

## Course Description

Research Methodology course examines theories and methods associated with educational research methodologies through a consideration of definitions and purposes of research, approaches to framing the inquiry, methods, analysis and writing up the research project. The main objective of this course is to equip students with the confidence, critical understanding and skills to enable them to embark on their own educational research project. The course also aims to provide a basis for informed judgments about research methods and evidence those members of research-led profession need to make.

## Schedule<sup>1</sup>

Date	Time	Topic
Tue 04 DEC	8h30-12h30	Introduction
Fri 07 DEC	8h30-12h30 & 14h00-18h00	TBD
Mon 10 DEC	8h30-12h30	TBD
Wed 12 DEC	8h30-12h30	TBD
Mon 17 DEC	8h30-12h30 & 14h00-18h00	TBD
Thu 20 DEC	8h30-12h30 & 14h00-18h00	TBD
Fri 21 DEC	8h30-12h30	End

## Course Objectives

At the end of the program students should be able to demonstrate knowledge and understanding of:

- Theories of communications, management and methodologies relevant to research and development
- General and specific objectives of research related to IoT
- Research hypotheses and their importance
- Research methodologies (literature review, need of assessment, data collection, data analysis, validation, verification, and testing)
- Budgeting and financing of research projects
- Methods of statistical analysis
- Qualitative and quantitative research methods within IoT systems

## Course Content

### THEME 1: The Fundamentals

- Meaning of Research
- Definitions of Research
- Objectives of Research
- Motivation in Research
- General Characteristics of Research

---

<sup>1</sup>Subject to change based upon student input and instructor discretion.

- Criteria of Good Research
- Types of Research

## **THEME 2: Research Problem**

- What is a Research Problem
- Selecting the Problem
- Sources of the Problem
- Defining a Problem
- Statement of a Problem
- Delimiting a Problem
- Evaluation of a Problem

## **THEME 3: Review of the Related Literature**

- Meaning of Review of Literature
- Need of Review of Literature
- Objectives of Review of Literature
- Sources of Literature
- How to Conduct the Review of Literature
- Some Hints for the Review of Literature
- Reporting the Review of Literature

## **THEME 4: Research Project Planning & Writing the Research Proposal**

## **THEME 5: Qualitative Research**

## **THEME 6: Quantitative Research Methodologies**

- Descriptive Research
- Experimental, Quasi-Experimental Research
- Strategies for Analyzing Quantitative Data

## **THEME 7: Preparing Research Report**

## **Assessment Criteria**

- For the examination setting and marking the UR generic marking criteria will be used.
- For the assessment of the practical exercises, the UR assessment criteria will be used.
- For the assignment, criteria will be drawn up appropriate to the topic, based on the UR generic marking criteria.

<b>Component</b>	<b>Weightage (%)</b>
Assignments	30
Group work	30
Final Proposal	40

## RESOURCES

### Reference Text

- Practical Research: Planning and Design (10th or 11th ed.), by Paul D. Leedy and Jeanne Ellis Ormrod, Pearson Education (2016), ISBN 9780133741322

### Other Core Text

- Research Methodology by Reddy  
Publisher: APH Publishing Corporation (1 Dec 2004)  
Language English  
ISBN-10: 8176486728; ISBN-13: 978-8176486729
- Research Methodology by Khan  
ISBN: 9780761935896  
Publisher SAGE international
- Research Methodology: Techniques & Trends by V. V. Khanzode  
ISBN: 8170246482 ISBN-13: 9788170246480, 978-2008  
Publisher: APH Publishing Corporation
- Research Methodology by Debashis Chakraborty  
Published: Saurabh Publishing House  
ISBN: 9788189005276
- Research Methodology: A Step by Step Guide for Beginners by Ranjit Kumar  
Publisher: Sage Publications Ltd (28 Jan 1999)  
ISBN-10: 076196214X; ISBN-13: 978-0761962144
- Research Methodology by Bhattacharyya D K  
Publisher: Excel  
ISBN: 8183234972