

PSY – 209: Quantitative Research Methods (3 CHs)

Pre-requisite: None

Course Description:

The course is designed to help students learn quantitative research methods, designs, and approaches for practical purposes.

Course Objectives:

The course will facilitate students to:

- Understand various aspects of quantitative research processes.
- Understand different experimental and non-experimental methods.
- Formulate problem statement research questions, research hypotheses, and usage of appropriate sampling techniques.

Course Learning Outcomes:

By the end of the course, students will be able to:

- Explain various aspects of quantitative research process.
- Analyze the importance of various quantitative methods of inquiry and sampling techniques.
- Develop research questions and hypotheses based on different experimental and non-experimental methods.

Course Contents:

- Research philosophies
- Starting the inquiry
 - Knowing about research
 - Exploration, description, and exploration
 - Knowing whom to research
 - Unit of analysis
 - Knowing how to research
 - Literature review
 - Secondary analysis
 - Knowing when to research
 - The importance of time
 - Research designs
- Identifying & formulating a research problem

- Choosing the topic
- Developing the questions
- Hypothesis-testing versus exploratory research questions some types of research questions
- Literature review
- The proposal
- Variables: definitions and measurements
 - Operational variables
 - Independent and dependent variables
 - The problems of error and confounding variables
 - Levels of measurements
 - Categorical and continuous variables
 - Formulation of a research question, objective, and hypothesis
- Sampling and ethics
 - What is sampling?
 - The target population
 - Bias and representativeness
 - Sample size
 - Sampling techniques
 - Probability sampling
 - Non-probability sampling
 - Alternative approaches to sampling and generalizability
- Ethical issues
 - Informed consent
 - Harms and benefits
 - Privacy and confidentiality
 - Ethics self-study exercise
 - Ethics committees
- Nonexperimental designs
 - Descriptive designs
 - Correlational designs
 - The nature and logic of correlations
 - Correlation versus causality
 - Measures in co-relational research
 - Interviews and questionnaires
 - Surveys
- Experimental designs
 - The role of experiments in psychology
 - Fundamentals of experimental designs

- Causality and research design
- Types of experimental designs
- Quasi-experiments
- Understanding of different research designs through articles

Note: The last two sections require more time than the first sections and therefore the instructors shall plan teaching plans accordingly.

Textbook:

- Goodwin, K. A., & Goodwin, C. J. (2016). Research in psychology: Methods and design. John Wiley & Sons.

Reference Books:

- Langdrige, D., & Hagger-Johnson, G. (2009). Introduction to research methods and data analysis in psychology. Pearson Education.
- Barker, C., Pistrang, N., & Elliott, R. (2015). Research methods in clinical psychology: An introduction for students and practitioners. John Wiley & Sons.
- Shaughnessy, J.J., Zechmeister, E. B., & Zechmeister, J. S. (2005). Research methods in psychology. (5th ed.). Singapore: McGraw-Hill.
- Any other material: Relevant articles, interactive videos, etc. will be furnished throughout the course