

## 。 GDAŃSK UNIVERSITY OF TECHNOLOGY

## Subject card

Erelied of study   Chemistry     Date of commencement of studies   February 2025   Academic year of realisation of subject   2025/2026     Education level   second-cycle studies   Subject group   Optional subject group   Optional subject group     Mode of study   Full-time studies   Mode of delivery   at the university     Year of study   1   Language of instruction   Polish     Semester of study   2   ECTS credits   3.0     Learning profile   general academic profile   Assessment form   essessment     Conducting unit   Department of Pharmacoutical Technology and Biochemistry -> Faculty of Chemistry     Name and sumame of lecturer (lecturers)   Teachers   Tutorial   Laboratory   Project   Seminar   SUM     Learning activity and number of study hours   Learning activity   30.0   0.0   0.0   15.0   45     Subject objectives   The aim of the subject is to familiarize the student with the basic issues of antimicrobial drugs chemistry plan   Suff.   <	Subject name and code	CHEMISTRY OF ANTIBIOTICS AND VIDAMINUS, PG_00038904							
Date of commencement of studies   February 2025   Academic year of realisation of subject   2025/2026     Education level   second-cycle studies   Subject group   Optional subject group     Mode of study   1   Language of instruction   Pelish     Semester of study   2   ECTS credits   3.0     Learning profile   general academic profile   Assessment form   assessment     Conducting unit   Department of Pharmaceutical Technology and Biochemistry > Faculty of Chemistry   Subject supervisor   of instruction     Of lecturer (locurers)   Lesson type   Lecture   Tutorial   Laboratory   Project   Saminar     Learning activity and number of study hours   Learning activity   Participation in didactic plases included in study   Participation in consultation hours   Self-study   SUM     Subject objectives   The aim of the subject is familiarize the student with the basic issues of antimicrobial drugs the specific groups. The student is able to drivide antimicrobial drugs into specific groups. The student shores in groups and shift to praine the student of study is the top ducker is able to drivide antimicrobial drugs. The student shores in specific activity. The student shores in groups and shift to praine the student of shift to reagain the mainer of shibity to reagain the mains of action in the human body									
Education level   second-cycle studies   Subject group   Optional subject group     Mode of study   Full-time studies   Mode of delivery   at the university     Year of study   1   Language of instruction   Polish     Semester of study   2   ECTS credits   3.0     Learning profile   general academic profile   Assessment form   assessment     Conducting unit   Department of Pharmaceutical Technology and Biochemistry ~> Faculty of Chemistry   Techners     Lesson types and methods   Lesson type   Lecture   Tutorial   Laboratory   Project   Seminar   SUM     I clarrer (locturers)   Learning activity   Participation in didactic   Participation in consultation hours   Setf-study   SUM     I clarring activity   Participation in didactic   Participation in subject is used of antimicrobial drugs chemistry   Learning outcome   Subject outcome   Subject outcome   Subject outcome   Subject outcome     K7_U01   The student is able to divide in antimicrobial drugs in specific progenize chemical structes of antimicrobial drugs. Anticater is able to orisen antimicrobial drugs. Anticater is able to orisen antimicrobial drugs. Anticater is able to present antichenisties of antimi	Date of commencement of	February 2025					2025/2026		
Mode of study   Full-time studies   Mode of delivery   at the university     Year of study   1   Language of instruction   Polish     Semester of study   2   ECTS credits   3.0     Learning profile   general academic profile   Assessment form   assessment     Conducting unit   Department of Pharmaceutical Technology and Biochemistry > Faculty of Chemistry   Technistry     Name and surmame   Subject supervisor   dr in2. Andrzej Skwarecki   Technistry     Lesson types and methods of instruction   Lesson type   Lecture   Tutorial   Laboratory   Project   Seminar   SUM     Learning activity and number of study hours   Learning activity   Participation in didactic groups. The student number hours included in sudy plan   Sol   25.0   75     Subject objectives   The aim of the subject is to familiarize the student with the basic issues of antimicrobial drugs chemistry in the student is able to divide antimicrobial drugs. Inspection of analyse information in alloy analyse information     Learning outcomes   Course outcome   Subject outcome   Method of verification in the student is able to divide antimicrobial drugs. Inspection analyse information in alloy as antinincrobial drugs. Inspection analyse information in alloy as antio				,			Ontional subject group		
Index of values   Index of values   Polish     Semester of study   1   Language of instruction   Polish     Semester of study   2   ECTS credits   3.0     Conducting unit   Department of Pharmaceutical Technology and Biochemistry -> Faculty of Chemistry   Assessment     Mame and surname of lecturer (lecturers)   Subject supervisor   dr in2. Andrzej Siwarecki   Seminar     Leason type and methods   Lesson type include: 0.0   0.0   0.0   15.0   45     Learning activity and number of study hours   Learning activity   Participation in didactic classes included in study   Participation in consultation hours   Self-study   SUM     Subject objectives   The aim of the subject is to familiarize the student with the basic issues of antimicrobial drugs. The subject is able to recognize chemical structers of antimicrobial drugs. The student is able to divide antimicrobial drugs. The student is able to divide antimicrobial drugs. The student is able to divide antimicrobial drugs. The student is able to familiarize the student knows the basic biochemical processes occurs   [SVI2] Assessment of faculal knowledge of organic chemistry     K7_K01   The student knows the basic biochemical processes occurs   [SVI2] Assessment of faculal knowledge of organic chemistry     Subject contents   Antibacterial drugs. Ant		-							
Loss of order   Longuage of inducedual     Semester of study   2   ECTS credits   3.0     Learning profile   general academic profile   Assessment form   assessment     Conducting unit   Department of Pharmaceutical Technology and Biochemistry -> Faculty of Chemistry     Name and surname of fecturer (lecturers)   Teachers     Lesson types and methods of instruction   Lesson type   Lecture   Tutorial   Laboratory   Project   Seminar   SUM     Learning activity and number of study hours   Learning activity   Learning activity   Summer of study hours   Participation in didactic classes included in study classes included in study plan   Self-study   SUM     Number of study hours   Course outcome   Subject objectives   The aim of the subject is to familiarize the student with the basic issues of antimicrobial drugs includers of antincrobial drugs includers of antincrobial drugs includers							-		
Consistence of construction   Construction   Construction   assessment     Learning profile   general academic profile   Assessment form   assessment     Conducting unit   Department of Pharmaceutical Technology and Blochemistry -> Faculty of Chemistry     Name and surname of lecturer (lecturers)   Teachers   Image: Construction   Subject supervisor   dr int2. Andrzej Skwarecki     Lesson types and methods of instruction   Lesson type   Lecture   Tutorial   Laboratory   Project   Seminar   SUM     Learning activity and number of study hours   Learning activity   Learning activity   SUM   Elearning hours included: 0.0     Learning outcomes   Learning outcomes   Learning activity   Subject objectives   The aim of the subject is to familiarize the student with the basic issues of antimicrobial drugs chemistry     Learning outcomes   Course outcome   Subject outcome   Method of verification in crossing in the subject student orks in groups and able to divide antimicrobial drugs, the student is able to divide antimicrobial drugs. Antibuter al drugs, the student is able to present antimicrobial drugs mechanisms of action in the student knows the ma		2							
Conducting unit   Department of Pharmaceutical Technology and Biochemistry → Faculty of Chemistry     Name and sumame of lecturer (lecturers)   Subject supervisor   dr in2. Andrzej Skwarecki     Lesson types and methods   Lesson type   Lecture   Tutorial   Laboratory   Project   Seminar   SUM     I construction   Number of study   30.0   0.0   0.0   15.0   45     Learning activity and number of study hours   Learning activity   Participation in didactic classes included in study plan   Self-study   SUM     Number of study hours   Learning activity   Participation in didactic classes included in study plan   Self-study   SUM     Number of study hours   Learning outcomes   Course outcome   Subject outcome   Method of verification     K7_U01   The student is able to divid antimerobial drugs. The student is able to present antimicrobial structers of artimicrobial drugs. The student is able to present antimicrobial drugs. Subject outcome   Method of verification     K7_V02   The student knows the basic biochemical processe occurring in the human body and has basic knowledge of organic chemistry.   SWI Assessment of knowledge     Subject contents   Antibacterial drugs. Antifungal drugs. Antiprotozoal drugs. Antiprastic drugs.	•								
Subject supervisor   dr inz. Andrzej Skwarecki     of lecturer (lecturers)   Teachers     Lesson types and methods   Lesson type     Lesson types and methods   Lesson type     Isson types and methods   Lesson type     Lesson types and methods   Lesson type     Isson types and methods   Lesson type     Isson type   Lecture     Number of study hours   Participation in didactic classes included in study plan     Learning activity and number of study hours   Learning activity     Learning outcomes   Course outcome     Curse outcome   Subject outcome     K7_U01   The student with the basic issues of antimicrobial drugs into specific groups. The student is able to drivide antimicrobial drugs into specific groups. The student is able to a drive antimicrobial drugs into specific groups. The student is able to a drive antimicrobial drugs into specific groups. The student is able to a drive antimicrobial drugs into specific groups. The student is able to a drive antimicrobial drugs into specific groups. The student nows the basic (SU2] Assessment of ablity to antimicrobial drugs. Antifungel drugs. Antitbolic.     K7_W02   <									
of lecturer (lecturers)   Teachers     Lesson types and methods of instruction   Lesson type   Lecture   Tutorial   Laboratory   Project   Seminar   SUM     Learning activity and number of study hours   Learning activity   Participation in didactic classes included in study plan   Participation in consultation hours   Self-study   SUM     Learning activity and number of study hours   Learning activity   Participation in didactic classes included in study plan   Participation in consultation hours   Self-study   SUM     Number of study hours   Learning activity   Participation in didactic classes included in study plan   Participation in consultation hours   Self-study   SUM     Learning outcomes   Course outcome   The student is able to divide antimicrobial rugs into specific groups. The student is able to divide antimicrobial rugs. The student able to present antimicrobial drugs mechanisms of action groups. The student is able to in the human hours in groups and solves given problems of antibiotic.   [Sk1] Assessment of snowledge contained in presentation     K7_W02   Antibacterial drugs. Antifungal drugs. Antiprocoal drugs. Antipartocoal drugs. Antipartocaal grugs. Antiparto									
Lesson types and methods of instruction   Lesson type Number of study hours   Lecture 30.0   Tutorial 0.0   Leboratory 0.0   Project 0.0   Seminar 15.0   SUM 45     Learning activity and number of study hours   Learning nours included: 0.0   Participation in didactic. plan   Participation in didactic.   Participation in consultation hours   Self-study   SUM     Number of study hours   Learning outcomes   Learning outcomes   Self-study   SUM     Learning outcomes   The aim of the subject is to familiarize the student with the basic issues of antimicrobial drugs into specific groups. The student is able to divide antimicrobial drugs into specific groups. The student with the basic issues of antimicrobial drugs into specific groups. The student with in groups and solves given problems of antibiotic chemistry   [SU5] Assessment of ability to analyse information analyse information analyse information solves given problems of antibiotic chemistry     Subject contents   Antibacterial drugs. Antifungal drugs. Antiprotozeal drugs. Antiparasitic drugs. Antiviral drugs. Antibacterial drugs and co-requisites   Subject passing ortleria analyse information shills   SW1 Assessment of factual knowledge     Subject contents   Antibacterial drugs. Antifungal drugs. Antiprotozeal drugs. Antiparasitic drugs. Antiviral drugs. Anticancer antibiotics. Sources of lead compounds. Optimization of lead compounds. Nowledge   Sw1 Assessment of factual knowledge     Subject c									
of instruction Number of study hours 30.0 0.0 0.0 0.0 15.0 45   Learning activity and number of study hours Learning activity Participation in didactic classes included in study plan Participation in consultation hours Self-study SUM   Subject objectives The aim of the subject is to familiarize the student with the basic issues of antimicrobial drugs chemistry Subject outcome Method of verification   Learning outcomes Course outcome Subject outcome Method of verification   K7_U01 The student is able to divide antimicrobial drugs into specific groups. The student is able to present the results of task (SUB) Assessment of ability to antimicrobial drugs mechanisms of action SUM (SUB) Assessment of ability to antimicrobial drugs into specific groups. The student knows the basic blochemical processes occurring in the human body and has basic. SWI Assessment of group work skills   K7_K01 The student knows the main groups of antimicrobial drugs. Antiprotozoal drugs. Antiprotozoal drugs. Antiprate antibiotics. Sources of lead compounds. Optimization of lead compounds. SWI Assessment of factual knowledge   Subject contents Antibacterial drugs. Antifungal drugs. Antiprotozoal drugs. Antiprate drugs. Antiviral drugs. Anticancer antibiotics. Sources of lead compounds. Optimization of lead compounds. SWI Assessment of facual knowledge   Prerequisites and correquisites Subject passing criteri				Tutorial Laboratory Project			t	Seminar	SUM
Learning activity and number of study hours   Learning activity plan   Participation in consultation hours   Self-study   SUM     Number of study hours   45   5.0   25.0   75     Subject objectives   The aim of the subject is to familiarize the student with the basic issues of antimicrobial drugs chemistry   Subject outcome   Method of verification     Learning outcomes   Course outcome   Subject outcome   Method of verification     K7_U01   The student is able to divide antimicrobial drugs intervents   [SU3] Assessment of ability to present the results of task groups. The student is able to to recognize chemical struters of autigroup or problems of antibiotic chemistry   [SK1] Assessment of group work skills     K7_K01   The student knows the basic biochemical processes occurring in the human body and has basic knowledge of organic chemistry   [SW2] Assessment of factual knowledge     Subject contents   Antibacterial drugs. Antifungal drugs. Antifungal drugs. Antiprarasitic drugs. Antiviral drugs. Anticancer antibiotics. Sources of lead compounds. Optimization of lead compounds.   [SW2] Assessment of factual knowledge     Prerequisites and co-requisites   General knowledge of organic chemistry   Antibacterial drugs. Antifungal drugs. Antiprarasitic drugs. Antiviral drugs. Anticancer antibiotics. Sources of lead compounds. Optimization of lead compounds.   Percentage of the final grade Exam		Number of study 30.0			, , , , , , , , , , , , , , , , , , ,				-
Construction   Construction<		E-learning hours inclu							
hours   Mours     Subject objectives   The aim of the subject is to familiarize the student with the basic issues of antimicrobial drugs chemistry     Learning outcomes   Course outcome   Subject outcome   Method of verification     K7_U01   The student is able to divide antimicrobial drugs into specific groups. The student is able to divident is able to present antimicrobial drugs 'mechanisms of action   [SU5] Assessment of ability to analyse information     K7_K01   The student was in groups and solve given problems of antibiotic chemistry   [SK1] Assessment of group wor solve given problems of antibiotic chemistry     K7_W02   The student knows the basic biochemical processes occurring in the human body and has basic knowledge of organic chemistry The student knows the main groups of antimicrobial drugs. Antiviral drugs. Anticancer antibiotics. Sources of lead compounds. Optimization of lead compounds.   [SW2] Assessment of factual knowledge     Prerequisites and co-requisites   General knowledge of organic chemistry and co-requisites   Subject passing criteria   Passing threshold   Percentage of the final grade knowledge of organic chemistry     Assessment methods and criteria   Subject passing criteria   Passing threshold   Percentage of the final grade knowledge of organic chemistry     Aretip passing criteria   Passing threshold   Percentage of the final grade knowledge   0.0%     Antibacte		Learning activity Participation in classes include					Self-study		SUM
Learning outcomes   Course outcome   Subject outcome   Method of verification     K7_U01   The student is able to divide antimicrobial drugs into specific groups. The student is able to recognize chemical structers of antimicrobial drugs. The student is able to present antimicrobial drugs mechanisms of action   [SU2] Assessment of ability to analyse information     K7_K01   The student works in groups and solves given problems of antibiotic chemistry   [SK1] Assessment of group work solves given problems of antibiotic chemistry     K7_W02   The student knows the basic biochemical processes occurring in the human body and has basic knowledge of organic chemistry   [SW2] Assessment of knowledge     Subject contents   Antibacterial drugs. Antifungal drugs. Antiprotozoal drugs. Antiparastic drugs. Antiviral drugs. Anticancer antibiotics. Sources of lead compounds. Optimization of lead compounds.   [SW2] Assessment of final grade knowledge     Prerequisites and co-requisites   General knowledge of organic chemistry and co-requisites   General knowledge of organic chemistry and co-requisites   Percentage of the final grade Basic literature     Recommended reading   Basic literature   "Chemia Medyczna. Podstawowe zagadnienia" G.L. Patrick. Wydawnictwa Naukowo-Techniczne. Warszawa 2005		Number of study 45			5.0		25.0		75
K7_U01   The student is able to divide antimicrobial drugs into specific groups. The student is able to recognize chemical structers of antimicrobial drugs. The student is able to present antimicrobial drugs' mechanisms of action   [SU5] Assessment of ability to present the results of task (SU2] Assessment of ability to analyse information     K7_K01   The student works in groups and solves given problems of antibiotic chemistry   [SW2] Assessment of group work solves given problems of antibiotic chemistry     K7_W02   The student knows the basic biochemical processes occurring in the human body and has basic knowledge of organic chemistry The student knows the main groups of antimicrobial drugs. Antiparasitic drugs. Antiviral drugs. Anticancer antibiotics. Sources of lead compounds. Optimization of lead compounds.     Prerequisites and co-requisites   General knowledge of organic chemistry and co-requisites   Subject passing criteria   Passing threshold   Percentage of the final grade and criteria     Assessment methods and criteria   Subject passing criteria   Passing threshold   Percentage of the final grade and criteria     Recommended reading   Basic literature   "Chemia Medyczna. Podstawowe zagadnienia" G.L. Patrick. Wydawnictwa Naukowo-Techniczne. Warszawa 2005	Subject objectives	The aim of the subject is to familiarize the student with the basic issues of antimicrobial drugs chemistry							
antimicrobial drugs into specific groups. The student is able to recognize chemical structers of antimicrobial drugs. The student is able to present antimicrobial drugs' mechanisms of action   present the results of task (SU2) Assessment of ability to analyse information     K7_K01   The student works in groups and solves given problems of antibiotic chemistry   [SK1] Assessment of group work solves given problems of antibiotic shallse     K7_W02   The student knows the basic biochemical processes occurring in the human body and has basic knowledge of organic chemistry The student knows the main groups of antimicrobial drugs   [SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge     Subject contents   Antibacterial drugs. Antifungal drugs. Antiprotozoal drugs. Antiparasitic drugs. Antiviral drugs. Anticancer antibiotics. Sources of lead compounds. Optimization of lead compounds.   [Sw1] Assessment of the final grade and co-requisites     Assessment methods and criteria   Subject passing criteria   Passing threshold   Percentage of the final grade Exam     Recommended reading   Basic literature   "Chemia Medyczna. Podstawowe zagadnienia" G.L. Patrick. Wydawnictwa Naukowo-Techniczne. Warszawa 2005	Learning outcomes	Course out	come	Subj	ject outcome			Method of ver	rification
solves given problems of antibiotic chemistry skills   K7_W02 The student knows the basic biochemical processes occurring in the human body and has basic knowledge of organic chemistry. The student knows the main groups of antibiotics. Sources of lead compounds. Optimization of lead compounds. [SW2] Assessment of factual knowledge   Subject contents Antibacterial drugs. Antifungal drugs. Antiprotozoal drugs. Antiparasitic drugs. Antiviral drugs. Anticancer antibiotics. Sources of lead compounds. Optimization of lead compounds. Subject contents   Prerequisites and co-requisites General knowledge of organic chemistry and biochemistry Percentage of the final grade   Assessment methods and criteria Subject passing criteria Passing threshold Percentage of the final grade   Recommended reading Basic literature "Chemia Medyczna. Podstawowe zagadnienia" G.L. Patrick. Mydawnictwa Naukowo-Techniczne. Warszawa 2005   "An itroduction to medicinal chemistry" G.L. Patrick. Oxford Universi "An itroduction to medicinal chemistry" G.L. Patrick. Oxford Universi				antimicrobial drugs into specific groups. The student is able to recognize chemical structers of antimicrobial drugs. The student is able to present antimicrobial			present the results of task [SU2] Assessment of ability to		
biochemical processes occurring in the human body and has basic knowledge of organic chemistry The student knows the main groups of antimicrobial drugs contained in presentation [SW1] Assessment of factual knowledge   Subject contents Antibacterial drugs. Antifungal drugs. Antiprotozoal drugs. Antiparasitic drugs. Antiviral drugs. Anticancer antibiotics. Sources of lead compounds. Optimization of lead compounds. contained in presentation [SW1] Assessment of factual knowledge   Prerequisites and co-requisites General knowledge of organic chemistry and biochemistry Antibacterial drugs. Antiparasitic drugs. Antiviral drugs. Anticancer antibiotics. Sources of lead compounds. Optimization of lead compounds.   Assessment methods and criteria Subject passing criteria Passing threshold Percentage of the final grade 80.0%   Recommended reading Basic literature "Chemia Medyczna. Podstawowe zagadnienia" G.L. Patrick. Wydawnictwa Naukowo-Techniczne. Warszawa 2005   "An itroduction to medicinal chemistry" G.L. Patrick. Oxford Universi		K7_K01		solves given problems of antibiotic			[SK1] Assessment of group work skills		
antibiotics. Sources of lead compounds. Optimization of lead compounds.   Prerequisites General knowledge of organic chemistry and biochemistry   Assessment methods and criteria Subject passing criteria Passing threshold Percentage of the final grade   Exam 60.0% 80.0%   Oral presentation 60.0% 20.0%   Recommended reading Basic literature "Chemia Medyczna. Podstawowe zagadnienia" G.L. Patrick. Wydawnictwa Naukowo-Techniczne. Warszawa 2005   "An itroduction to medicinal chemistry" G.L. Patrick. Oxford Universit				biochemical processes occurring in the human body and has basic knowledge of organic chemistry The student knows the main			[SW1] Assessment of factual		
and co-requisites   Assessment methods and criteria Subject passing criteria Passing threshold Percentage of the final grade Exam   Coral presentation 60.0% 80.0%   Oral presentation 60.0% 20.0%   Recommended reading Basic literature "Chemia Medyczna. Podstawowe zagadnienia" G.L. Patrick. Wydawnictwa Naukowo-Techniczne. Warszawa 2005   "An itroduction to medicinal chemistry" G.L. Patrick. Oxford Universit	Subject contents								
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Image: Construction Construction Construction Construction   Image: Construction Construction Construction Construction   Recommended reading Basic literature "Chemia Medyczna. Podstawowe zagadnienia" G.L. Patrick. Wydawnictwa Naukowo-Techniczne. Warszawa 2005   "An itroduction to medicinal chemistry" G.L. Patrick. Oxford University		Subject passing criteria		Passing threshold			Percentage of the final grade		
Recommended reading   Basic literature   "Chemia Medyczna. Podstawowe zagadnienia" G.L. Patrick. Wydawnictwa Naukowo-Techniczne. Warszawa 2005     "An itroduction to medicinal chemistry" G.L. Patrick. Oxford University	and criteria								
Wydawnictwa Naukowo-Techniczne. Warszawa 2005 "An itroduction to medicinal chemistry" G.L. Patrick. Oxford Universi		Oral presentation							
Press. Nowy Jork 2017	Recommended reading								
Supplementary literature Recent scientific papers of antibiotics chemistry		Supplementary literature		Recent scientific papers of antibiotics			s chemistry		
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Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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