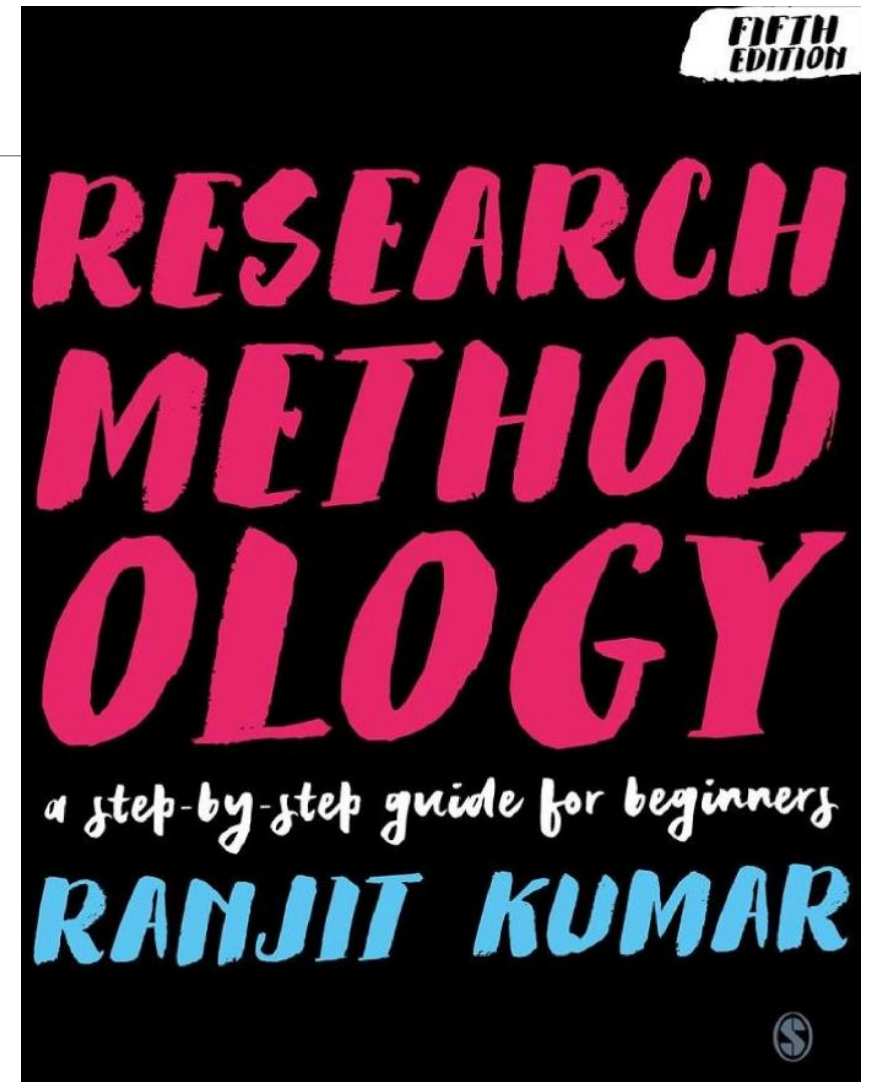


# RESEARCH METHODS FOR DATA SCIENCE

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## RESEARCH METHODOLOGY

- COURSE DESCRIPTION
- TOPICS TO BE COVERED
- COURSE LEARNING OUTCOMES
- LEARNING RESOURCES
- COURSE EVALUATION







What is the main  
purpose for this  
course?

# What is the main purpose for this course?

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- Understand research methods
- Develop skills of rigorous research necessary to propel the field forward
- Develop skills for selection of methods for the type of research being conducted
- Able to use current tools and applications for research

# Course Description

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- Provides an introduction to research methodologies for scientific research. The course focuses on developing a range of skills involved in formulating a research proposal; including framing research questions, reviewing the literature and choosing appropriate methodologies for different types of study. The ways in which researchers from different research traditions use the different methods of collecting research data (for example, interview, questionnaire and observation) will be included.

# Topics to be Covered

**Basics of research methodology**

**01**

**03**

**The research process**

02

06

**Formulating a research problem**

01

03

**Conceptualizing a research design**

01

03

**Constructing an instrument for data collection**

01

03

**Selecting a sample**

02

06

**Writing a research proposal**

01

03

**Collecting data**

02

06

**Processing and displaying data**

02

06

**Writing a research report**

01

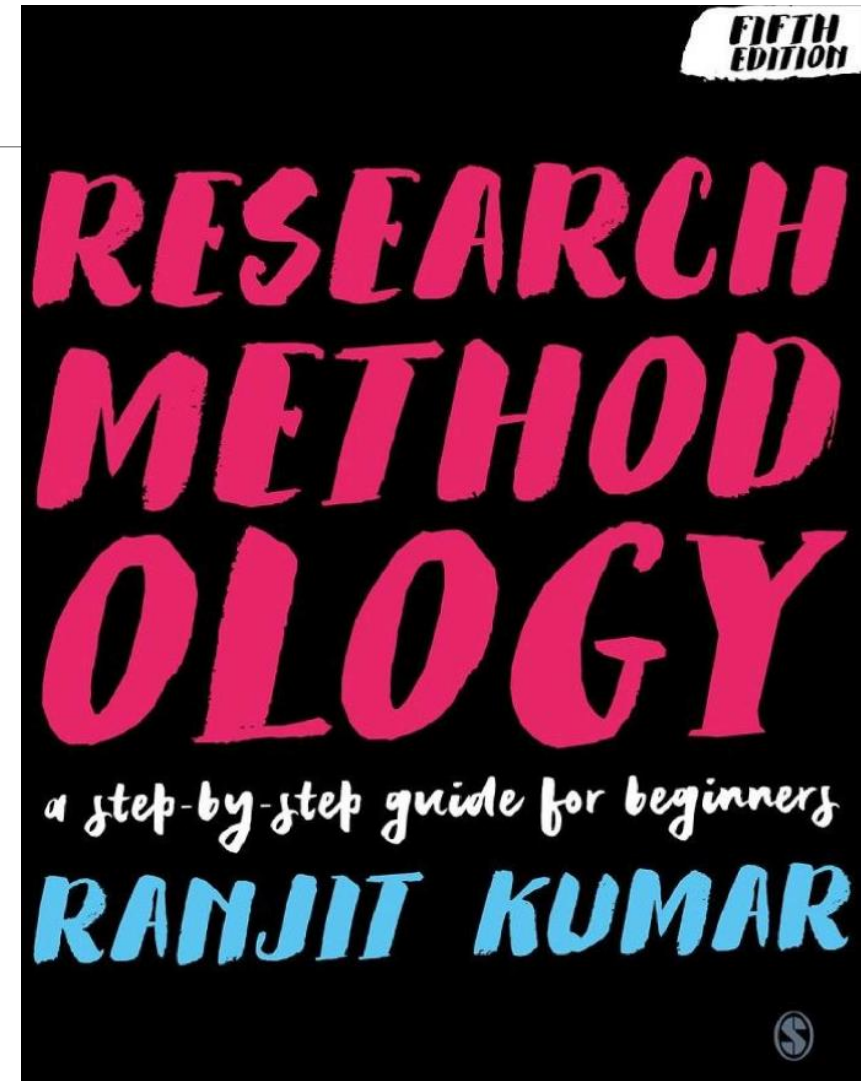
03

WHY THIS COURSE	COURSE DESCRIPTION	TOPICS TO BE COVERED	LEARNING OUTCOMES	LEARNING RESOURCES	COURSE EVALUATION
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Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0			Knowledge
1.1	Understand research methods	Text book reading, Case study	Quiz, Test, Lab exercise
1.2			
2.0			Cognitive Skills
2.1	Develop skills of rigorous research necessary to propel the field forward	Text book reading, Problem solving, Lab practice, Case study	Quiz, Test, Lab exercise
2.2	Develop skills for selection of methods for the type of research being conducted	Text book reading, Problem solving, Lab practice, Case study	Quiz, Test, Lab exercise
3.0			Interpersonal Skills & Responsibility
3.1	Present research findings to the target audience	Problem solving, Lab practice, Case study	Quiz, Test, Lab exercise
3.2			
4.0			Communication, Information Technology, Numerical
4.1	Able to use current tools and applications for research		

# Learning Resources

- Research Methodology: A Step-by-Step Guide for Beginners, Ranjit kumar, SBN-10: 9781446269978, ISBN-13: 978-1446269978





# Course Evaluation

Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
Quiz	03, 06, 09	15%
Midterm	08	20%
Term paper	08, 11	25%
Final	14	40%



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