

Ministry of Higher Education and Scientific research



**Department of Forestry  
College of Agricultural Engineering  
Sciences  
Salahaddin University-Erbil**

**Research methodology Course Book  
Grade 4**

**Lecturers' names:  
Assistant Professor Dr. Sirwa Anwar Qadir**

**2023- 2024  
Fall semester**

<b>1. Course name</b>	Research methodology
<b>2. Lecturer in charge</b>	Assist Prof. Dr. Sirwa Anwar Qadir
<b>3. Department/ College</b>	Forestry / Agricultural Engineering Sciences
<b>4. Contact</b>	e-mail: sirwa.qadir@su.edu.krd Mobile: 096407504701276
<b>5. Time (in hours) per week</b>	Theory: 2
<b>7. Teacher's academic profile</b>	BSc (Bachelor of Science) from Biology department/ College of Science, at Salahaddin University, Erbil, Iraq in July 1999. At 2000 to 2003 Lab assistant at Plant protection Dept. After obtaining MSc (Master of Science) at the college of Education/ Biology department in July 2006 in Plant Physiology, I cooperated as a lecture in Agriculture college, Salahaddin University for a period of 7 years. I have been received Ph. D in plant physiology in an inter-ship program at both Salahaddin University and Universiti Teknologi Malaysia (UTM) July 2017. I have published seven journal articles, 1 book chapter, research projects, seminars and broad conference.
<b>9. Keywords</b>	Introduction, methodology, references, abstract, discussion.
	<p><b>10. Course overview:</b></p> <ul style="list-style-type: none"> <li>• Understand and apply different qualitative methods for analysing data (qualitative track)</li> <li>• Understand and apply quantitative methods such as regression analysis (quantitative track)</li> <li>• Position themselves to join a research group investigating plant function.</li> <li>• Evaluate the validity and reliability of secondary data sources</li> <li>• Receive preparation to engage in advanced, independent research at the undergraduate and graduate-level.</li> <li>• Identify a research question, engage in a literature review, and become familiar with both qualitative and quantitative methodologies.</li> <li>• Develop a mentor-mentee relationship with a faculty advisor/mentor that agrees to guide a research project.</li> <li>• Formulating the objective of the study (what the study is about and why is it being made?).</li> <li>• Designing the methods of data collection (what techniques of gathering data will be adopted?). Selecting the sample (how much material will be needed?).</li> </ul>

### 11. Course objective:

- The main objective of this course refers to the importance of systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analyzing the facts and reaching certain conclusions either in the form of solutions(s) towards the concerned problem or in certain generalizations for some theoretical formulation.

### 12. Student's obligation

Students use the proposal they develop to establish the foundation of a final research paper that will be submitted at the end of the summer once the study is completed. By the end of the course, students will complete a proposal that includes an introduction, problem statement (significance of study), literature review, methods section, references, and a project timeline. At the end of the summer students will convert this proposal into a full research that will include the following sections: findings, discussion, conclusions, and references.

### 13. Forms of teaching

Different forms of teaching conducted to gain the objectives of the course, such as:

- Using white board to clarify any related subject
- PowerPoint presentation including video show
- Writing up important notes.

### 14. Assessment scheme

#### Theoretical part:

- Mid-term theoretical exam: 20%
- Weekly quiz and attendance: 5

Final theoretical exam: 40 %

### 16. Course Reading List and References:

- Kothari, C.R. (2004). Research methodology "Methods and techniques". 2nd revised edition. Ltd publisher.
- Bryman, Alan & Bell, Emma (2011). Business Research Methods (Third Edition), Oxford University Press.
- Kerlinger, F.N., & Lee, H.B. (2000). Foundations of Behavioural Research (Fourth Edition), Harcourt Inc.
- Rubin, Allen & Babbie, Earl (2009). Essential Research Methods for Social Work, Cengage Learning Inc., USA.
- Chawla, Deepak & Sondhi, Neena (2011). Research methodology: Concepts and cases, Vikas Publishing House Pvt. Ltd. Delhi.
- Pawar, B.S. (2009). Theory building for hypothesis specification in organizational studies, Response Books, New Delhi.
- Neuman, W.L. (2008). Social research methods: Qualitative and quantitative approaches, Pearson Education.

### 17. The Topics:

#### Week 1:

What is research? How research is done? What are the objectives of research? What makes people do research?

**Week 2:**

Types of research

- Basic Research
- Applied Research

**Week 3 & 4:**

What is research paper?

Various stages of a research

What is Literature review?

**Week 5:**

Plagiarism and referencing

Citations and references

**Week 6:**

The Method Section

Writing the Methods Section

Writing the Materials Section

Some rules

Types of data

**Week 7:**

Writing and presenting a research proposal work

**Week 8:**

Midterm exam

**Week 9:**

Results chapter

Sample Results

Discussion chapter

**Week 10 & 11:**

Introduction chapter

Abstract

**Week 12:**

**Designing a scientific poster**

**Week 13 & 14:**

Reviewing all the written chapters by the students.

**18. Examinations and Style of Questions:**

1. how to write this journal article reference in reference list using Harvard style?  
Authors name: Yousef Alaei and Elena Khabiri, Article title: Effects of Two Biologic Fertilizers Containing Amino Acids on Leaf Chlorophyll Index in Bread Wheat Cultivars in Greenhouse, Year of publication: 2012, Issue number: 18, Volume number: 4, Journal name: International Journal of Agriculture and Crop Sciences, Page number: 1333-1336.
2. How to organize your review writing?