Course Name : Research Methods and Academic Writing							
Course Code	**Course Type**	**Regular Semester**	**Lecture (hours/week)**	**Seminar (hours/week)**	**Lab. (hours/week)**	**Credits**	**ECTS**
CMP 305	A	Fall	3.00	0.00	0.00	3.00	6.00

Lecturer	Arti Omeri, PhD
Assistant	Hersi Kopani, Msc
Course language	Albanian
Course level	Bachelor
Description	Research Methods and Academic Writing emphasize the importance of a structured and methodical approach to drafting research papers in the field of computer science. This theoretical and practical guide for students and researchers aims to outline the techniques used to generate valuable knowledge for solving technical problems and developing strategies for technological advancement and innovation. The literature focuses on the best ways to communicate complex ideas clearly and efficiently, offering a theoretical and practical foundation to assist students in preparing successful research projects. The goal of this book is to help students develop their critical and analytical skills through a methodical writing process. It explains how to structure a research paper, how to choose the appropriate methods for data collection, and how to present research findings clearly. Through this text, researchers not only learn the techniques of academic writing but also how to analyze and present technical issues in a way that equips them with practical skills for future fields such as software development, data analysis, and academic research. Upon completing this course, students will be able to: •Understand the principles and techniques of writing a research paper in computer science; •Understand the structure of a scientific article and a thesis; •Select and apply the appropriate methods for collecting and analyzing technical data; •Critically evaluate research projects and papers by others; •Write and present technological findings and results in a clear and structured manner. In this way, the book offers a comprehensive blend of theoretical knowledge and practical guidance for students and professionals in the fields of computer science and information technology.
Objectives	At the end of the course, the students will be able to: 1. Develop research writing structuring techniques to apply a structured and methodical approach to computer science research paper design. 2. Improving problem-solving strategies and innovation to find research techniques to generate knowledge that address techniques and drive technology progress. 3. Mastering the communication of complex ideas to clearly and efficiently communicate complex technical concepts in their research papers. 4. Strengthening the methods of data collection and analysis 5. Improving critical ascertainment and presentation skills
Core Concepts	1. -Critical Evaluation 2.-Plagiarism 3.-Research models and technical documentation

Course Outline

Week	Topic
1	Introduction to Research in Computer Science This week covers the significance of research in computing and its impact on technological advancements. We will explore the importance of research in solving complex problems in computer science. From Writing for Computer Science, Chapter 1 (pp. 1–28).
2	Formulating Research Questions and Hypotheses This week focuses on how to craft clear, focused, and researchable questions and hypotheses for computer science research. From The Craft of Research, Chapter 3 (pp. 35–60).

3	The Structure of Research Proposals This week explains how to organize and write effective research proposals, providing essential structure and content guidelines. From Writing for Computer Science, Chapter 5 (pp. 55–85).
4	Conducting a Literature Review This week will teach how to conduct a comprehensive literature review, identifying key sources and evaluating their relevance to your research. From The Craft of Research, Chapter 5 (pp. 67–95).
5	Research Design and Planning This week focuses on designing and planning research projects in computer science, covering methodologies, data collection, and analysis. From Writing for Computer Science, Chapter 3 (pp. 25–55).
6	Collecting and Managing Research Data This week will focus on various methods of data collection and management in research, ensuring the integrity and reliability of data. From The Craft of Research, Chapter 6 (pp. 100–130).
7	Quantitative and Qualitative Research Methods This week will introduce quantitative and qualitative research methods, including how to apply them in computer science research. From Writing for Computer Science, Chapter 4 (pp. 46–76).
8	Mid-Term Exam
9	Developing Arguments in Research Writing This week focuses on building strong and persuasive arguments in research papers and how to support them with evidence. From The Craft of Research, Chapter 7 (pp. 120–150).
10	Writing with Style and Clarity This week will focus on improving writing style and clarity in technical research papers, ensuring that ideas are communicated effectively. From Writing for Computer Science, Chapter 6 (pp. 76–106).
11	Citation, Referencing, and Avoiding Plagiarism This week teaches how to correctly cite and reference academic sources, and how to avoid plagiarism in research writing. From The Craft of Research, Chapter 10 (pp. 180–210).
12	Editing and Revising Research Papers This week emphasizes the importance of drafting and revising research papers, covering techniques to improve clarity, coherence, and structure. From Writing for Computer Science, Chapter 8 (pp. 100–130).
13	Presenting Research Findings This week covers how to effectively present research findings in both written and oral formats, focusing on clarity and audience engagement. From The Craft of Research, Chapter 14 (pp. 250–280).
14	Writing for Publication The final week covers the process of writing research papers for publication, including submitting papers to journals and conferences. From Writing for Computer Science, Chapter 9 (pp. 125–155).
15	Project presentation
16	Final Exam

Prerequisites	The student must attend the course at a minimum rate of 75%.
Literature	• Justin Zobel (Springer, 2015). Writing for Computer Science - Third Edition. • Wayne C. Booth, Gregory G. Colomb, Joseph M. Williams (University of Chicago Press, 2016). The Craft of Research - Fourth Edition.
References	• Dawson, C. (2007 A practical quide to reseach methods. Howto books. Oxford • Dawson, C. (2006) The mature student's study guide. Hoë to books.Oxford, UK • Jill Lewis, Studimi akademik. CDE, 2005, Tiranë • Umberto Eco. Si shkruhet një punim diplome. Dituria. 2006. Tiranë • Aleksander Kocani, Metodat e Kerkimit Sasior ne Shkencat Sociale, U.F.O. Press, Tirane (2009) • Metodat e Kerkimit Shkencor, Leke Sokoli, Instituti i Sociologjise, Tirane (2016)

Course Outcome

1	The student will be able to write clear, well-structured research papers and reports in computer science
2	The student will be able to effectively communicate complex ideas in both written and oral formats.
3	The student will be able to critically evaluate research methodologies and data.
4	The student will be able to understand and apply proper citation practices to prevent plagiarism.
5	The student will be able to organize research papers according to academic standards.
6	The student will be able to choose and apply appropriate research methods for data collection and analysis.
7	The student will be able to conduct thorough literature reviews and identify research gaps.
8	The student should write clear technical documentation for systems, algorithms and projects.

Course Evaluation

In-term Studies	Quantity	Percentage
Midterms	1	25
Quizzes	0	0
Projects	1	25
Term Projects	0	0
Laboratory	0	0
Class Participation	0	0
Total in-term evaluation percent		**50**
Final exam percent		**50**
Total		**100**

ECTS Workload (Based on Student Workload)

Activities	Quantity	Duration (hours)	Total (hours)
Course duration (Including the exam week: 16x Total hours of the course)	16	3	48
Study hours outside the classroom (Preparation, Practice, etc.)	14	3	42
Duties	1	10	10
Midterms	1	16	16
Final Exam	1	34	34
Other	0	0	0
Total Work Load			**150**
Total Work Load / 25 (hours)			**6.00**
ECTS			**6.00**