

Course title: Research methodology for technicians	Neptun code: GEVTTxxx-a Number of credits: 3
Name and position of course coordinator: Dr. Károly Jármai professor, DSc	
Suggested semester: autumn and spring	
Weekly lecture + seminar hours: 2 + 0	
Assessment: colloquium	
Course webpage: -	

Course objectives:

An introduction to research methodology. To familiarise students with the importance and applications of scientific research. To show how data collection in technical fields can be designed. To familiarise students with the various scientific literature databases. To introduce the possibilities and requirements for publication.

Course content and structure:

General research methodology basics. Sources of knowledge. The concept, meaning and application of scientific research. Difficulties of scientific research. The scientific research process. Choosing a topic, defining the research problem. Exploring the background to research, reviewing literature and other sources. Developing a conceptual framework for research - conceptualisation. Formulating the objectives of the research. Designing the data collection. Familiarisation with the various scientific literature databases: Web of Science, Scopus, Google Scholar, ProQuest, ScienceDirect, SpringerLink, etc. Measurement methods and data types. Quantitative research methods. Qualitative research methods. Quantitative and qualitative research methods. Journal classification system, content and format requirements. Case studies.

Evaluation method:

Written exam.

Evaluation:

90-100 points	excellent (5)
77-89 points	above average (4)
64-76 points	average (3)
50-63 points	below average (2)
0-49 points	unsatisfactory (1)

Required reading:

1. **Ranjit Kumar:** Research Methodology: A Step-by-Step Guide for Beginners, Fourth Edition, SAGE Publishing, <https://study.sagepub.com/kumar4e>
2. **Shanti Bhushan Mishra, Shashi Alok:** Handbook of Research Methodology, Educreation Publishing, 2011, 146 p.
https://books.google.hu/books?id=O54wDwAAQBAJ&printsec=frontcover&hl=hu&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Suggested reading:

1. **Uwe Flick:** Introducing Research Methodology: A Beginner's Guide to Doing a Research Project, Second Edition, Los Angeles: Sage. <https://irigasi.info/wp-content/uploads/2021/04/INTRODUCING-RESEARCH-METHODOLOGY-UWE-FLICK.pdf>
2. **Lucienne T.M. Blessing, Amaresh Chakrabarti:** DRM, a Design Research Methodology, Springer Nature, 2009, <https://link.springer.com/book/10.1007/978-1-84882-587-1#toc>