

## Course description

General information about the course	
<b>1. Major of study:</b> Biotechnology/Medicinal biotechnology	<b>2. Study level:</b> 1st degree
	<b>3. Form of study:</b> stationary
<b>4. Year:</b> II	<b>5. Semester:</b> IV
<b>6. Course name:</b> An introduction to pharmaceutical biotechnology	
<b>7. Course status:</b> mandatory	
<b>8. Name of Department, mailing address, e-mail:</b> Department of Pharmaceutical Chemistry, Jagiellońska 4, 41-200 Sosnowiec, Poland, chemlek@sum.edu.pl	
<b>9. Course contents:</b> The aim of the course is to familiarize students with: the systematic and mechanism of action of drugs, as well as with basic information in the field of pharmaceutical biotechnology. In addition, the aim of the course is to develop the ability to apply classical and instrumental analytical methods in the qualitative and quantitative analysis of medicinal substances.	
<b>10. Number of hours for the course</b>	<b>30</b>
<b>11. Number of ECTS points for the course</b>	<b>2</b>
<b>12. Forms and topics of classes</b>  <b>12.1. Seminars</b> - Fundamental principles of pharmaceutical chemistry - Fundamentals of drug development and regulation - Systematic of biotechnologically derived drug products - Biosimilars  <b>12.2. Laboratory classes</b> - Qualitative analysis of selected drugs. - Quantitative analysis of pharmaceutical substances using various methods, e.g. spectrophotometry, bromometric, iodometric titration, complexometry.	<b>Number of hours</b>  <b>10</b>         <b>20</b>
<b>13. Readings</b> <ul style="list-style-type: none"> <li>• Daan J. A. Crommelin, Robert D. Sindelar, Bernd Meibohm. Pharmaceutical Biotechnology. Fundamentals and Applications. Fourth Edition. Springer, 2013</li> <li>• Graham L. Patrick. An Introduction to Medicinal Chemistry. Fifth Edition. Oxford University Press, 2013</li> <li>• David E. Golan, Ehrin J. Armstrong, April W. Armstrong. Principles of Pharmacology: The Pathophysiologic Basis of Drug Therapy. Fourth Edition. Wolters Kluwer, 2017</li> <li>• Scientific articles</li> </ul>	
<b>14. Detail evaluation criteria</b> In accordance with the recommendations of the inspection bodies Completion of the course – student has achieved the assumed learning outcomes Detail criteria for completion and evaluation of the course are specified in the course regulations	