

## Research Methods/Tools/Writing Course: 02 Credits

### III.3 Advanced Research Methodology

#### 1. Credit Distribution of the Course

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
III.3						
Advanced Research Methodology	2	2	0	0	Undergraduate	NIL

#### 2. Learning Objectives

This course deepens the students' understanding of experimental research design and non-experimental research design and advanced research techniques in educational research. It focuses on developing competence in formulating complex research problems, designing robust studies, using statistical and qualitative tools, and interpreting data ethically and meaningfully for experimental and non-experimental research design.

#### 3. Learning Outcome

- Understand the characteristics, forms, utility and limitations of different types of experimental research designs in education
- Compare non-experimental designs and experimental designs
- Differentiate non-experimental designs in educational research

#### 4. Syllabus

**[30 hours]**

**Unit 1 Experimental Research Designs** - Experimental Research: Key characteristics, Matching versus Randomization, Control of extraneous variables, treatments, Outcome measures, Group comparisons; Threats to internal and external validities; Steps in conducting experimental research: purpose and principles, research design as variance control, and types of experimental research design: true experiments, quasi-experimental designs, and factorial designs. **[15 hours]**

**Unit 2 Non-experimental Research Designs** - Non-Experimental Research: Concept, Basic differences between experimental and non-experimental research, Large- and smaller-scale non-experimental research, Correlational Designs: Concept, use, and characteristics; types,

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steps, evaluation, and ethical issues. Survey Designs: Concept, use, characteristics, types, steps in conducting survey research, tools, techniques, evaluation, and ethical issues. Mixed Methods Designs: Concept, use, and characteristics; types, steps, evaluation, and ethical issues. **[15 hours]**

### **5. Essential Readings**

- Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. Sage Publications.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education*. Routledge.
- Kothari, C. R., & Garg, G. (2019). *Research Methodology: Methods and Techniques*. New Age International.

### **6. Suggestive Readings**

- Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative Data Analysis: A Methods Sourcebook*. Sage.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2015). *How to Design and Evaluate Research in Education*. McGraw-Hill.
- Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and Conducting Mixed Methods Research*. Sage.