

**Course Information Sheet** (in the structure according to Decree no. 614/2002 Coll. of Laws)

<b>University:</b> Comenius University in Bratislava	
<b>Faculty:</b> Jessenius Faculty of Medicine in Martin	
<b>Code:</b> JLF/3-FAR -001	<b>Title of Course:</b> course Methodology of Scientific Work
<b>Type, scope, and method of educational activities:</b> Lectures and seminar in the range of 16 teaching hours.	
<b>Form of teaching:</b> full-time / part-time	
<b>Recommended range of instruction (in hours):</b> 16 hours	
<b>Weekly: During the study period:</b>	
<b>Study method:</b> Presence	
<b>Number of credits:</b> 10	
<b>Recommended semester / trimester of study:</b> 1st semester, no later than the date of the dissertation exam	
<b>Degree:</b> 3rd degree (PhD.)	
<b>Prerequisites:</b>	
<b>Prerequisites and co-requisites:</b> active participation in a 2-day course Methodology of Scientific Work	
<b>Learning outcomes:</b> By completing the course, the doctoral student acquires basic information - theoretical knowledge and practical experience in the field of methodology of scientific work, including current legislation necessary for the organization and successful completion of doctoral studies, grant opportunities, methodology of science and principles of evidence-based medicine, as well as legal and ethical aspects of scientific work in the biomedical sciences, public health and nursing. He also acquires basic knowledge and practical skills in the field of statistical methods and presentation of the results of scientific work.	
<b>Course contents:</b> <ul style="list-style-type: none"><li>- Current state of doctoral studies in medical and non-medical health sciences in the Slovak Republic</li><li>- Grant system used to support science in Slovakia and the European Union, general principles of preparation of scientific projects</li><li>- The "motivation" factor in biomedical research and the life of a young researcher</li><li>- Ethical aspects of biomedical research</li><li>- Who's a good doctor? About science and art in medicine</li><li>- Basics and practical demonstrations of the use of statistical methods used in biomedical sciences, public health, and nursing</li><li>- Preparations and presentations of the results of scientific work (lecture, publication, written work for the dissertation exam and dissertation)</li><li>- Legal aspects of scientific work in biomedical sciences, public health and nursing</li><li>- Types of scientific methods</li><li>- Evidence Based Medicine, Plagiarism and publishing fraud</li><li>- Effective use of external resources, citation managers</li><li>- Bibliometric and citation databases (WoS / SCOPUS / CREPC / EviPUB) and publication literacy</li></ul>	
<b>Recommended literature:</b> Hanáček, J., Javorka, K., Čalkovská, A. a kol.: Základy vedeckovýskumnej práce : príručka pre doktorandov a mladých vedeckých pracovníkov. - 1. vyd. - Martin: Osveta, 2008. - 216 s.	

Čalkovská, A. Bóriková, I., Danko, J. a kol.: Vedecká príprava : učebnica pre študentov medicíny. - 1. vyd. - Martin : Osveta, 2010. - 220 s. ISBN 978-80-8063-328-8. Vyšlo aj v angl. mutácii - Martin : Osveta, 2011.

**Language, knowledge of which is necessary to complete the course:** English

**Notice:** -

**Course evaluation:** passed / did not pass

A	B	C	D	E	FX
a	b	c	d	e	f

**Teachers:**

prof. MUDr. J. Švihra, PhD.  
prof. RNDr. J. Lehotský, DrSc.  
Ing. Ján Strnádél, PhD.  
doc. Mgr. Juraj Čáp, PhD.  
doc. MUDr. Ing. RNDr. Peter Celec, DrSc., MPH  
prof. MUDr. T. Baška, PhD.  
prof. MUDr. M. Javorka, PhD.  
prof. MUDr. F. Novomeský, PhD.  
prof. MUDr. J. Plevková, PhD.  
prof. MUDr. D. Meško, PhD.  
Mgr. J. Ilavská

**Last modified date:** 9. May 2022

**Approved by:** prof. MUDr. Jan Svihra, PhD.

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<b>University:</b> Comenius University in Bratislava	
<b>Faculty:</b> Jessenius Faculty of Medicine in Martin	
<b>Code:</b> JLF/3-FAR -002	<b>Title of Course:</b> Foreign Language
<b>Form of Study:</b> Full-time / Part-time study	
<b>Number of contact hours:</b>	
<b>per week: per level/semester:</b>	
- self-study in the range of 1 - 2 semesters depending on the knowledge of English/German	
- consultations before the exam in the range of about 4 - 6 hours	
<b>Methods of study:</b> self-study/face-to-face/on-line/e-mail consultations	
<b>Number of credits:</b> 10	
<b>Semester:</b> 2nd semester, no later than the date of the dissertation exam	
<b>Degree/Level:</b> 3rd degree	
<b>Prerequisites:</b> English/German language	
<b>Grading Policy (Assessment/Evaluation):</b>	
- command of a foreign language at a level of at least B2	
- passing the examination and, if necessary, 2-3 consultations before the examination	
- passing a foreign language exam	
<b>Aims and Objectives:</b> The graduate of the course will acquire the language skills needed to obtain scientific information from foreign sources and present research results in foreign journals and at international conferences. He/She will learn about the possibilities of studying abroad, health care systems in English-speaking countries, possible ways of language education, possibilities of using IT in language education, but also about variants of the English language used in global communication.	
<b>Syllabus/Indicative Content:</b>	
<b>English language:</b>	
1. Education and Education Systems	
2. Language Education	
3. Intercultural Communication	
4. Study Abroad	
5. Health Services	
6. Differences between British and American English	
7. Aspects of English Medical Language	
8. Speaking at Medical Meetings: Presentation of a Paper	
9. Writing a Scientific Research Article	
10. Academic Skills in Medical English and Information Technology	
<b>German language:</b>	
1. Bildung und Bildungssysteme	
2. Sprachunterricht	
3. Interkulturelle Kommunikation	
4. Im Ausland studieren	
5. Gesundheitsdienste	
6. Unterschiede zwischen britischem und amerikanischem Englisch	
7. Aspekte der englischen Medizinsprache	
8. Reden bei medizinischen Tagungen: Präsentation eines Themas	
9. Einen wissenschaftlichen Forschungsartikel schreiben	
10. Akademische Fähigkeiten in medizinischem Englisch und Informationstechnologien	

**Suggested readings:**

Barnau, A., Berešová, J., Džuganová, B. (2021) Academic Skills in Medical English. A Guide for Postgraduate Students. Martin: Vydavateľstvo Turany.

A monograph or professional textbook from the field that the postgraduate student studies according to the supervisor's recommendation.

**Language of Instruction:** English language/German language

**Other course information:** Consultations and exams are provided on individual basis during both semesters. Recommended and reserved time for personal meetings and exams is Friday.

**Course evaluation:** passed / did not pass

A	B	C	D	E	FX
a	b	c	d	e	f

PhDr. Božena Džuganová, PhD. (angličtina/nemčina), Mgr. Anna Barnau, PhD. (angličtina/nemčina), Mgr. Nora Malinovská, PhD. (angličtina), Mgr. Desana Kiselová (angličtina)

**Last update:** 9. May 2022 *uvádza sa dátum, keď bola vykonaná v informačnom liste predmetu posledná zmena*

**Approved by:** *PhDr. Božena Džuganová, PhD.*

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<b>University:</b> Comenius University in Bratislava					
<b>Faculty:</b> Jessenius Faculty of Medicine in Martin					
<b>Code:</b> JLF/3-FAR -003			<b>Title of Course:</b> Introductory Statistical Analysis		
<b>Form of Study:</b> in person					
<b>Number of contact hours:</b> 10 hours of lectures and 2 hours of practicals					
<b>per week: per level/semester:</b> 12 hours during one day					
<b>Number of credits:</b> 4					
<b>Semester:</b> 3					
<b>Degree/Level:</b> 3					
<b>Prerequisites:</b> -					
<b>Grading Policy (Assessment/Evaluation):</b> active participation					
<b>Aims and Objectives:</b> Refreshing of the basics of statistical data analysis and statistical inferences. To know how to test hypotheses for the population mean. To understand the limitations of the nonparametric tests. To be able to decide between using parametric or nonparametric tests for a particular data. To be able to explore data, summarize data and test hypothesis for population mean as well as for contingency tables in jamovi. Ability to interpret results of statistical data analysis.					
<b>Syllabus/Indicative Content:</b> Population, sample, generalization, statistical inferences. Software jamovi. EDA – exploratory data analysis, histogram, density plot, boxplot, swarmplot, violin plot, quantile-quantile plot with 95% confidence band, assessment of normality. Descriptive statistic for location and scale, robustness. SD vs SEM. Confidence interval for the population mean. Fisher Null Hypothesis Significance Testing. Motivation for p-value, evidential scale. Neyman-Pearson hypothesis testing. Tests for the population mean: one-sample t test, Welch test, two sample t test, two sample paired t test, illustrative case studies. Nonparametric tests (WMW test, one sample and paired Wilcoxon test) and their limitations, illustrative case studies. Contingency tables. Chi-squared test and Fisher test, illustrative case studies. Practicals in jamovi – three case studies in test selection.					
<b>Suggested readings:</b> KIRKWOOD Betty and Jonathan STERNE. Essential Medical Statistics. Wiley-Blackwell, 2003. ISBN 0865428719 NAVARRO Danielle and David FOXCROFT. Learning statistics with jamovi: a tutorial for psychology students and other beginners. <a href="http://www.learnstatswithjamovi.com">http://www.learnstatswithjamovi.com</a>					
<b>Language of Instruction:</b> Slovak and English					
<b>Other course information:</b>					
<b>Course evaluation:</b> passed / did not pass					
A	B	C	D	E	FX
<b>Lecturer/Instructor:</b> doc. Mgr. Marian Grendár, PhD.					
<b>Last update:</b> Feb 21, 2022					
<b>Approved by:</b> doc. Mgr. Marian Grendár, PhD.					

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<b>University:</b> Comenius University in Bratislava	
<b>Faculty:</b> Jessenius Faculty of Medicine in Martin	
<b>Code:</b> JLF/3-FAR -004	<b>Title of Course:</b> Pharmacology 1
<b>Type, scope and method of educational activities:</b> <ul style="list-style-type: none"><li>- individual study of scientific and professional literature according to the doctoral student's study program and the supervisor's recommendation</li><li>- elaboration of the dissertation issue in the form of publication outputs</li><li>- participation in scientific events and brainstorming meetings of doctoral students</li><li>- completion of study stays at external institutions, optional according to the needs of the doctoral student's scientific project.</li></ul>	
<b>Form of Study:</b> Full-time / Part-time study	
<b>Recommended range of teaching (in hours):</b> without specification with regard to the doctoral degree and according to the defined credit system	
<b>Weekly: During the study period:</b>	
<b>Study method:</b> Daily / full-time External / distance	
<b>Number of credits:</b> The doctoral student obtains credits for the study part according to the implemented activities listed in the Study Regulations of JFM CU in the part of the credit system for doctoral studies. He/she receives 20 credits for successfully passing the dissertation exam	
<b>Recommended semester / trimester of study:</b> the study is carried out in the 1 <sup>st</sup> – 4 <sup>th</sup> semester of study in full-time form and in the 1 <sup>st</sup> – 5 <sup>th</sup> semester of study in external form.	
<b>Degree/Level:</b> 3rd degree (PhD.)	
<b>Prerequisites:</b> to pass the subject of the state exam - dissertation exam it is required to pass the subject of the course Methodology of Scientific Work, Introductory to Statistical Analysis and the Exam in a foreign / world language	
<b>Conditions for passing the course:</b> <ul style="list-style-type: none"><li>- obtaining at least 60 credits, including 20 credits for mandatory courses of the Methodology of Scientific Work, Introductory of Statistical Analysis and Examination in a Foreign / World Language as a condition for granting consent to take a dissertation exam (DE)</li><li>- registration for DE within 24 months from the beginning of the study (in a 4-year full-time study)</li><li>- registration for DE within 30 months from the beginning of the study (in a 5-year external study)</li><li>- elaboration of a written part for the dissertation exam</li><li>- successful answering of 2 theoretical questions from the field of Pharmacology and presentation of the basic theses of the written part of the dissertation exam</li></ul>	
<b>Learning outcomes:</b> <ul style="list-style-type: none"><li>- the graduate of the subject Pharmacology 1 has deep theoretical knowledge based on the current state of scientific knowledge in the field, masters the principles and methodology of scientific work and is able to perform professional and scientific activities in the field of pharmacology and drug research</li><li>- has the ability to work independently and bring their own solutions to problems in the field and in related fields, especially in the profession of researcher and university teacher</li></ul>	
<b>Course contents:</b>	

- the graduate of the subject Pharmacology 1 has deep theoretical knowledge based on the current state of scientific knowledge in the field, masters the principles and methodology of scientific work and is able to perform professional and scientific activities in the field of pharmacology and drug research  
- has the ability to work independently and bring their own solutions to problems in the field and in related fields, especially in the profession of researcher and university teacher

**Recommended literature:**

Rang HP, Dale MM, Ritter JM.: Pharmacology, 9th Edition, Churchill Livingstone, 2019.

Rang HP, Dale MM: Pharmacology, 8th edition, Churchill Livingstone, 2015.

Katzung, BG: Basic Clinical Pharmacology, 15th edition, New York, McGraw-Hill, 2015.

Katzung, BG: Basic Clinical Pharmacology, 19th edition, New York, McGraw-Hill, 2021.

Laurence L. Brunton et al: **Goodman & Gilman's: The Pharmacological Basis of Therapeutics, Thirteenth Edition, New York, McGraw-Hill, 2018.**

Databáza Európskej agentúry pre lieky: [www.ema.europa.eu](http://www.ema.europa.eu)

Odborná literatúra: Databázy renomovaných periodík

**Language, knowledge of which is necessary to complete the course:**

Slovak language / English language

**Notes:** -

**Course evaluation:** The dissertation exam – passed / not passed.

A	B	C	D	E	FX
a	b	c	d	e	f

**Teachers:**

prof. RNDr. Soňa Fraňová, PhD.

prof. MUDr. Mgr. Juraj Mokry, PhD.

doc. MUDr. Martina Šutovská, PhD.

doc. MUDr. Marta Jošková, PhD.

PharmDr. Martin Kertys, PhD.

**Last modified date:** 9. May 2022

**Approved:** prof. RNDr. Soňa Fraňová, PhD.

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<b>Faculty:</b> Jessenius Faculty of Medicine in Martin	
<b>Code:</b> JLF/3-FAR -005	<b>Title of Course:</b> Pharmacology 2
<b>Type, scope, and method of educational activities:</b> <ul style="list-style-type: none"><li>- implementation of a doctoral student's scientific project</li><li>- study of scientific literature according to the study program of the doctoral student and the recommendation of the supervisor</li><li>- publishing the results of scientific work</li><li>- participation in scientific events and brainstorming meetings of doctoral students</li><li>- completion of study stays at external institutions, optional according to the needs of the doctoral student's scientific project.</li></ul>	
<b>Form of teaching:</b> full-time / part-time	
<b>Recommended range of teaching (in hours):</b> without specification with regard to the doctoral degree and according to the defined credit system	
<b>Weekly: During the study period:</b>	
<b>Study method:</b> Daily / full-time External / distance	
<b>Number of credits:</b> The doctoral student obtains credits for the scientific part according to the implemented activities listed in the Study Rules of JLF UK in the part of the credit system for doctoral studies. He/she receives 30 credits for successfully defending dissertation.	
<b>Recommended semester / trimester of study:</b> the study is usually carried out in the 5th - 8th semester of study in full-time form and the 6th - 10th semester of study in external form	
<b>Degree:</b> 3rd degree (PhD.)	
<b>Prerequisites:</b> Pharmacology 1	
<b>Conditions for passing the course:</b> <ul style="list-style-type: none"><li>- obtaining at least 210 credits (in a 4-year full-time and 5-year part-time study)</li><li>- submission of an application for a state examination permit - defense of the dissertation no later than 4 months before the date of completion of the standard length of study</li><li>- authorship or co-authorship of a doctoral student of at least three scientific papers in extenso in internationally recognized journals registered in databases, such as Web of Science, Medline or SCOPUS as a basic condition for accepting an application for permission to defend a dissertation; in at least one of these works, the doctoral student is the first author</li></ul>	
<b>Learning outcomes:</b> <ul style="list-style-type: none"><li>- the graduate of the field has mastered the principles and methodology of scientific work, from the ability to orient in the latest knowledge of the field, through scientific formulation of the problem, assessment of the ethical side of scientific work, planning and implementation of research, scientific processing of obtained data, their interpretation to their presentation, including in international fora, and possible proposals for their application in practice.</li><li>- the graduate of the course Pharmacology 2 can work independently scientifically and bring their own solutions to problems in the field. He/she can contribute to the development of this field through scientific and teaching work</li></ul>	
<b>Course contents:</b> <ul style="list-style-type: none"><li>- scientific research on a current problem in the field or a multidisciplinary problem with a focus on pharmacology and pharmacotherapeutic practice, or for the development of other related fields</li></ul>	



- mastering the principles and methodology of scientific experimental work or work in pharmacological research up to the preparation of the text of a scientific publication in cooperation with the trainer in the form in extenso, especially in English
- publishing and lecturing activities and active participation in scientific events
- pedagogical activity (max. 4 hours per week / year = 208 hours / year = 104 hours / semester) only for full-time form

**Recommended literature:**

JRang HP, Dale MM, Ritter JM.: Pharmacology, 9th Edition, Churchill Livingstone, 2019.  
 Rang HP, Dale MM: Pharmacology, 8th edition, Churchill Livingstone, 2015.  
 Katzung, BG: Basic Clinical Pharmacology, 15th edition, New York, McGraw-Hill, 2015.  
 Katzung, BG: Basic Clinical Pharmacology, 19th edition, New York, McGraw-Hill, 2021.  
 Laurence L. Brunton et al: Goodman & Gilman's: The Pharmacological Basis of Therapeutics, Thirteenth Edition, New York, McGraw-Hill, 2018.  
 Databáza Európskej agentúry pre lieky: [www.ema.europa.eu](http://www.ema.europa.eu)  
 Professional literature: Databases of renowned periodicals

**Language, knowledge of which is necessary to complete the course:**

Slovak language / English language

**Notes:** -

**Course evaluation:** The defense of the dissertation – passed / not passed

A	B	C	D	E	FX
a	b	c	d	e	f

**Teachers:**

prof. RNDr. Soňa Fraňová, PhD.  
 prof. MUDr. Mgr. Juraj Mokry, PhD.  
 doc. MUDr. Martina Šutovská, PhD.  
 doc. MUDr. Marta Jošková, PhD.  
 PharmDr. Martin Kertys, PhD.

**Last modified date:** 9. May 2022

**Approved:** prof. RNDr. Soňa Fraňová, PhD.