

Ministry of Higher Education and Scientific research



Department of Physics

College of Education

University of Salahaddin - Erbil

Subject: Research Methodology

Course Book – (Year 4)

Lecturer's name: Karwan Wasman Qadir

Academic Year: 2023/2024

Course Book

1. Course name	Research Methodology
2. Lecturer in charge	Asst Prof Dr Karwan Wasman Qadir
3. Department/ College	Physics/Education
4. Contact	karwan.qadir@su.edu.krd
5. Time (in hours) per week	1 hour/week
6. Office hours	Tuesday 8:30-11:30, Wednesday 8:30-12:30
7. Course code	N/A
8. Teacher's academic profile	<p>I believe as a physicist and a lecturer; it is my responsibility to challenge and support my students in pursuit of three learning goals: (1) learn basic research concepts, (2) enhance self-awareness and understanding of the world around them; (3) develop a basic understanding of research and its methodologies. I want my students to leave my classroom with basic physical skills that enable them to engage these ideas and make well-considered choices. How do I do this? I have two benchmarks for determining that my objectives for students learning are met: that students can convey research concepts (reliability, validity, statistical significance, experimental validity, and correlations) in everyday language; and that students are able to use fundamental knowledge and skills as building blocks to tackle more complex problems. Finally, I do not see a rigid dividing line between research and teaching. A good lecturer needs to be a good researcher also.</p>
9. Keywords	Research, Ethics, Resources, Source Citation, Bibliography Style
10. Course overview:	<p>This course is for students who are pursuing research projects at the department of Physics. This course is designed to develop student's abilities</p>

and skills in academic writing scientific reports, articles, letters and thesis. Conducting scientific research and publishing it.

The topics of this course train the students to use sources for academic communication, produce knowledge, raise academic knowledge and activate their minds to questions scientifically. It also trains them to collect information, rearing it and introducing it in an academic way.

In this course, students are directed to raise their writing ability of normal and academic essays and articles.

Moreover, they are assisted in writing papers and design, power points and posters under academic standards.

11. Course objective:

The course will give students a better understanding of several important topics in research and will enable the students to:

- Develop a basic understanding of research and its methodologies
- Identify appropriate research topics
- Select and define an appropriate research problem
- Prepare a project proposal
- Organise and conduct research
- Write a research report and thesis

12. Student's obligation

- Class Attendance: Class attendance is mandatory because the class is based mainly on student interaction. The course requires several oral presentations, and students are expected to be present to criticize other students usefully.
- Short Written Assignments
- Report: The main goal of the course is to produce a final research project report.

13. Forms of teaching

Wight board, data show, sheets, and Videos.

14. Assessment scheme

Grades will be determined by using daily homework assignments, student activity and in-class exams.

15. Student learning outcome:

This is not a complete list of all you will be asked to study and encouraged to learn. However, after successfully completing this lecture course, you should at least be able:

- To conduct scientific research and publish it.
- To writing ability of academic essays and articles.
- To Design PowerPoint presentations and poster presentations.

16. Course Reading List and References:

1- Articles will be added depending on the interests and projects of the class. Also, students may wish to obtain a copy of the following book as a guide for writing their report: Turabian, Kate. *A Manual for Writers of Term Papers, Theses, and Dissertations*. Chicago Style for Students and Researchers, 9th Edition, ISBN-13: 978-0-226-43060-7 (e-book). DOI: [https:// doi.org/ 10.7208/ chicago/ 9780226430607.001.0001](https://doi.org/10.7208/chicago/9780226430607.001.0001)

2- Research Methodology the basics by Nicholas Walliman.

This edition published in the Taylor & Francis e-Library, UK 2011.

3- Fundamentals of Research Methodology: Problems and Prospects by Dr. Jayanta Kumar Nayak & Dr. Priyanka Singh. Published by SSDN Publishers & Distributors, New Delhi 2015.

4- Research Methodology a step-by-step guide for beginners by Ranjit Kumar. This third edition published SAGE Publications Ltd, London 2011.

5- Research Methodology: Tools and Techniques by Prabhat Pandey & Meenu Mishra Pandey. First published Bridge Center, Romania 2015.

6- Writing Scientific Research Articles Strategy and Steps by Margaret Cargill and Patrick O'Connor. This first edition published in A John Wiley & Sons, Ltd., Publication, India 2009.

7- Internet resources.

17. The Topics:

**Lecturer's
name**

<p>How to Conduct Scientific Research:</p> <ul style="list-style-type: none"> • Introduction of Scientific Research • Importance of Research Methodology • Objectives of Research • The Motivations of Research • Planning of Research Project • Designing the Experiment • Conducting the Experiments • Analyzing and Publishing the Data 	<p>Asst Prof Dr Karwan Wasman Qadir</p>
<p>How to Write a Scientific Paper:</p> <ul style="list-style-type: none"> • Introduction • Materials and Methods • Results • Discussion • Acknowledgements 	<p>Asst Prof Dr Karwan Wasman Qadir</p>
<ul style="list-style-type: none"> • Student research projects preparation • How to submit your manuscript to a journal • How to Design PowerPoint presentations and poster presentations. 	<p>Asst Prof Dr Karwan Wasman Qadir</p>
<p>18. Practical Topics (If there is any)</p>	
<p>N/A</p>	
<p>19. Examinations and Assignments: <i>On a single sheet of paper do the following for each topic:</i> <i>- Describe the topic in a simple paragraph.</i> <i>- In a second simple paragraph, describe why this topic is worthy of study.</i></p>	
<p>20. Extra notes:</p>	
<p>21. Peer review</p>	<p>پیداچونہوہی ھاوہل</p>