

# Cihan University of Sulaimani

Computer Science Department

Research methodology

First lecture

By

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## Lecture conditions

- Course length: 14 weeks ( including mid-course examination)
- Course language: English
- Assessment (grading):
  - Mid course exam : 40%
  - Paper, Quizzes, Project, 10%
  - Final exam 50%

# Outline

- Aim & objectives of the course
- Course Syllabus & schedule
- Definition of the Research
- Objectives of the research
- Motivation in research
- Criteria of good research
- Research methods
- Steps of scientific research

## Objective

- To describe the content of the course to the students.
- To familiarize students with the meaning of research,
- Motivation in research,
- Objectives of research,
- Criteria of good research.

## Aim of the course

- To introduce concept and basic principles of conducting **health research**.

## Objectives of the course

- By the end of this course the students should be able to:
- Formulate and clarify research topic .
- Choose the study participants through applying different inclusion & exclusion criteria.
- Understand different types of health research.
- Critically reviewing literature .

## Objectives of the course ( Cont.)

- Construct appropriate questionnaire for data collection.
- Write different styles of referencing.
- Write research proposal and conduct a study.

# Lecture Schedule

Week No	Topic
1	Introduction & overview of the course
2	Research question
3	Choosing the study participants
4	Reviewing of literature
5	Study type part one
6	Study type part two
7	Mid term examination
8	Study type part 3
9	Designing of the questionnaire
10	Research ethics
11	Writing references-Vancouver style



# Lecture Schedule

Week. No	Topic
12	Writing references-Harvard style
13	Writing research proposal
14	Writing an article
15	End course examination

# What is Research ?

The systematic method consisting of **enunciating the problem**, formulating a hypothesis, collecting the facts or data, analyzing the facts and reaching certain conclusion either in the form of solutions towards the concerned problem or in certain generalizations for some theoretical formulation.



## Objectives of the research

- Find out truth which is hidden, and which has not been discovered yet.
- Gain familiarity with a phenomenon or to achieve new insights into it.
- Portray accurately the characteristics of a particular individual, situation or a group.
- Determine the frequency with which something occurs or with which it is associated with something else.
- Test a hypothesis of a casual relationship between variables.

## Motivation in research

- Research degree along with its consequential benefits.
- Face the challenge in solving the unsolved problem.
- Doing some creative work.
- Service to society.

## Criteria of good research

- Purpose should be clearly defined.
- Common concepts to be used.
- Explain procedure clearly - for continuity.
- Results should be as objective as possible.
- Report with frankness.
- Limitations of the study should be written

## Research methods

- A systematic way to solve the research problem .
- Science of understanding how research is done.
- Refer to the methods the researchers use in performing research operations.
- Study various steps adopted by a researcher

## Research methods(Cont.)

- Researchers should know the relevant method, and which are not.
- Consider the logic behind the methods we use in the context of our research study.
- Explain why we are using a particular method and why we are not using others, so that research results are capable of being evaluated by the researcher himself or by others

## Research methods( Cont.)

- Put into 3 groups,
  1. Methods which are concerned with data collection.
  2. Statistical techniques for establishment of relationship between data & unknown.
  3. Evaluating the accuracy of results obtained.





Any Question!