Study Guide for the Course
Advanced Research Methods in Psychology

Study Week	1st Week
Title	**Introduction to Advanced Research Methods**
LU Description	This introductory lesson on advanced research methods provides students with a foundational understanding of research methods in Psychology. The class aims to highlight the significance of research methods, differentiate between quantitative and qualitative research approaches, and introduce key concepts and principles in research methodology. The lesson encourages critical thinking about the research process and emphasizes the importance of validity and reliability in research
Concepts – Keywords	Research design, research questions, hypotheses, variables, data collection, sampling, data analysis, validity, reliability, literature review
Learning Outcomes	*1.* Identify key concepts and principles in research methodology *2.* Demonstrate an understanding of how different research approaches can be used to investigate specific research questions, *3.* Examine the strengths and limitations of different research approaches in addressing research questions, *4.* Formulate research questions that demonstrate an understanding of the relationship between research methods and specific research interests, *5.* Assess the appropriateness of different research approaches for addressing specific research questions, *6.* Critique research studies in terms of their strengths and limitations.
Study Week	2nd Week
Title	Ethical guidelines in psychological research
LU Description	This lesson provides doctoral students with an essential understanding of the ethical considerations and principles that guide ethical research practices. The class emphasizes the importance of ethical guidelines in protecting research participants and maintaining the integrity of psychological research.

	Students explore key concepts such as informed consent, privacy and confidentiality, protection from harm, beneficence, and research integrity.
Concepts – Keywords	Ethical Guidelines, informed consent, privacy and confidentiality, protection from harm, beneficence, research ethics committees, research integrity, ethical dilemma, debriefing, vulnerable populations, research misconduct.
Learning Outcomes	*1.* Identify key ethical principles and codes of conduct relevant to psychological research *2.* Apply ethical considerations to propose strategies for addressing ethical challenges in research, *3.* Analyze and evaluate the ethical implications of real-life case studies or examples of ethical dilemmas in psychological research, *4.* Assess the ethical implications and potential consequences of various research decisions and actions, *5.* Create strategies to address ethical challenges in psychological research, integrating multiple ethical principles and considering the specific context.
Study Week	3rd Week
Title	Experimental Design and Control
LU Description	This lesson introduces doctoral students to the fundamental concepts and principles of experimental design in psychological research. The class focuses on the importance of designing experiments that establish causal relationships between variables and minimize potential biases. Through a combination of lectures, group activities, and discussions, students explore key concepts such as independent and dependent variables, control groups, random assignment, and the manipulation of variables.
Concepts – Keywords	Experimental design, independent variable, dependent variable, control group, random assignment, manipulation of variables, internal validity, external validity, confounding variables, counterbalancing, Quasi-Experimental Design, Between-Subjects Design, Within-Subjects Design.
Learning Outcomes	*1.* Identify and define key terms related to experimental design, such as independent variables, dependent variables, control groups, and random assignment.

	2. Differentiate between experimental and non-experimental research designs. 3. Apply knowledge of experimental design principles to design an experiment based on a given research question or hypothesis. 4. Analyze the strengths and limitations of different experimental designs in terms of internal validity and the ability to establish causal relationships. 5. Evaluate the internal and external validity of experimental designs in terms of their ability to establish causal relationships and generalize findings. 6. Synthesize knowledge of experimental design principles to create an experiment that effectively tests a research question or hypothesis.
Study Week	4th Week
Title	Formulating Research Questions and Hypotheses
LU Description	This lesson is an exploration of the initial stages of research in psychology. It guides students through the process of formulating research questions and hypotheses, emphasizing the critical role these elements play in shaping the entire research endeavor. Students will learn to identify key concepts, define variables, and develop clear, testable research questions. Additionally, they will understand how hypotheses provide specific predictions that guide research design and data analysis.
Concepts – Keywords	Research questions, Hypotheses, Variables, Testable, Specific predictions, Research design
Learning Outcomes	1. List the key components of a well-formulated research question, 2. Describe how hypotheses provide specific predictions in research, 3. Formulate research questions based on given research topics, 4. Evaluate the clarity and testability of research questions, 5. Construct hypotheses that align with research questions and guide data collection and analysis.
Study Week	5th Week
Title	Measurement in Research

LU Description	This lesson is designed to provide students with a fundamental understanding of the importance of measurement in the research process, particularly in the field of Psychology. Measurement is a critical aspect of research as it allows researchers to quantify and collect data about various psychological phenomena. This lesson explores key concepts related to measurement, the different measurement scales, reliability, validity, and the process of selecting appropriate measurement tools.
Concepts – Keywords	Measurement, Scales of Measurement, Reliability, Validity, Measurement Tools, Psychometric Properties.
Learning Outcomes	*1.* Define measurement and its role in research *2.* Differentiate between the various scales of measurement and their characteristics, *3.* Select an appropriate scale of measurement for a given research scenario, *4.* Analyze the psychometric properties of a specific measurement tool, *5.* Critique the appropriateness of measurement tools used in published research studies, *6.* Create a measurement plan for a hypothetical research study, including the selection of appropriate measurement tools and the consideration of reliability and validity.
Study Week	6th Week
Title	Sampling Methods
LU Description	Understanding different sampling methods and their advantages and disadvantages is crucial for ensuring the validity and generalizability of research findings. In this lesson, we explore various sampling techniques, their applications, and the factors that influence their selection.
Concepts – Keywords	Population, Sample, Sampling Frame, Random Sampling, Stratified Sampling, Convenience Sampling, Sampling Bias, Simple Random Sampling, Systematic Sampling, Cluster Sampling, Purposive Sampling, Snowball Sampling, Non-Probability Sampling, Sample Size, Sampling Error.
Learning Outcomes	*1.* Identify the key components of a sampling frame, *2.* Differentiate between probability and non-probability sampling methods,

	3. Calculate the required sample size based on research objectives, 4. Evaluate the potential sources of sampling bias in a research design, 5. Propose strategies for minimizing sampling errors in research, 6. Critique the validity and generalizability of research findings based on the chosen sampling method.
Study Week	7th Week
Title	Quantitative Research
LU Description	This lesson provides an in-depth exploration of quantitative research methods in psychology. Quantitative research is a systematic approach to studying psychological phenomena using numerical data and statistical analysis. In this lesson, we will delve into the fundamental principles, methodologies, and techniques of quantitative research, empowering students to design, conduct, and interpret quantitative studies effectively.
Concepts – Keywords	Quantitative Data, Hypothesis Testing, Variables, Surveys and Questionnaires, Experimental Design, Statistical Analysis, Descriptive Statistics, Inferential Statistics, Sampling, Regression Analysis, Validity and Reliability.
Learning Outcomes	1. Describe the fundamental principles of quantitative research, including key terms and concepts, 2. Explain the purpose of quantitative research and its role in advancing psychological knowledge, 3. Apply appropriate quantitative research methodologies and statistical techniques to analyze data and address research questions, 4. Evaluate the strengths and limitations of quantitative research designs and statistical methods, 5. Develop research hypotheses and design a quantitative research study, considering variables, data collection methods, and analysis, 6. Critique the validity and reliability of quantitative research findings, and assess their relevance and generalizability to real-world contexts.
Study Week	8th Week
Title	Qualitative Research

LU Description	This lesson provides an introduction to qualitative research methods in psychology. Qualitative research is a valuable approach for exploring complex phenomena, understanding human experiences, and gaining insights into subjective aspects of behavior and cognition. In this lesson, students will delve into the foundational principles, techniques, and ethical considerations associated with qualitative research. They will explore the various data collection methods, data analysis techniques, and the role of the researcher in qualitative inquiry.
Concepts – Keywords	Qualitative Research, Phenomenology, Grounded Theory, Ethnography, Case Study, Interviews, Focus Groups, Participant Observation, Coding and Categorization, Data Saturation, Reflexivity, Exploration, Context, Subjectivity, Inductive, Emergent, Themes, Interpretation Validity, Rigor.
Learning Outcomes	*1.* Describe the fundamental principles of qualitative research, *2.* Explain the key differences between qualitative and quantitative research approaches, *3.* Demonstrate an understanding of various qualitative data collection methods and their appropriate use in research contexts, *4.* Analyze qualitative data through coding, categorization, and theme development, *5.* Evaluate the ethical considerations involved in qualitative research, including informed consent and confidentiality, *6.* Develop a basic qualitative research proposal, outlining research questions, data collection methods, and data analysis approaches.
Study Week	9th Week
Title	Mix Methods Design
LU Description	This lesson explores the concept of mixed methods research, which involves combining both qualitative and quantitative research methods within a single research study. Students will gain an understanding of the fundamental principles, advantages, and challenges associated with mixed methods research designs. They will learn how to select appropriate research questions for mixed

	methods studies, integrate qualitative and quantitative data, and draw meaningful conclusions.
Concepts – Keywords	Mixed methods research, Qualitative research, Quantitative research, Research questions, Data integration, Triangulation, Data collection, Data analysis, Validity, Reliability
Learning Outcomes	*1.* Describe the key characteristics of mixed methods research and differentiate between qualitative and quantitative data, *2.* Explain the advantages and challenges of using mixed methods designs in research, *3.* Select appropriate research questions and data collection methods for a mixed methods study, *4.* Evaluate the process of integrating qualitative and quantitative data to address research objectives, *5.* Design a mixed methods research plan that includes data collection, analysis, and interpretation, *6.* Assess the validity and reliability of findings obtained from mixed methods research.
Study Week	10th Week
Title	Statistical Analysis Techniques, Interpretation of Results I
LU Description	This lesson provides a comprehensive introduction to various statistical analysis techniques commonly used in psychological research. Students will explore the fundamental concepts and applications of statistical methods, including descriptive statistics, inferential statistics, non-parametric tests, and analysis of variance (ANOVA). Additionally, the lesson introduces the critical skill of interpreting research results obtained through these statistical techniques. Students will learn how to translate statistical findings into meaningful insights, draw conclusions, and communicate their interpretations effectively.
Concepts – Keywords	Descriptive statistics, inferential statistics, non-parametric tests, ANOVA, interpretation of results.
Learning Outcomes	*1.* Describe the key concepts and principles of foundational statistical analysis techniques, *2.* Explain the applications and significance of these statistical methods in psychological research, *3.* Analyze statistical results critically and begin the process of interpreting research findings,

	4. Synthesize statistical findings with research objectives to form preliminary interpretations, 5. Evaluate the clarity and effectiveness of initial result interpretations.
Study Week	*11th Week*
Title	**Statistical Analysis Techniques, Interpretation of Results II**
LU Description	In this lesson, students continue their exploration of statistical analysis techniques in psychological research. This part covers advanced methods, including multivariate analysis of variance (MANOVA), factor analysis, principal component analysis, cluster analysis, multivariate regression, and Structural Equation Models (SEM). The lesson further develops the skill of interpretation of results, emphasizing the integration of statistical findings with research objectives and theoretical frameworks to draw meaningful conclusions and effectively communicate research outcomes.
Concepts – Keywords	MANOVA, factor analysis, principal component analysis, cluster analysis, multivariate regression, Structural Equation Models (SEM), interpretation of results.
Learning Outcomes	1. Understand advanced statistical analysis techniques and their applications, 2. Explain the significance and complexity of advanced statistical methods in psychological research, 3. Analyze statistical results critically and interpret them in the context of research questions, 4. Synthesize statistical findings with existing literature and research objectives to generate meaningful insights, 5. Evaluate the clarity and effectiveness of result interpretations and their alignment with research objectives.
Study Week	12th and 13th Week
Title	Searching and Reviewing Relevant Literature Writing and Communicating Research Findings
LU Description	This lesson provides an in-depth understanding of the research process in psychology, covering the critical steps from literature review to effective communication of research findings. Students will learn how to search for and critically review relevant literature, as well as how to write and present their research clearly and ethically.

Concepts – Keywords	Literature Review, Databases (e.g., PubMed, PsycINFO), Boolean Operators, Search Strategies, Peer-Reviewed Journals, Critical Appraisal, Synthesis of Findings, Scholarly Writing, APA Style, Citations and References, Ethical Reporting, Research Reports, Oral Presentations, Visual Aids, Peer Review.
Learning Outcomes	*1.* Understand the significance of a literature review in the research process, *2.* Explain the use of Boolean operators and search strategies in database searches, *3.* Create a research report following APA guidelines, *4.* Critically evaluate research articles for their quality and relevance, *5.* Synthesize and organize findings from the reviewed literature, *6.* Develop a well-structured literature review section for a research paper.

Title of LO	**Reflection**
Learning Outcomes	**LO1-LO6**
Language	**English**
Type	**Reflection**
Supporting Resources (Bibliography/ Webography)	

Content of Learning Object

Instructions:

At the end of the semester, PhD students are asked to complete a reflective essay (3-5 pages) where they consider their experiences and motivations for pursuing PhD studies in psychology.

Guiding Questions for Reflection:

1. **Personal Journey in Psychological Science**:
    - How has your understanding of psychological science evolved since you began your academic journey?
    - Reflect on key moments or experiences that led you to pursue a career in psychology.
    - What challenges have you faced during your academic journey, and how have you grown as a result?

2. **Decision to Pursue PhD Studies**:
    - What motivated you to start PhD studies in psychology?
    - Was there a specific moment or realisation that led you to decide on pursuing a PhD?
    - How do you feel now about that decision, and has your perspective changed over time?
3. **Research Motivation and Goals**:
    - What specific research questions do you want to answer with your PhD research?
    - Why are these questions important to you? How do they align with your values or career aspirations?
    - How do you feel your research addresses key gaps or challenges in psychological science?
4. **Impact of Your Research**:
    - What kind of impact do you hope your research will have in the field of psychology or society at large?
    - How do you envision your work contributing to theoretical, practical, or societal change?
    - What long-term goals do you have for your research, and how do you see it shaping your career as a psychologist?
5. **Looking Ahead**:
    - Reflect on how the research methods and skills you've developed will help you achieve your research objectives.
    - What further personal and academic growth do you want to achieve as you continue your PhD studies?
    - How do you plan to stay motivated and inspired throughout your doctoral journey?