

DAV UNIVERSITY JALANDHAR



**Course Scheme & Syllabus
For
Ph.D (Physical Education)
(Program ID-)**

Syllabi Applicable for Admissions in 2019 onwards

DAV University, Jalandhar

S.No	Paper Code	Course Title	Course Type	L	T	P	Cr	TOTAL
1	PHE- 901	Research Methods & Applied Statistics	Core	4	0	0	4	100
2	PHE- 902	Seminar -I	Core	0	0	0	2	50
3	PHE - XXX	Elective Subject	Departmental Elective	4	0	0	4	100
4	PHE - XXX	Elective Subject	Departmental Elective	4	0	0	4	100

Total Credits: 14

L: Lectures

T: Tutorial

P: Practical

Cr: Credits

Departmental Elective (Choose any two courses)

S.No	Paper Code	Course Title	Course Type	L	T	P	Cr	TOTAL
1.	PHE - 903	Sports Psychology	Department Elective	4	0	0	4	100
2.	PHE - 904	Exercise Physiology	Department Elective	4	0	0	4	100
3.	PHE - 905	Evaluation Technology in Physical Education & Sports	Department Elective	4	0	0	4	100
4.	PHE - 906	Management of Physical Education & Sports	Department Elective	4	0	0	4	100
5.	PHE - 907	Sports Biomechanics	Department Elective	4	0	0	4	100

COURSE TITLE: RESEARCH METHODS AND APPLIED STATISTICS
COURSE CODE: PHE901

L	T	P	Credits	Marks
4	0	0	4	100

On completion of the course the students shall be able to:

- Explain the meaning of research, classify different types of research, Analyze different methods of research, Discuss types of sampling, Use of different tools for data collection, use of different statistical techniques in different research studies, Interpret the analyzed data.

UNIT – I

Meaning, Nature and scope of Research. Importance of Research in General and with special reference to Physical Education and Sports. Research Problem: Selection of Problem. Developing Problem statement. Meaning and significance of hypothesis. Types of hypothesis. Critical Thinking Continuum. Descriptive Studies-Board Survey, Questionnaire, Opinionative and Interview. Case Studies and Profiles. Review of Literature and Sampling.

UNIT – II

Experimental Methods (Designs and applicable statistical procedure), Control of Experimental Factors. Principles of Experimental Enquiry (Mill's Canons). Establishing a Research Laboratory. Difference between Abstract Research Proposal and Research Report. Format of Research Report. Tables and Figures.

UNIT - III

Analysis of Variance: Need for Analysis of Variance, Standard deviation or combined samples. One-way Analysis of Variance. Analysis of Covariance, Need for Analysis of Covariance, Application of Analysis of Covariance. Partial and Multiple correlations, Meaning and limitations of Partial correlation methods, Different order of Partial correlation and its computation. Partial Standard Deviation. Meaning of Multiple correlation. Computation of various order of multiple correlation. Law of diminishing return and characteristics of multiple correlations. Application of partial and multiple correlations in research.

UNIT – IV

Prediction and Wherry Doolittle Method, Meaning of prediction. Two variable regression equation, Multiple regression equations, Wherry Doolittle Method of Multiple correlations. Special correlational and Non-Parametric Methods. Chi-square, Rank difference method of correlation, Bi serial correlation, Tetra choric correlation, Phi-coefficient, Contingency coefficient, Curvilinear Relationships Introduction to computers and its application in Research.

REFERENCES:

1. Barg W.R. and Gall, M.D., Educational research an introduction. Logmen Inc, New York,1979
2. Clarke, H. David., Research Processes in Physical Education, Recreation &Health Prentice Hall Inc. 1985.
3. Cohen, L. and Holliday, M., Statistics For Education and Physical Education. Harper & Row, Publishers: New York, 1979.
4. Daniel, W. W., Biostatistics: A foundation for Analysis in the Health Sciences 7th Ed. John Wiley & Sons, Inc.: New York, 2000.
5. Garrett, H.E, Statistics in Psychology and Education, David McKay Company Inc.: New York, 1966.
6. Kamlesh, M.L, Methodology of Research in Physical Education and Sports, Metropolitan Publication: New Delhi, 1986.

COURSE TITLE: SEMINAR-I

COURSE CODE: 902

L	T	P	Credits	Marks
0	0	0	2	50

Instructions and Guidelines for Seminar

1. Since PhD students must demonstrate the ability to interact with their peer group coherently, this course is designed to prepare students for research presentations.
2. This seminar will be related to the field of research.
3. During the course, researchers are expected to meet their guides regularly to seek guidance.
4. The final responsibility for giving effective presentations lies with researchers, not guides.
5. The evaluation will be based on contents and presentation skills of students.
6. Researchers must have a sound understanding of the research tools.
7. Students will have to meet the deadlines given by their respective guides and the department.
8. Each researcher will have to prepare a PPT on the topic approved by his/her guide.
9. Each researcher will be given 30-40 minutes for presentation
10. Slides must present researchers' work comprehensively.

COURSE TITLE: SPORTS PSYCHOLOGY
COURSE CODE: PHE 903

L	T	P	Credits	Marks
4	0	0	4	100

UNIT – I

The History and Development of Sport Psychology. Psychology of Play: Traditional theories of Play, Twentieth century theories of Play. The Psycho-analytic position on Play. The behaviouristic position on Play, the Cognitive position on play. Psychology of Motor Learning: Meaning of the term, perceptual Motor Learning, Retention of Motor Skill, and Transfer of skill, Measurement of Learning and Learning curve. Attention and its role in Learning Motor Skill.

UNIT – II

Psychology of Running: Running through your mind, running addiction, the Anxiety of Runner. Children in Sports: Early Psychological Experiences, Motivation of children in Sports, Emotions of children in sports, child and coach, children and competitive Sport. Women in Sport: Issues and controversies. Physical Activities and the Psychological development of the Handicapped. Moral Growth in Sport.

UNIT – III

Personality of Sportsperson and Coach. Nature of Personality, The role of Heredity in Personality, Personality Traits and Sportspersons, Assessment of Personality Traits, The Coach and his personality. Problems of Sportspersons and how to solve them. Motivation in Sports Nature of Motivation, Theories of Motivation, Achievement Motivation, Motivation and Participation in Physical Activity, Drop Outs in Sports. Aggression in Sports, theories of Aggression, Causes of Aggression, Aggression and its influence on performance.

UNIT – IV

Socio-Psychological Dimensions of Sport: Sport performance in groups, Team cohesion, sociology in sports, Leadership in Sport, Sport Audience and its effect on performance, Psychology of Competition. Psychological characteristics of Pre, during and post competition (Anxiety, Fear, Frustration), Mental Training, Psychological Preparation for competition. Psychological load in Competitive Sports: Meaning of Psychological load, performance and mental load capacity of sportspersons. Volitional Regulation in Sports. Characteristics of Volitionally Regulated Actions. Factors affecting volitional regulation, Development of Volitional qualities.

REFERENCES:

- Authors Guide (2013) National Library of Educational and Psychological Test (NLEPT)
- Catalogue of Tests, New Delhi: National Council of Educational Research and Training Publication.
- Authors Guide (2013) National Library of Educational and Psychological Test (NLEPT) Catalogue of Test, New Delhi: National Council of Educational Research and Training Publication

PAPER TITLE: EXERCISE PHYSIOLOGY
PAPER CODE: PHE 904

L	T	P	Credits	Marks
4	0	0	4	100

UNIT – I

Structure and functions of Muscle: Classification of muscles, Structure of Muscle tissues, various theories of muscular, contraction. Hypertrophy of muscles in relation to physical activity. Neuromuscular Physiology. Neuro motor units, Neuro muscular junction, bioelectric potential, kinesthesia Tone and Equilibrium. Bio-Energetics

Feel for muscular work, and energy for muscular contraction, aerobic and anaerobic system, interrelationship of aerobic and anaerobic system with special reference to different activities. Anaerobic – Threshold training. Physiological Changes due to exercise and training.

UNIT – II

Cardio vascular system and Exercise. Respiratory system and Exercise. Oxygen debt, Second wind, Micro-circulation. Effect of exercise of carbohydrate, fat and protein metabolism.

Work and Environment. Work capacity under different environmental condition such as hot, humid, cold and high altitude. Sports and Nutrition. Physiological considerations of diet in relation to components, quantities and significance, sports and diet, diet before during and after competition.

UNIT – III

Glycogen boosting: Determination of energy cost of various sports activities

Role of Sports Medicine in the field of Physical education and sports. Effect of smoking, drinking and drugs on athletic performance, Dope testing. Prediction and Performance by lab and field testing. Role, importance and construction of any National Physical Fitness Programme – a Physiological approach.

UNIT – IV

Effect of Exercise on various body systems. Instrumentation. Various instruments/equipment used in the field of exercise physiology lab in bio-chemical, histological and other studies.

Sex difference and Sports: Exercise – Aging and Cardio-vascular diseases.

REFERENCES:

- Bourne, Geoffery H. “The Structure and Function of Muscles” (London Academic Press) - 1973.
- Astrand, P.O. and Rodahl; Karre. “Text Book of work Physiology” (Tokyo Mc Graw. Hill Xogakusha, Ltd. 1979)
- Mathew. D.K. and Fox, E.L. “Physiological Basis of Physical Education and Athletics” (Philadelphia W.B. Saunder Company 1976)
- Wilmore H. Jack and Costill L.Pavid, “Physiology of Sports and Exercise” (Human Kinetics, 2004).
- Roberys A. Robert and Robert O. Scott. “Fundamental Principles of Exercise Physiology” (Mc. Grew Hill Companies, Inc. 2000).
- Adams M. Gene Exercise Physiology: Laboratory Manual, (WCB Mc Grew-Hill Companies, Inc, 1988).
- Katch L. Victor, Katch I. Frank and Mcardle D. William, “Exercise Physiology” (Williams & Wilkins, A Waverty Company, 1966).

**COURSE TITLE: EVALUATION TECHNIQUES IN PHYSICAL
EDUCATION AND SPORTS
COURSE CODE: PHE 902**

L	T	P	Credits	Marks
4	0	0	4	100

UNIT – I

Introduction to Measurement and Evaluation. Critical Appraisal of the definitions of Tests Measurement and Evaluation. Classification of Tests. Items to be included in objective and subjective tasks and their advantages and limitations objective and subjective tests. Grading the students. Use of Grades. Philosophical consideration in assignments of Grades. Mechanical Grading Systems, Norms References Grading System, Normal Curve Grading. Natural Break Grading, Criterion Referenced Grading System, Absolute Percentage Grading, Relative absolute percentage Grading. Role of Grading in motivating and Discipline students

UNIT – II

Anthropometric Measurements. Why measure body structure and Composition. Sheldon's body type classification. Girth Measurement – Chest, Upper Arm, Forearm, Thigh and Calf. Breadth Measurement- Shoulder Width, Chest Width, Elbow Width, Hip Width and knee Width. Stature Measurement - Standing Height, Sitting Height, Arm Length and Leg Length
Basic performance traits - Strength tests - Cardiovascular tests. Multiple performance traits - Meter abilities – Athletic ability - Physical fitness – motor, fitness. Domains of behaviour - Psychomotor domain - Cognitive domain. Philosophical perspective. A systematic mode of evaluation. Formative and summative evaluation. Norm and criterion reference standards. Trends in Measurement and evaluation. Development of Instruments of evaluating skill and knowledge.

UNIT – III

Teaching Students how to take Tests. Familiarity with the Testing Medium. Preparing for the test. Test Wizeness. Norms and Scales. Raw scores and Derived Scores. Name- Grade Norms, Age Norms, Percentage Norms, Standard Scores Norms. Choice of types of scale. Criterion for Selecting Norms. Body Composition. Measuring body Density from under water weighing Converting Body Density to a percent Body fat. Predicting Body Density by skin fold Equations. Measuring skinfold fat. Computing Body Density and Percent Body Fat. Optimum percent body Fats, desirable Body weight. Weight Loss Programme

UNIT – IV

Skill test, Rating scale, Knowledge test. Physical Fitness components. Motor Fitness components. Health Related Physical Fitness. Measurement of components of all fitness components. Speed. Agility, Balance, Flexibility, Strength, Endurance, Power. Hockey, Football, Basketball, Volleyball, Badminton.

REFERENCES :

- A Practical Approach to measurments in Physicial Education- by H.H. Barrow & R. Mogege.
- Application of Measurement to Health and Physical Educaiton- by H. Harrison Clarke.
- Classroom Application of Educational Measurement - by Albart O.
- Evaluated in Physical Education – By Margarat J. Safrif.
- Measurement by the Physical Educator: Why and how – by David K. Miller.
- Measurement in Physical Education- by Donald K. Mathew.
- Measurement and Evaluation in Physical Education and Exercise Science-by Baumgaitner and Jackson Test and Measurement in Sports and Physical Educaiton- By D.K. Kansal.
- Measurement and Evaluation in Physical Education- by D. Allen Phillips and James E. Hornak.

**COURSE TITLE: MANAGEMENT OF PHYSICAL EDUCATION
AND SPORTS**

COURSE CODE: PHE 906

L	T	P	Credits	Marks
4	0	0	4	100

UNIT – I

Historical Evolution of Management. Overview of Leadership, Management, and Administration in Physical Education and Sports, The Nature of Leadership, Management and Administration. The Unified Concept of Management. The purpose, Scope of Managing Physical Education, Fitness and Sports Programmes. The Effective Leader and Director. Philosophy, Personality and an Administrator/ Manager. Principles; Policies and Standard Practices of Management. Office Management.

UNIT – II

Basic Skills/Functions in the Process of Management: Making wise decisions. Communicating Effectively. Managing time and Setting Priority, planning for the Activity Based Programmes, Organising for the Activity Based Programmes, Controlling the Activity Based Programmes, Delegation of duty in the Activity Based Programmes, Staffing and Leading Personnel in Activity Based Programmes. Managing Sports Facilities- Designing and Planning Sports Facilities, Sports Facility Specifications, Standards and Structures. Management and Sports Equipment- Selection, Purchase Maintenance and Security.

UNIT – III

Fundamental of Organisational Behaviour- Foundation of a Behavioural Approach to work, The Individual and work Environment, The Human behavioural and the Climate of the work Environment. Understanding Motivated Behaviour- Human needs and Motivation, Goal Setting and Reinforcement, Counselling and Reward System. Leadership and the Human Behaviour in the work. Environment-Leadership Style, Participative Management, Real and Imagined Leadership and Effective Group Performance. Unions and Labour Relations

UNIT - IV

Financial Management in Physical Education and Sports. Risk Management in Sports. Legal Aspects of Physical Education and Administration in Sports. Commuting Involvement and Public Relation. Training of Administrator/ Manager for better performance- Competency, Based Approach. Analysis Administrator Performance Problems. How to Develop Behaviour and How to stop Problematic Behaviour- Punishment and Extinction. Stress, Burnout and Conflicts in Management of Physical Education and Sports

REFERENCES

- Railey, Jim H. and Tsauner, Peggy, Railey, Managing Physical Education fitness and sports performances (London: Mayfill Publishing Company, 1988) 2nd Ed.
- Frost, B. and Lockhart, B.D. Marshall Stanley, J. Administration of Physical Education and Athletics Concepts and Practices (New Delhi: University Book Stall, 1992) 2nd Ed.
- Horine, LARRY, Administration of Physical Education and Sports Programme, (Boul vard: Won C Brown Publisher 1991), 2ND Ed.
- Francis, James G, and Millbourn Cane Jr. Human Behaviour in the work Environment, (California : Goodyard Publishing Company, Inc . 1980)
- Davis, Keith Human Behaviour at work , (New Delhi : Tata Mc Graw- Hill Publishing Company Ltd., 1981)
- Whitaside, Lynn, W. Effective Management Techniques for getting things Done (Delhi : Vikas Publication 1971)

COURSE TITLE: SPORTS BIOMECHANICS
COURSE CODE: PHE 907

L	T	P	Credits	Marks
4	0	0	4	100

UNIT – I

Nature and Scope of Biomechanics in Physical Education. Human Motion: Linear Motion, Angular motion and General Motion. Centre of gravity, its location- Manikin Method, Segmentation methods Reaction board methods

UNIT – II

Linear Kinematics: Distance and Displacement, speed and Velocity Acceleration, Vectors and Scalars, Projectile motion, Angular Kinematics: Angular Distance and Displacement, Angular Speed and Velocity, Angular Acceleration, Angular motion vectors. Description of Human Movement – Planes, Axes. Classification of Force System Linear force system, parallel Force System, Concurrent force system, General Force system, composition and resolution of force.

UNIT – III

Linear Kinetics: Inertia, Mass, Force Momentum, Newton's Laws of motion, Newton's Law of Gravitation, Weight, Friction, Impulse, Impact, Pressure, work, Power Energy. Angular Kinetics: Eccentric Force, Couple. Moment, Equilibrium, Centre of Gravity, Stability, Moment of Inertia, Angular momentum, Newton's law of Angular motion, Transfer of Angular Momentum. Fluid Mechanics: Flotation, Relative motion, Fluid resistance.

UNIT - IV

Methods of investigation Photo instrumentation – Camera, Films, Exposure Meters, Calibration of Camera Speed, Filming Fundamentals, Films, Analysis, Fundamentals of films analysis. Methods of analysis of sports skills, Qualitative Method, Quantitative Method, Basic Steps: - Development of Model, Observation of performance, identification of faults, Evaluation of fault, Instruction to performer, Qualitative analysis of Running, Diving Serving, Tennis.

REFERENCES:

- Bunn. John W. Scientific Principles of Coaching (Englewood Ciggs., N.J. Prentice Hall Inc. 1972).
- Dysen Geoffrey, H.G. (The Mechanics of Athletics (London : University of Lond Press ltd. 1968)
- Hay, James G. The Biomechanics of sports Techniques (Englewood Cliffs, N.J.: Prentice Hall, 1985).
- Hay James G. The Anatomical and Mechanical Bases Human Motion. (Englewood Cliffs, N.J. : Prentice Hall, 1982)
- Hay James G. and Reid J.G. Avin Anatomy Mechanics and Human Motion (Englewood Cliffs, N.J. : Prentice Hall, 1988)
- Milles Harison and Nelson Richard C. Biomechans of sports – A Research approach. (Philadelphia : Lea and Febiger 1976)