry,** **chemorg@sum.edu.pl**	
9. Treści programowe przedmiotu Course contents: The aim of the course is to show students the latest spectroscopic techniques for the structural analysis of biologically active substances that are both therapeutic and criminogenic compounds. Students are introduced to the physical basics of the phenomena: nuclear magnetic resonance, mass spectrometry, infrared analysis, x-ray structure analysis and chiroptical methods, as well as their applicability in the analysis of organic compounds.	
10. liczba godzin z przedmiotu / Number of hours for the course	**30**
11. liczba punktów ECTS dla przedmiotu / Number of ECTS points for the course	**3**
12. Formy i tematy zajęć / Forms and topics of classes	**Liczba godzin** **Number of hours**
12.1. Lectures	**10**
1. Introduction to the organic chemistry laboratory	**2**
2. Separation technique of organic compounds	**2**
3. Modern technique of analysis of organic compounds: NMR	**2**
4. Modern technique of analysis of organic compounds: MS and IR	**2**
5. Modern technique of analysis of organic compounds: X-ray, chiroptical methods	
12.2 Laboratory classes	**20**
1. Synthesis of selected organic compounds, its separation and characterization.	**5**
2. Structure analysis using nuclear magnetic resonance	**5**
3. Structure analysis using mass spectrometry and infrared spectroscopy	**5**
4. Total analysis of unknown organic compounds using NMR, MS and IR spectroscopy.	**5**
13. Literatura / Readings P. M. Dewick. Essentials of organic chemistry. J. Wiley& Sons. England 2006 R. M. Silverstein, F. X. Webster, D. J. Kiemle. Spectroscopic methods for the identification of organic compounds. PWN, Warsaw, 2007.	
14. Kryteria oceny – szczegóły / Detail evaluation criteria Zgodnie z zaleceniami organów kontrolujących / In accordance with the recommendations of the inspection bodies Zaliczenie przedmiotu - student osiągnął zakładane efekty uczenia się / Completion of the course – student has achieved the assumed learning outcomes Szczegółowe kryteria zaliczenia i oceny z przedmiotu są zamieszczone w regulaminie przedmiotu / Detail criteria for completion and evaluation of the course are specified in the course regulations	