Course Description Form

1. Course Name:
Scientific Research Methodology
2. Course Code:
3. Semester / Year:
Semester-2/ 2026
4. Description Preparation Date:
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
2 Hours / week
7. Course administrator's name (mention all, if more than one name)
Name: Zahraa A. Jaaz Email: zahraa.jaaz@nahrainuniv.edu.iq

8. Course Objectives	
Course Objectives	• **The course aims to provide students with the basic concepts of scientific research methodology, how to write a thesis and research paper, and how to link them with a practical research project.** • **In this course, we will focus on writing the thesis and research paper, as we focus on the structure of the thesis and research paper, the method of collecting data, and writing the results.** • **Examples, exercises and presentation reports that enhance their ability to write in an academic manner** • **Use the English language in writing using academic words and correct grammar**

9. Teaching and Learning Strategies	
Strategy	**Lecture—Showing** **Worked Examples** **Socratic Questioning** **Discussion-Based Learning** **Project-Based Learning**

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
W1	2		Introduction Structure of thesis Structure of manuscript	Lecture—Showing	
W2	2		How to write Introduction	Lecture—Showing	
W3	2		How to write Literature Review	Socratic Questioning And Discussion-Based Learning	Oral Questions
W4	2		Using terms in writing literature review	Worked Examples	Paper Quiz
W5	2		Poblem Identification & Formulation – Research Question – Investigation Question – Measurement Issues	Worked Examples	
W6	2		Research Design: Concept and Importance in Research – Features of a good research design –	Worked Examples	Online test
W7	2		Mid Exam		
W8	2		Collecting dataset Private dataset Public dataset	Socratic Questioning Discussion-Based Learning	Oral Questions
W9	2		Qualitative and Quantitative Research: Qualitative research – Quantitative research –	Worked Examples	Paper Quiz
W10	2		Data Analysis Data Preparation – Univariate analysis (frequency tables, bar charts, pie charts, percentages), Bivariate analysis – Cross tabulations and Chi-square test including testing hypothesis of association	Worked Examples	Online test
W11	2		Interpretation of Data and Paper Writing – Layout of a Research Paper, Journals in Computer Science, Impact factor of Journals, When and where to publish .		
W12	2		? Ethical issues related to publishing, Plagiarism and Self-Plagiarism	Worked Examples	Oral Questions
W13	2		Assignment-1 writing-research	Worked Examples	Paper Quiz

			paper		
W14	2		Assignment-2 Writing Literature review	Project-Based Learning	assignment
W15	2		Academic Databases for Computer Science Discipline.		

11. Course Evaluation

First Mid-Term Exam 10%
Report 10%
Quizzes 5%
Assignments 5%
Total: 30%
Final Exam 70%

12. Learning and Teaching Resources

Required textbo (curricular books, if any)	
Main references (sources)	Bailey S. Academic writing: A practical guide for students. Psychology Press; 2003.
Recommended books and references (scientific journals, reports...)	All published papers from springer, IEEE, ELSEIVER are related to computer science discipline
Electronic References, Websites	1- Oshima, A. and Hogue, A., 2007. *Introduction to academic writing* (p. 3). Pearson/Longman. 2- Irvin LL. What is academic writing. Writing spaces: Readings on writing. 2 Jun 18;1:3-17.