

# Salahaddin University Learning Management System: Moodle



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Erasmus+ Training Center Workshop

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# Course Outline

- Course Book
- Lecture 1: **Philosophy of Science**
- Lecture 2: **Research Strategies, Planning, and Analysis**
- Lecture 3: **Scientific Communication**
- **Glossary**

# How to create a course?

- Course Full Name: **Scientific Research Methodology**
- Course Short Name: **Methodology**
- **Course Description:**

Methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge. Typically, it encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques.

# Introduction section

## **Welcome to Research Methodology!**

This course is an overview of the fundamentals of research methods applicable to the broad field of Biology. Topics include research design, quantitative and qualitative forms of analysis, ethical issues in research, and appropriate documentation of research processes and outcomes.

**Add JPEGG file: Welcome\_JPEG**

Upload Course Book.

# Lecture 1: Philosophy of Science

The sciences provide different approaches to the study of man. Man can be scrutinized in terms of molecules, tissues and organs, as a living creature, and as a social agent and a cultural person. Correspondingly, the philosophy of science investigates the philosophical assumptions, foundations, and implications of the sciences.

- ADD URL: (embedded in the text above)

**<https://www.youtube.com/watch?v=zrX6qGjuW54>**

- ADD file:

**Lecture 1: PowerPoint Slides**

# Lecture 2: Research Strategies, Planning, and Analysis

Many scientific problems have existed for a long time, but have not been tackled as the means to solve them were not available. It is often said that technology builds on basic research, but often information also flows in the other direction.

- ADD file:

**Lecture 2: PowerPoint Slides**

- ADD PAGE:

**Page: Introduction to Experimental Research Design**

# Lecture 3: Scientific Communication

Communication, which comes from the Latin word communis, means common, i.e., to share a message, not just send it out and hope that it will be understood. When writing a scientific paper, the authors are trying to send a message, and as such they must know what the people who will receive that message want, as well as their level of knowledge and ability to understand the subject matter.

- ADD file:

**Lecture 3: PowerPoint Slides**

- Add BOOK:

**Book: Tips to a successful Scientific Writing and Communication**

- ADD Video file (8 MB):

**Video: The Science of Communication II**

**Note: The file size should not exceed 32MB**

**Note: Preview type (popup)**



# Announcements: ADD NEWS Forum BLOCK (Latest Announcements)

## Announcement 1

**Subject:** Examination

**Message:**

Research Methodology Exam will be held on Monday, 04 Jan, 2018. Lecture 1 to 5 will be included in this Exam.

**Location:** Lecture Hall 16

**Time:** 10:30 am to 11:30 am

# How to Create an Assignment in a Moodle course?

# Lecture 2: Research Strategies, Planning, and Analysis

**Assignment Name** : Assignment-1: Writing a Research Proposal

## **Description**

For this assignment, you have to pick a research problem to write a research project proposal.

- Title
- Specific Aims
- Testable Hypotheses
- Background and Significance
- Innovation
- Research Design and Methods
- Preliminary data
- Expected research outcomes
- Common Pitfalls

For more info, please use the following links:

<https://www.niaid.nih.gov/grants-contracts/write-research-plan>

# How to Create a quiz in Moodle?

## Lecture 3

**Quiz Name:** Quiz-1: Research Strategies, Planning, and Analysis

**Question Name:** Research Design

**Question Text:** What is a research design?

- a) A way of conducting research that is not grounded in theory.
- b) The choice between using qualitative or quantitative methods.
- c) The style in which you present your research findings, e.g. a graph.
- d) A framework for every stage of the collection and analysis of data.**

# How to create a Forum?

## Lecture 3

**Forum Name:** Forum: Science Communication

**Subject:** Research Manuscripts

What are the differences between manuscripts intended for scientific journals and for public outreach?

# How to create a glossary?

- **Glossary Name:** Glossary: Methodology Terminology
- Add a new entry

## **Bias**

a loss of balance and accuracy in the use of research methods. It can appear in research via the sampling frame, random sampling, or non-response. It can also occur at other stages in research, such as while interviewing, in the design of questions, or in the way data are analyzed and presented. Bias means that the research findings will not be representative of, or generalizable to, a wider population.

# How to create a glossary?

## **Null Hypothesis**

the proposition, to be tested statistically, that the experimental intervention has "no effect," meaning that the treatment and control groups will not differ as a result of the intervention. Investigators usually hope that the data will demonstrate some effect from the intervention, thus allowing the investigator to reject the null hypothesis.

How to delete the course?



We will be happy to answer your questions?