Program	BS Physical Education	Course Code	PE-305	Credit Hours	02
Course Title	**Research Methodology in Physical Education (Theory)**				

Course Introduction

This course provides a comprehensive understanding of research methodologies and their applications in physical education and sports sciences. It covers the entire research process, including formulating research questions, literature review, research design, data collection and analysis, and presenting and interpreting research findings.

Learning Outcomes

On the completion of the course, the students will:

- Understand the fundamental concepts of research methodology.
- Formulate research questions and hypotheses.
- Conduct a thorough literature review.
- Design and implement various types of research studies.
- Collect, analyze, and interpret quantitative and qualitative data.
- Present research findings clearly and effectively.
- Critically evaluate research articles and studies in physical education and sports sciences.

	Course Content	Assignments/Readings
Week 1	**Introduction to Research Methodology** • Definition and importance of research in physical education • Types of research: basic, applied, and action research • Overview of the research process	From Books and Class Lectures
Week 2	**Developing Research Questions and Hypotheses** • Identifying research problems • Formulating research questions and hypotheses • Importance of clear and focused research questions	From Books and Class Lectures
Week 3	**Literature Review** • Purpose and scope of literature review • Sources of literature: books, journals, online databases • Techniques for conducting a comprehensive literature review	From Books and Class Lectures
Week 4	**Research Design** • Types of research designs: experimental, quasi-experimental, descriptive, and correlational	From Books and Class Lectures

	• Choosing an appropriate research design • Ensuring validity and reliability	
Week 5	**Sampling Techniques** • Population and sample • Probability and non-probability sampling methods • Determining sample size	From Books and Class Lectures
Week 6	**Data Collection Methods** • Quantitative data collection methods: surveys, questionnaires, tests • Qualitative data collection methods: interviews, focus groups, observations • Combining quantitative and qualitative methods	From Books and Class Lectures
Week 7	**Measurement and Instrumentation** • Types of measurement scales: nominal, ordinal, interval, ratio • Developing and validating research instruments • Ethical considerations in data collection	From Books and Class Lectures
Week 8	**Practical Session: Designing a Research Study** • Hands-on experience in designing a research study • Group projects and presentations • Peer feedback and critique	From Books and Class Lectures
Week 9	**Data Analysis: Quantitative Methods** • Descriptive statistics: mean, median, mode, standard deviation • Inferential statistics: t-tests, ANOVA, correlation, regression • Using statistical software for data analysis	From Books and Class Lectures
Week 10	**Data Analysis: Qualitative Methods** • Coding and categorizing qualitative data • Thematic analysis • Using qualitative data analysis software	From Books and Class Lectures
Week 11	**Interpreting Research Findings** • Making sense of quantitative and qualitative data • Concluding research findings • Discussing implications and limitations	From Books and Class Lectures

Week 12	**Writing the Research Report** • Structure and components of a research report • Writing an effective introduction, methodology, results, and discussion sections • Referencing and citation styles	From Books and Class Lectures
Week 13	**Presenting Research Findings** • Preparing effective presentations and posters • Communicating research findings to different audiences • Using visual aids and technology in presentations	From Books and Class Lectures
Week 14	**Practical Session: Data Analysis and Presentation** • Hands-on practice with data analysis techniques • Developing presentations and posters • Group presentations and feedback	From Books and Class Lectures
Week 15	**Ethical Issues in Research** • Ethical principles in research • Informed consent and confidentiality • Addressing ethical dilemmas in research	From Books and Class Lectures
Week 16	**Review and Final Exam Preparation** • Review of key concepts and principles • Mock exams and practice questions • Final exam preparation	From Books and Class Lectures

Textbooks and Reading Material

Textbooks

- Annamalai, A., & Soundararajan, S. (2016). Statistical methods for sports and physical education. PHI Learning.
- Ary, D., Jacobs, L. C., Sorensen, C. K., & Razavieh, A. (2018). Introduction to research in education. Cengage Learning.
- Gratton, C., & Jones, I. (2019). Research methods for sports studies. Routledge.
- Jones, I., Brown, L., & Holloway, I. (2018). Qualitative research in sport and physical activity. Routledge.
- Marczyk, G. R., DeMatteo, D., & Festinger, D. (2017). The essentials of research design and methodology. Wiley.
- Thomas, J. R., Nelson, J. K., & Silverman, S. J. (2021). Research methods in physical activity. Human Kinetics.

Suggested Readings

- **Journals**: Research Quarterly for Exercise and Sport, Journal of Physical Education, Recreation & Dance, Journal of Sports Sciences

- **Websites**: American Educational Research Association (AERA), International Journal of Sports Science & Coaching
- **Videos**: Online tutorials on research methods, webinars on conducting research in physical education