

**COURSE CURRICULUM
FOR
DOCTOR OF PHILOSOPHY (PH. D)
IN
PHYSICAL EDUCATION
(w.e.f., 2019-2020)**



**DEPARTMENT OF PHYSICAL EDUCATION
RAJIV GANDHI UNIVERSITY
RONO HILLS, DOIMUKH
ARUNACHAL PRADESH-791112**

Overview

As per the university ordinance, the research scholars who are provisionally registered for the Ph.D programme will have to undergo Pre-Ph.D. course work. The course work is mandatory for all the fresh candidates and those engaged in regular employment. It is mandatory for the scholars to attend at least 80% of the allotted classes. Course curriculum of Ph.D course work in physical education includes two papers comprising of Research Methods (PHDPE-01) and Statistics & Computer application in Physical Education (PHDPE-02) are compulsory paper. For continuation evaluation the scholars are required to appear internal assessment/present seminar/review paper/assignment out of 25 marks and written examination out of 75 marks during the course work conducted by the department.

Doctor of Philosophy (Ph. D) in Physical Education

COURSE STRUCTURE

Sl. No.	Paper code	Title of Paper	Max mark	Internal	External
1	PHDPE-01	Research Methods	100	25	75
2	PHDPE-02	Statistics and Computer Application in Physical Education	100	25	75

Research Methods (PHDPE-01)

Unit -1

- Basic concept of Research, types and Steps of Research
- Methods of research
- Hypothesis: Meaning, Basis, Types, Testing of hypothesis- Type I Error, Type II Error, One Tailed Test and Two Tailed Test.

Unit- II

- Sampling: Population, Sample, Sampling Techniques- Probability Sampling and Non- Probability Sampling, Size of sample and Sampling Error.
- Variables and its classification.
- Review of literature: Sources, types and importance.

Unit-III

- Research Tools: Characteristics, Types, Selection of appropriate tool
- Construction and Standardization of tools-Reliability, Validity and Norms.
- Experimental Designs

Unit-IV

- Ethical issues in research: Areas of scientific dishonesty; ethical issues regard copyright; Scientific Misconduct; human subjects.
- Research Report and proposal: Quality Proposal; Salient features of Proposal
- Basic guidelines of Research Report; Parts of research Reports.

Suggested Readings:

1. Barrow, H. M. (1979). *Practical Approach to Measurement in Health & Physical Education*. (3rd ed.). Philadelphia: Lee & Febigeer
2. Best, J. W. & Kahn, J. V. (2006). *Research in Education*.(10th ed.). New Delhi: PHI
3. Clark, D. H. & Clark, H. H. (1979). *Research process in Physical Education, recreation & health*. Englewood Cliffs: prentice Hall.
4. Johnson, B. & Christensen, L. (2008). *Education Research, Quantitative, Qualitative and Mixed Approaches*. (3rd ed.). Sage Publication: England.
5. Miller, David. K. (2002). *Measurement by the Physical Educator*. New York: McGraw Hill companies. John & Nelson (1998). *Practical Measurements for Evaluation in Physical Education*. Delhi: Surjit Publication.
6. Sprinthall, R. C. (1997). *Basic statistical Analysis*. (5th ed.). USA: Allyn & Bacon
7. Thomas, J. R. & Nelson, J. K. (2001). *Research Methods in Physical Education*, (4th ed.). USA: Human Kinetics.

Statistics and Computer application in Physical Education (PHDPE-02)

Unit-I

- Basic concepts of Statistics and Parameter
- Parametric and Non- Parametric Statistics
- Different Statistical Techniques

Unit-II

- Parametric Statistics: One way ANOVA, Two way ANOVA
- One way ANCOVA
- Correlation: Regression Analysis, Assumptions, Calculation, and Interpretation.

Unit-III

- Non- Parametric Statistics: Chi-Square, Mann Whitney U Test, Assumptions, Calculation, and Interpretation.

Unit-IV

- Statistical Software Package: Preparations of data file: Types of data, defining variables and its properties, data entry validating data. Installing and starting the statistical package. Computations of descriptive statistics and its interpretation.
- Computing Statistical Techniques using the software: Prepare the correlation matrix and compute partial and multiple correlations, Regression analysis with step and step down methods, Application of t, F and Z tests, one and two way Analysis of variance, Chi Square tests

Suggested Readings:

1. Jerry R Thomas & Jack K Nelson (2000) Research Methods in Physical Activities; Illinois; Human Kinetics;
2. Kamlesh, M. L. (1999) Reserach Methodology in Physical Education and Sports, New Delhi
3. Rothstain A (1985) Research Design and Statistics for Physical Education, Englewood Cliffs: Prentice Hall, Inc
4. Sivaramakrishnan. S. (2006) Statistics for Physical Education, Delhi; Friends Publication
5. Garrett ,H.E (2000) Statistics in Psychology and Education, Hyderabad: International Book Bureau
6. J. P. Verma(2012) Using SPSS: An Interactive Hands - On Approach, Sage South Asia
7. J. P. Verma(2015) Repeated Measures Design for Empirical Researchers, Wiley-Blackwell