

Study Programme: BSc in Biology			
Degree level: Bachelor degree			
Course Title: Methodology of scientific work			
Professor: László Barsi			
Required/Elective Course: required			
Number of ECTS: 5			
Prerequisites: –			
Course Objective: Goal of this course is to acquaint students with basic methods in scientific work and presentation of results in written and oral form. Students, based on program which includes all phases of scientific research work, are preparing for individual work, work in scientific projects, and presentation of scientific results.			
Course Outcome: Knowledge and skills in preparation and presentation of scientific results, starting with seminar papers, theses and original scientific papers.			
Course Content:			
<i>Theoretical part</i>			
Introduction and importance of scientific work; Characteristics of the scientific work; General and special scientific methods; Education of scientist; Phases of scientific research work: Selection of field and subject of research; Scientific informatics; Study of the existing literature; Working hypothesis; Goal of work; Strategy of data collection; Planning and conduct of experiments; Pilot study; Analysis and treatment of data; Graphical presentation of data: Tables and illustrations; Presentation of scientific results: structure of scientific paper; Writing scientific paper; Presentation of scientific results: oral and poster presentation; Biography; Kinds of scientific papers; Valuation of scientific work; Evaluation of scientific results; Logical mistakes: general and special; Scientific critics; Scientific ethics.			
<i>Practical part</i>			
Technics of collection, arrangement and study of literature; Formation of statistical series and ranges; The central tendency; Variability; Testing for a difference between two population means; Table and graph design; Analysis of scientific papers; Preparing and writing a manuscript based on instructions for authors; Writing of introduction, material and methods, results, discussion; Correction of the manuscript; PowerPoint presentation.			
Reading List:			
Milankov, V. i Jakšić P. (2006) Metodologija naučnoistraživačkog rada u biološkim disciplinama. PMF, Novi Sad. (udžbenik)			
Milankov, V. i Ludoški, J. (2006) Praktikum iz metodologije naučnoistraživačkog rada. PMF, Novi Sad			
Sakan, M. 2005. Izrada stručnih i naučnih radova. 2. izd. – Prometej, Novi Sad, 177 str.			
Additional reading list:			
1. Ambrose III, H.W., Ambrose, K.P., Emlen, D.J. & Bright, K.L. 2007. A handbook of biological investigation. 7 th ed. Hunter Textbooks Inc., Winston-Salem, NC.			
2. Boeglin, M. 2010. Akademska pisanje korak po korak. Od haosa ideja do strukturisanog teksta. Akademska knjiga, Novi Sad.			
3. Briscoe, M.H. 1996. Preparing scientific illustrations: a guide to better posters, presentations and publications. 2 nd ed. Springer, New York.			
Total hours:			
Lectures: 2	Practicals: 1	Other: 1	Student research work:
Methods of instruction:			
Lectures: presentations, practicals: computer class-room			
Assessment (maximum number of points 100)			
Requirements	points	Final exam	points
Active participation in lectures		Written work and defense	35
Active participation in practicals		Oral exam	35
Test(s) or			
Pre-exam testing	30		