PARUL UNIVERSITY - FACULTY OF ARTS
Department of Physical Education & Sports
Master of Physical Education and Sports Programme (MPES)-
SEM-I SYLLABUS

Type of Course:

- MPES (RESEARCH METHODS)

Prerequisite:

Basic knowledge of Physical Education and Sports Sciences along with fundamental understanding of research concepts and elementary statistics at the undergraduate level. Basic computer skills for literature search, data handling, and academic writing are desirable.

Rationale: This course is designed to develop scientific thinking, analytical ability, and research competence among students. The course provides foundational knowledge of research principles, methods, experimental design, data collection, analysis, and scientific writing, which are essential for evidence-based practice in Physical Education and Sports Sciences.

Course outcome:

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

- Explain the fundamental concepts of research, types of variables, sampling techniques, and research methods in Physical Education and Sports.
- Apply appropriate research designs, sampling techniques, and data collection methods in conducting research studies.
- Differentiate between various research methods (historical, philosophical, descriptive, and experimental) and select suitable methods for specific research problems.
- Formulate research problems, research questions, and hypotheses based on identified research gaps in Physical Education and Sports.
- Evaluate the validity, reliability, objectivity, and ethical considerations involved in research studies.
- Prepare a research proposal and scientific report following appropriate citation and referencing styles (APA/MLA/Chicago).

Teaching Scheme			Credit	Examination Scheme					Total
				External		Internal			
Lect Hrs/ Week	Tut Hrs/ Week	Lab Hrs/ Week		T	P	T	CE	P	
4	0	0	4	60	0	20	20	0	100

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE-** Continuous evaluation, **T** - Theory, **P** – Practical

Unit	Topic	Weightage	Teaching Hrs.
1	**FOUNDATION OF RESEARCH** • What is Research? Importance of research in the field of Physical Education and Sports, Needs, Nature and Scope of Research. • Qualities of a good researcher. Ethics and Ethical considerations in data collection • Scientific and unscientific methods of problem solving • Formulating a research Problem. Identifying research interest and gaps. Formulating Research Questions • Variables: Meaning, Importance, types of variables • Populations and samples, Sampling techniques (Probability and non- Probability), Limitations and delimitations	23%	14
2	**RESEARCH METHODS** • Hypothesis and types of hypothesis. Hypothesis testing concepts (Null hypothesis, Alternate hypothesis and statistical significance) • Literature review. Allied and critical review, Sources and steps of Literature search – Lirary, Research data bases and Internet- Search Engines, Online journals. Note taking and critical reading. • Classification of Research • Analytical method of research: • Historical Research: Purpose, steps, Advantages, Disadvantages, Sources- Primary and Secondary data, Pitfalls, Internal and external criticism • Philosophical Research: Purpose , Methods, Inductive and Deductive Reasoning • Descriptive method of Research: • Survey Research: Methods and Process of implementing survey research methods, Questionnaire, Interview, Longitudinal and cross sectional survey research • Case study: Approaches, Types of case studies	26%	17

3	**RESEARCH METHODS** • Hypothesis and types of hypothesis. Hypothesis testing concepts (Null hypothesis, Alternate hypothesis and statistical significance) • Literature review. Allied and critical review, Sources and steps of Literature search – Lirary, Research data bases and Internet- Search Engines, Online journals. Note taking and critical reading. • Classification of Research • Analytical method of research: • Historical Research: Purpose, steps, Advantages, Disadvantages, Sources- Primary and Secondary data, Pitfalls, Internal and external criticism • Philosophical Research: Purpose , Methods, Inductive and Deductive Reasoning • Descriptive method of Research: • Survey Research: Methods and Process of implementing survey research methods, Questionnaire, Interview, Longitudinal and cross sectional survey research • Case study: Approaches, Types of case studies	26%	17
4	**SCIENTIFIC WRITING** • Development of Research problem: Location of Research Problem and criteria in selecting the research Problem, Survey of Related Literature and Referencing • Research Proposal: Formatting of Research Proposal, Basic guidelines of writing research Proposal • Research Reports: Formatting or Research Reports, Basic guidelines of writing research reports and Abstract • Citation and Referencing styles (APA, MLA and Chicago) • Introduction to Research Publication & Peer review culture (Single Blinded and Double Blinded Peer Review) • Introduction to Plagiarism. Plagiarism Software (PDS)	25%	16

Evaluation Method:

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. C.R. Kothari (2004). Research Methodology: Methods and Techniques (2nd ed.). New Delhi: New Age International Publishers.
2. A.K. Singh (2017). Tests, Measurements and Research Methods in Behavioural Sciences. Patna: Bharati Bhawan Publishers.
3. Jerry R. Thomas, Jack K. Nelson, & Stephen J. Silverman (2015). Research Methods in Physical Activity (7th ed.). Champaign, IL: Human Kinetics.
4. Paul M. Cozby & Scott C. Bates (2018). Methods in Behavioral Research (13th ed.). New York: McGraw-Hill Education.
5. John W. Best & James V. Kahn (2006). Research in Education (10th ed.). New Delhi: Pearson Education.

Subject Objectives

- Develop fundamental understanding of research concepts, principles, and terminology in Physical Education and Sports.
- Familiarize students with various research methods, designs, and approaches used in sports and physical education research.
- Enable students to identify research problems, formulate research questions, and develop testable hypotheses.
- Provide knowledge of sampling techniques, data collection methods, and basic concepts of validity, reliability, and objectivity.
- Cultivate ethical research practices, critical review skills, and scientific reasoning.
- Train students in preparing research proposals, research reports, and scholarly writing using appropriate citation and referencing styles.

PARUL UNIVERSITY - FACULTY OF ARTS
Department of Physical Education & Sports
Master of Physical Education and Sports Programme (MPES)-
SEM-I SYLLABUS

Type of Course:

- MPES (APPLIED STATISTICS)

Prerequisite:

Basic knowledge of mathematics at the higher secondary level, including arithmetic operations, algebra, and simple equations. A fundamental understanding of Physical Education and Sports Sciences is desirable.

Rationale: This course is designed to equip students with fundamental statistical concepts and techniques required for analysing quantitative data in sports and physical education settings. It enables learners to understand probability, normal distribution, correlation, regression, hypothesis testing, and analysis of variance, which are essential for conducting and interpreting research studies.

Course outcome:

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

- Explain the fundamental concepts of statistics, types of data, and graphical representation methods used in Physical Education and Sports.
- Apply measures of central tendency, variability, probability concepts, and normal distribution in solving statistical problems.
- Analyze correlation and regression techniques, including linear, partial, and multiple correlations, for interpreting relationships among variables.
- Compute and interpret sampling distributions, standard error, confidence intervals, and point estimates in research contexts..
- Evaluate research hypotheses using appropriate statistical tests such as Z-test, t-test, F-test, Chi-square test, and ANOVA.
- Interpret statistical results and draw meaningful conclusions for decision-making and research reporting in Physical Education and Sports Sciences.

Teaching Scheme			Credit	Examination Scheme					Total
				External		Internal			
Lect Hrs/ Week	Tut Hrs/ Week	Lab Hrs/ Week		T	P	T	CE	P	
4	0	0	4	60	0	20	20	0	100

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE-** Continuous evaluation, **T** - Theory, **P** – Practical

Unit	Topic	Weightage	Teaching Hrs.
1	**DESCRIPTIVE STATISTICS AND DATA PRESENTATION IN PHYSICAL EDUCATION** • Need of statistics in Physical Education • Nature of data: Four Levels of Data- Nominal, Ordinal, Interval and Ratio • Graphical Representation of data: Line Diagram, Pie diagram and Bar diagram frequency Distribution: Frequency Polygon, Frequency Curve, Histogram, O gives • Applications of Measures of Central tendency and variability and their characteristics, Relative and Absolute Variability, Coefficient of variation	23%	14
2	**PROBABILITY THEORY, NORMAL DISTRIBUTION AND NORM DEVELOPMENT** • Two approaches to Probability: Classical and axiomatic; Addition theorem & Multiplication Theorem, Calculations of Probabilities • Normal Distribution: Properties of Normal Curve, Skewness and Curtosis, Problems based on Normal distribution • Developing norms in the forms of Grading , Percentile, Scale, T-Scale, Scales Based on Difficulty readings	26%	17
3	**CORRELATION, REGRESSION AND SAMPLING THEORY** • Concept of Correlation & Regression: Scatter Diagram , Linear Correlaton and Rank Correlation • Linear regression equation with two variables • Partial Correlation Coefficients of first and second Order • Multiple Correlation coefficients involving three variables • Sampling distribution of means, Standard error of mean, Interval estimates and Point Estimates; Coefficient interval for mean	26%	17

4	**INFERENTIAL STATISTICS AND HYPOTHESIS TESTING** • Testing of Hypothesis: Region of acceptance & Region of Rejection Null &Alternative Hyposthesis: Level of significance, Type-1 and Type- II Error, One tailed and two tailed test, Degree of freedom, Procedure in Testing of Hypothesis • Large Sample Test (Z –test) for mean for one sample and Two samples; Small sample Test (t-test) for means of one sample and two samples- Dependent and Independent samples, F Test • Chi- Square test for goodness of fit and testing independence of attributes. • One way Analysis of Variance, Post-hoc test- LSD & Scheffe.	25%	16

Evaluation Method:

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. S.P. Gupta (2014). Statistical Methods. New Delhi: Sultan Chand & Sons.
2. S.C. Gupta & V.K. Kapoor (2020). Fundamentals of Applied Statistics. New Delhi: Sultan Chand & Sons.
3. J.P. Verma (2013). Statistics and Research Methods in Psychology. New Delhi: Tata McGraw-Hill Education.
4. Barry L. Johnson & Jack K. Nelson (1986). Practical Measurements for Evaluation in Physical Education (4th ed.). Minneapolis: Burgess Publishing.
5. Peter V. Paul (2010). Introductory Statistics for Physical Education and Sports Science. New Delhi: Friends Publications.

Subject Objectives

- Develop understanding of the role and importance of statistics in Physical Education and Sports research.
- Provide knowledge of different types of data, graphical representation techniques, and measures of central tendency and variability.
- Familiarize students with probability concepts, normal distribution, and development of norms and grading scales.
- Enable students to understand and apply correlation and regression techniques in analyzing relationships among variables.
- Equip students with knowledge of sampling theory, standard error, confidence intervals, and estimation procedures.
- Train students in hypothesis testing using appropriate statistical techniques such as Z-test, t-test, F-test, Chi-square test, and ANOVA.

PARUL UNIVERSITY - FACULTY OF ARTS
Department of Physical Education & Sports
Master of Physical Education and Sports Programme (MPES)-
SEM-I SYLLABUS

Type of Course:

- MPES (MEASUREMENT & EVALUATION)

Prerequisite:

Basic knowledge of Physical Education, sports skills, and fundamental concepts of human anatomy and physiology. Basic understanding of physical fitness components and simple measurement techniques is desirable.

Rationale: This course provides essential knowledge and practical skills in test, measurement, and evaluation in Physical Education and Sports. It enables students to scientifically assess physical fitness, sports skills, anthropometric characteristics, physiological and psychological variables.

Course outcome:

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

- Explain the concepts of test, measurement, and evaluation and their importance in Physical Education and Sports.
- Apply principles of evaluation and criteria for selecting and administering appropriate fitness and skill tests.
- Differentiate among various physical fitness, motor fitness, and health-related fitness tests and interpret their results.
- Conduct anthropometric measurements and sports skill tests using standardized procedures.
- Evaluate physiological and psychological variables using appropriate testing methods in sports settings.
- Design and organize a comprehensive testing and evaluation program for assessing human performance in Physical Education and Sports.

Teaching Scheme			Credit	Examination Scheme					Total
				External		Internal			
Lect Hrs/ Week	Tut Hrs/ Week	Lab Hrs/ Week		T	P	T	CE	P	
4	0	0	4	60	0	20	20	0	100

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE-** Continuous evaluation, **T** - Theory, **P** – Practical

Unit	Topic	Weightage	Teaching Hrs.
1	**INTRODUCTION TO TEST, MEASUREMENT AND EVALUATION** • Test, Measurement and Evaluation: Meaning and Concept • Types and importance in physical Education and Sports • Scope of Test, Measurement and Evaluation in Physical Education • Principles and Process of Evaluation in Physical Education • Criteria of selecting an Appropriate Test • Administration of Testing programme	23%	14
2	**TEST IN PHYSICAL EDUCATION** • Types of tests and construction of standard knowledge and Skill tests • Test for Physical Fitness • Motor fitness test • Motor Educability • Health related fitness tests • Test for fitness components:Strength, Endurance, Speed, Flexibility and Coordinative abilities	26%	17
3	**SPORTS SKILL TESTS, ANTHROPOMETRIC &SOMATOTYPES** • Sports skill tests- Badminton , Basketball, Football, Hockey, Tennis and Volleyball • Anthropometric measurement: Landmarks and measurements of various body segments • Height- Sitting height, Weight, Diameter & Circumference of the body • Skinfolds, Body mass index & Ponderal Index • Somatotype, Sheldon's Classification • Posture evaluating techniques	26%	17
4	**TESTING OF HUMAN PERFORMANCE** • Testing of human Physiological Phenomenon- Blood Pressure, Breathing Frequencies & Vital Capacity • Testing of Heart Rate, Pulse Rate & Body	25%	16

	Temperature • Body composition, Measurement of Body Composition • Tests for Psychological variables- Anxiety & Aggression • Testing of Team Cohesion & Achievement Motivation • Tests for Mental toughness and Self Efficacy		

Evaluation Method:

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. Barry L. Johnson & Jack K. Nelson (1986). Practical Measurements for Evaluation in Physical Education (4th ed.). Minneapolis: Burgess Publishing.
2. Vivian H. Heyward (2010). Advanced Fitness Assessment and Exercise Prescription (6th ed.). Champaign, IL: Human Kinetics.
3. A.K. Kansal (2012). Test and Measurement in Sports and Physical Education. New Delhi: DVS Publications.
4. James G. Hay & James G. Reid (1988). Anatomy, Mechanics and Human Motion. Englewood Cliffs, NJ: Prentice Hall.
5. David K. Miller (2006). Measurement by the Physical Educator: Why and How (5th ed.). Boston: McGraw-Hill.
6. William D. McArdle, Frank I. Katch, & Victor L. Katch (2015). Exercise Physiology: Nutrition, Energy, and Human Performance (8th ed.). Philadelphia: Wolters Kluwer.

Subject Objectives

- Develop understanding of the concepts, principles, and importance of test, measurement, and evaluation in Physical Education and Sports.
- Provide knowledge of various types of physical fitness, motor fitness, and health-related fitness tests.
- Enable students to understand the construction and administration of standardized knowledge and skill tests.

- Familiarize students with anthropometric measurements, somatotyping, and posture evaluation techniques.
- Equip students with knowledge of physiological and psychological testing methods used in assessing human performance.
- Develop practical competency in organizing and implementing comprehensive testing and evaluation programs in sports and physical education settings

PARUL UNIVERSITY - FACULTY OF ARTS

Department of Physical Education & Sports

Master of Physical Education and Sports Programme (MPES)-

SEM-I SYLLABUS

Type of Course:

- MPES (FOUNDATION OF SPORTS MANAGEMENT)

Prerequisite:

Foundations of Sports Management should have basic knowledge of Physical Education and general management concepts.

Rationale: Course is designed to provide students with a comprehensive understanding of management principles and their application in sports organizations. It equips learners with knowledge of organizational structure, leadership, financial management, marketing, strategic planning, and event management.

Course outcome:

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

- Explain the fundamental concepts, principles, and functions of management in relation to sports organizations.
- Apply management functions such as planning, organizing, staffing, directing, and controlling in sports settings.
- Analyze the organizational structure, leadership styles, and human resource practices in sports organizations.
- Evaluate financial planning, budgeting processes, and marketing strategies used in sports management.
- Examine strategic planning tools such as SWOT analysis and their application in sports event and facility management.
- Design a comprehensive sports event or management plan incorporating financial, marketing, and strategic management principles.

Teaching Scheme			Credit	Examination Scheme					Total
				External		Internal			
Lect Hrs/ Week	Tut Hrs/ Week	Lab Hrs/ Week		T	P	T	CE	P	
4	0	0	4	60	0	20	20	0	100

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE-** Continuous evaluation, **T** - Theory, **P** – Practical

Unit	Topic	Weightage	Teaching Hrs.
1	**INTRODUCTION TO MANAGEMENT AND SPORTS MANAGEMENT** • Meaning, Nature and Scope of Management • Evolution of Management Thought • Management vs Administration • Principles and Functions of Management (Planning, Organizing, Staffing, Directing, Controlling) • Meaning, Definition and Scope of Sports Management • Importance of Sports Management in Physical Education and Sports	25%	16
2	**ORGANIZATIONAL STRUCTURE AND HUMAN RESOURCE MANAGEMENT IN SPORTS** • Types of Sports Organizations (Public, Private, Commercial, Non-profit) • Structure and Functions of National and International Sports Federations • Organizational Behaviour in Sports • Leadership and Motivation in Sports Organizations • Human Resource Management: Recruitment, Selection, Training and Performance Appraisal • Communication and Coordination in Sports Organizations	25%	16
3	**FINANCIAL AND MARKETING MANAGEMENT IN SPORTS** • Financial Management in Sports: Meaning and Importance • Budgeting: Types, Preparation and Control • Sources of Funding in Sports • Sports Marketing: Concept and Process • Sponsorship, Branding and Public Relations • Media Management in Sports	25%	16

4	**STRATEGIC MANAGEMENT, EVENT AND FACILITY MANAGEMENT** • Concept of Strategic Management in Sports • SWOT Analysis and Strategic Planning • Event Management: Planning, Organizing and Evaluation • Risk Management in Sports Events • Facility Planning and Management • Ethics and Legal Aspects in Sports Management	25%	16

Evaluation Method:

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

- Sport Management: Principles and Applications – Hoye, R., Misener, K., Naraine, M., & Ordway, C. (2022). 6th ed. London: Routledge.
- Foundations of Sport Management – Gillentine, A., & Crow, R. B. (2022). 4th ed. Morgantown, WV: FiT Publishing.
- Principles and Practice of Sport Management – Masteralexis, L. P., Barr, C. A., & Hums, M. A. (7th ed.). Jones & Bartlett Learning.
- Contemporary Sport Management – Pedersen, P. M., & Thibault, L. (2023/24). 7th ed. Human Kinetics.
- Organizational Behavior in Sport Management – Barnhill, C. R., Smith, N. L., & Oja, B. D. (2021). Springer.
- Handbook of Sports Management – Cunningham, G. B., & Fink, A. (Eds.). SAGE Publications.

Subject Objectives

- To develop understanding of the basic concepts, principles, and functions of management in sports organizations.
- To provide knowledge about organizational structure, leadership, and human resource management in sports settings.
- To enhance understanding of financial management, budgeting, and funding sources in sports organizations.
- To explain the concepts and applications of sports marketing, sponsorship, and media management.

- To impart knowledge about strategic planning, event management, and facility management in sports.
- To prepare students to apply systematic management practices for effective administration and development of sports programs and institutions.

PARUL UNIVERSITY - FACULTY OF ARTS

Department of Physical Education & Sports

Master of Physical Education and Sports Programme (MPES)-

SEM-1 SYLLABUS

Type of Course:

MPES (FUNDAMENTALS OF MECHANICS AND SPORTS BIOMECHANICS)

Prerequisite:

Basic knowledge of human anatomy, physiology, and fundamental physics concepts such as force, motion, and energy.

Rationale: This course introduces the fundamental principles of mechanics and their application to sports and human movement. It enables students to analyze motion, forces, and techniques scientifically, helping in performance improvement, injury prevention, and efficient skill learning.

Course outcome:

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

- Explain the fundamental concepts, definitions, and importance of biomechanics and sports biomechanics in Physical Education and Sports.
- Describe and apply principles of linear and angular kinematics, including motion variables such as displacement, velocity, acceleration, and projectile motion.
- Analyze linear and angular kinetic principles such as force, momentum, impulse, torque, and angular momentum in sports movements.
- Examine the effects of friction, fluid resistance, flotation, and spin (including Magnus effect) on human performance in sports.
- Evaluate the role of biomechanical principles in performance enhancement, technique improvement, injury prevention, and rehabilitation.
- Design and justify biomechanical applications for improving sports skills, equipment use, and training methods.

Teaching Scheme			**Credit**	**Examination Scheme**					**Total**
				External		**Internal**			
Lect Hrs/ Week	**Tut Hrs/ Week**	**Lab Hrs/ Week**		**T**	**P**	**T**	**CE**	**P**	
4	0	0	4	60	0	20	20	0	100

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE-** Continuous evaluation, **T** - Theory, **P** – Practical

Unit	Topic	Weightage	Teaching Hrs.
1	**Introduction of Fundamentals of Biomechanics:** • Definition and importance of biomechanics & sports biomechanics. • Goals of Sports Biomechanics – Performance Enhancement, technique, equipment, training, injury prevention & rehabilitation. **Linear Kinematics:** • Distance & displacement • Speed & velocity • Acceleration • Vectors and Scalar quantities • Projectile – horizontal and vertical components of the projectile, factors influencing the projectile trajectory. **Angular Kinematics** • Angular Distance and Angular Displacement • Angular Speed and Angular Velocity • Angular Acceleration • Units in Angular Kinematics	25%	16
2	**Linear Kinetics** • Weight, Mass, Inertia • Friction and its types. • Pressure. • Momentum. 1. Concept of Momentum 2. Conservation of Momentum 3. Relationship between Impulse and Momentum • Impact and Elasticity 1. Elastic collision & inelastic collision 2. Coefficient of Restitution.	25%	16

3	**Angular Kinetics** • Eccentric force. • Couple. • Moment of force. • Moment of Inertia. • Angular momentum • Transfer of Angular Momentum	25%	16
4	**Fluid Mechanics** • Flotation. • Relative Motion. • Fluid Resistance: Air & Water **Spin**. • Concept of Spin. • Types of Spin. • Effect of Spin of bounce • Magnus Effect	25%	16

Practicals

1. Manual calculations of various kinetic and kinematic parameters – Distance, displacement, speed, velocity, acceleration, momentum, force, mass, weight, Resultant Vector, Pressure, Work, Power, Energy.
2. Goniometry – Measurement of Joint ROM
3. Calculation of Center of Gravity by Suspension Method
4. Stick Diagram (Fundamental Movements)
5. Basic anthropometric measurements (Stature, sitting height, length of segments, width of joints and girth measurements)
6. BMI & Skin Fold Measurements

Evaluation Method:

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ), etc.

Reference Books:

1. Hall, Susan J. Basic Biomechanics, Fourth Edition (Boston etc., 2004)
2. Hay, James G. The Biomechanics of Sports G. The Biomechanics of Sports Techniques, Fourth Edition (Englewood Cliffs, New Jersey; Prentice
3. Mc. Ginnis, Peter M. Biomechanics of Sport and Exercise, Second Edition (Champaign: Human Kinetics Publishers, 2005)

4. Rai Ramesh, Biomechanics - Mechanical Aspects of Human Motion (Mohali, Punjab: Agrim Publication, 2003)
5. Robertson, D. Gordon E. et. Al. Research Methods in Biomechanics. (Champaign etc Kinetics Publishers, 2004)

Subject Objective

- Develop fundamental understanding of biomechanics and sports biomechanics and their significance in Physical Education and Sports.
- Provide knowledge of linear and angular kinematics and their application in analyzing human movement.
- Familiarize students with principles of linear and angular kinetics, including force, momentum, torque, and angular momentum.
- Enable students to understand the effects of friction, fluid mechanics, and spin on sports performance.
- Enhance the ability to apply biomechanical principles for performance improvement and injury prevention.
- Develop analytical skills to evaluate sports techniques and movements using biomechanical concepts

PARUL UNIVERSITY - FACULTY OF ARTS

Department of Physical Education & Sports

Master of Physical Education and Sports Programme (MPES)-

SEM-I SYLLABUS

Type of Course:

- MPES (ADOLESCENCE DEVELOPMENT & LEARNING)

Prerequisite:

Basic knowledge of educational psychology, human growth and development, and general teaching–learning processes.

Rationale: designed to help future educators understand the physical, cognitive, emotional, and social development of learners. It provides essential knowledge about growth and development, adolescent characteristics, cognitive processes, and learning differences.

Course outcome:

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

- Explain the concepts of growth and development, stages of development, and factors influencing learner development.
- Analyze the characteristics, behavioural changes, and issues faced during adolescence in educational settings.
- Interpret major theories of cognitive development, particularly Piaget's theory, in relation to learning processes.
- Apply appropriate teaching strategies considering cognitive styles, emotional intelligence, learning disabilities, and diversity in the classroom.
- Evaluate the impact of cultural, social, gender, and personality factors on learners' academic performance and classroom behavior.
- Design inclusive and bias-free assessment and feedback strategies to support diverse learners effectively.

Teaching Scheme			Credit	Examination Scheme					Total
				External		Internal			
Lect Hrs/ Week	Tut Hrs/ Week	Lab Hrs/ Week		T	P	T	CE	P	
4	0	0	4	60	0	20	20	0	100

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE**- Continuous evaluation, **T** - Theory, **P** – Practical

Unit	Topic	Weightage	Teaching Hrs.
1	**FOUNDATION OF UNDERSTANDING LEARNERS** • Meaning of Growth and development • Factors influencing growth and development (Heredity and Environment) • Stages of Growth and development • Principles of Development • Characteristics of Adolescent Learner • Issues and Concern during adolescence • Attitude and behavioural changes in adolescence	25%	16
2	**COGNITIVE DEVELOPMENT AND LEARNING DISABILITIES** • Piaget's Theory of Cognitive Development • Memory and Its types • Cognitive styles and preferences • Emotional intelligence and learning • Adapting teaching strategies to Learning Styles • Learning Disabilities	25%	16
3	**DIVERSITY IN EDUCATION** • Cultural and Socioeconomic influences on learners • Emotional and Social Factors in Learning • Socialization and Peer influences • Classrooms climate and emotional Well- being • Gifted and talented Learners • The role of Personality in Learning • Gender differences in Learning Preferences	25%	16
4	**ASSESSMENT, INCLUSION AND FEEDBACK FOR EFFECTIVE LEARNING** • Inclusive Practices for diverse Learners • Differentiated instructions • Assessment Accommodation for diverse Learners • Fair and Bias-free Assessment Practices • Feedback strategies for effective Learning • Ethical considerations in studying learner	25%	16

	characteristics		

Evaluation Method:

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. Educational Psychology – Woolfolk, A. (2019). 14th ed. New York: Pearson Education.
2. Child Development – Santrock, J. W. (2018). 14th ed. New York: McGraw-Hill Education.
3. Human Development – Papalia, D. E., & Martorell, G. (2015). 13th ed. New York: McGraw-Hill Education.
4. Essentials of Educational Psychology – Slavin, R. E. (2018). 5th ed. Boston: Pearson Education.
5. Educational Psychology: Theory and Practice – Slavin, R. E. (2017). 12th ed. Boston: Pearson Education

Subject Objectives

- To develop understanding of the concepts, stages, and principles of growth and development.

- To provide knowledge about the physical, cognitive, emotional, and social characteristics of adolescent learners.

- To explain major theories of cognitive development and their relevance to classroom learning.

- To enhance awareness of learning styles, emotional intelligence, and learning disabilities among students.

- To promote understanding of diversity in education, including cultural, socioeconomic, gender, and personality differences.

- To equip students with knowledge of inclusive practices, differentiated instruction, fair assessment, and effective feedback strategies for diverse learners

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PARUL UNIVERSITY - FACULTY OF ARTS

Department of Physical Education & Sports

Master of Physical Education and Sports Programme (MPES)-

SEM-I SYLLABUS

Type of Course:

- MPES (SPORTS & EXERCISE PSYCHOLOGY)

Prerequisite:

Basic knowledge of psychology, including concepts such as motivation, personality, and learning, along with an understanding of physical education and sports training principles.

Rationale: The course is designed to help students understand the psychological factors that influence sports performance and exercise behaviour. It provides knowledge about motivation, confidence, stress management, and mental skills training, which are essential for improving athletic performance and promoting mental well-being.

Course outcome:

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

- Explain the meaning, nature, scope, and historical development of Sports & Exercise Psychology.
- Analyze the psychological factors influencing sports performance such as motivation, arousal, anxiety, self-confidence, and attention.
- Analyze the psychological factors influencing sports performance such as motivation, arousal, anxiety, self-confidence, and attention.
- Design and implement Psychological Skills Training (PST) programs using goal setting, imagery, relaxation, and self-talk techniques.
- Evaluate the role of exercise psychology in promoting mental health, exercise adherence, and well-being across different populations.
- Examine ethical issues, team dynamics, leadership, burnout, and contemporary trends in Sports & Exercise Psychology.

Teaching Scheme			Credit	Examination Scheme					Total
				External		Internal			
Lect Hrs/ Week	Tut Hrs/ Week	Lab Hrs/ Week		T	P	T	CE	P	
4	0	0	4	60	0	20	20	0	100

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE-** Continuous evaluation, **T** - Theory, **P** – Practical

Unit	Topic	Weightage	Teaching Hrs.
1	**INTRODUCTION TO SPORTS & EXERCISE PSYCHOLOGY** • Meaning, nature, and scope of Sports & Exercise Psychology • Historical development and major perspectives • Role of sport and exercise psychologist • Relationship between psychology, physical activity, and performance • Personality theories and assessment in sports • Motivation in sports and exercise (intrinsic & extrinsic) • Psychological skills required for high-level performance	25%	16
2	**PSYCHOLOGICAL FACTORS INFLUENCING PERFORMANCE** • Arousal, stress, and anxiety in sports • Theories of arousal–performance relationship • Attention, concentration, and focus in sports • Self-confidence and self-efficacy • Emotional regulation and mood states • Aggression and violence in sports • Psychological preparation for competition	25%	16
3	**PSYCHOLOGICAL SKILLS TRAINING AND INTERVENTIONS** • Psychological Skills Training (PST): concept and importance • Goal setting techniques • Imagery and visualization • Relaxation techniques (progressive muscle relaxation, breathing) • Self-talk and cognitive restructuring	25%	16

	• Mental toughness and resilience • Designing and implementing PST program		
4	**EXERCISE PSYCHOLOGY AND APPLIED ISSUES** • Exercise behavior and adherence • Psychological benefits of exercise and physical activity • Physical activity and mental health • Exercise prescription for different populations • Team dynamics and leadership in sports • Overtraining, burnout, and recovery • Ethical issues and contemporary trends in sports psychology	25%	16

Evaluation Method:

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. Foundations of Sport and Exercise Psychology – Weinberg, R. S., & Gould, D. (2019). Foundations of Sport and Exercise Psychology (7th ed.). Champaign, IL: Human Kinetics.
2. Sport Psychology: Concepts and Applications – Gucciardi, D. F., & Gordon, S. (2021). Sport Psychology: Concepts and Applications (3rd ed.). New York: Routledge.
3. Psychology of Physical Activity – Dishman, R. K., & O'Connor, P. J. (2018). Psychology of Physical Activity (2nd ed.). Champaign, IL: Human Kinetics.
4. Applied Sport Psychology: Personal Growth to Peak Performance – Martens, R., Vealey, R. S., & Burton, D. (2020). Applied Sport Psychology: Personal Growth to Peak Performance (7th ed.). New York: McGraw-Hill.
5. Handbook of Sport Psychology – Tenenbaum, G., & Eklund, R. C. (Eds.). (2019). Handbook of Sport Psychology (3rd ed.). Hoboken, NJ: Wiley.
6. Exercise Psychology: A Practitioner's Guide – Ekkekakis, P. (Ed.). (2022). Exercise Psychology: A Practitioner's Guide. London: Routledge.

Subject Objectives

- To develop understanding of the meaning, nature, and scope of Sports & Exercise Psychology.
- To explain the role of psychological factors such as motivation, personality, arousal, and anxiety in sports performance.
- To develop knowledge of theories related to performance, stress management, and behavioral change in sports and exercise.
- To equip students with skills to apply psychological techniques such as goal setting, imagery, relaxation, and self-talk.
- To enhance understanding of exercise behavior, adherence, and the psychological benefits of physical activity.
- To prepare students to address applied issues such as team dynamics, leadership, burnout, and ethical considerations in sports psychology.

PARUL UNIVERSITY - FACULTY OF ARTS

Department of Physical Education & Sports

Master of Physical Education and Sports Programme (MPES)-

SEM-I SYLLABUS

Type of Course:

- MPES (**FUNDAMENTALS OF EXERCISE PHYSIOLOGY)**

Prerequisite:

Basic knowledge of human anatomy and physiology, particularly the structure and function of the muscular, cardiovascular, and respiratory systems

Rationale: This course provides scientific knowledge about how the muscular, cardiovascular, respiratory, and energy systems function during exercise. It enables students to understand the mechanisms of fatigue, training adaptations, and environmental influences on performance.

Course outcome:

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

- Explain and interpret the fundamental concepts, scope, and scientific basis of exercise physiology, including the structure and function of skeletal muscles and energy systems involved in physical activity.
- Analyze the physiological responses of the muscular, cardiovascular, and respiratory systems during various types and intensities of exercise.
- Apply the principles of bioenergetics and training to different sports and physical activities by identifying appropriate energy systems and workload demands.
- Evaluate acute and chronic adaptations to strength, endurance, and flexibility training, and assess their impact on sports performance and health.
- Examine the physiological causes of fatigue, overtraining, detraining, and environmental stress (heat, cold, altitude) and their influence on athletic performance.
- Design scientifically based exercise prescriptions and training programs for improving fitness, body composition, and performance in general and special populations.

Teaching Scheme			Credit	Examination Scheme					Total
				External		Internal			
Lect Hrs/ Week	Tut Hrs/ Week	Lab Hrs/ Week		T	P	T	CE	P	
4	0	0	4	60	0	20	20	0	100

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE-** Continuous evaluation, **T** - Theory, **P** – Practical

Unit	Topic	Weightage	Teaching Hrs.
1	**INTRODUCTION TO EXERCISE PHYSIOLOGY** • Definition, scope, and objectives of exercise physiology • Homeostasis and physiological adaptations to exercise • Structure and function of skeletal muscle • Muscle fiber types and their characteristics • Energy systems: ATP-PC, anaerobic glycolysis, aerobic system • Neuromuscular control of movement • Acute responses and chronic adaptations to exercise	25%	16
2	**Cardiovascular and Respiratory Responses to Exercise** • Structure and function of the cardiovascular system • Cardiac output, heart rate, stroke volume, and blood pressure • Hemodynamic responses during exercise • Respiratory system structure and function • Pulmonary ventilation, diffusion, and gas exchange • Oxygen transport and utilization (VO_2 max) • Cardiovascular and respiratory adaptations to training	25%	16

3	**METABOLIC, HORMONAL, AND THERMOREGULATORY RESPONSES** • Metabolism of carbohydrates, fats, and proteins during exercise • Hormonal regulation during exercise (insulin, glucagon, cortisol, adrenaline) • Acid–base balance and fatigue • Lactate production and clearance • Thermoregulation during exercise • Exercise in heat, cold, and altitude • Hydration, electrolytes, and fluid balance	25%	16
4	**APPLIED EXERCISE PHYSIOLOGY** • Physiological basis of endurance, strength, speed, and flexibility • Training principles and physiological adaptations • Exercise testing and evaluation • Aerobic and anaerobic fitness assessment • Exercise prescription for health and performance • Overtraining, detraining, and recovery • Exercise physiology for special populations (children, women, elderly, athletes)	25%	16

Evaluation Method:

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

- Exercise Physiology: Nutrition, Energy, and Human Performance – McArdle, W. D., Katch, F. I., & Katch, V. L. (2015). 8th ed. Philadelphia: Wolters Kluwer / Lippincott Williams & Wilkins.
- Physiology of Sport and Exercise – Kenney, W. L., Wilmore, J. H., & Costill, D. L. (2019). 7th ed. Champaign, IL: Human Kinetics.
- Exercise Physiology: Theory and Application to Fitness and Performance – Powers, S. K., & Howley, E. T. (2020). 10th ed. New York: McGraw-Hill Education.
- ACSM's Guidelines for Exercise Testing and Prescription – American College of Sports Medicine. (2021). 11th ed. Philadelphia: Wolters Kluwer.
- Advanced Exercise Physiology – McArdle, W. D., Katch, F. I., & Katch, V. L. (2010). 2nd ed. Philadelphia: Lippincott Williams & Wilkins.

- Exercise Physiology: A Thematic Approach – Tudor-Hale, B. (2017). London: Routledge.

Subject Objectives

1. To develop understanding of the fundamental concepts, scope, and scientific basis of exercise physiology.
2. To explain the structure and function of muscular, cardiovascular, and respiratory systems in relation to exercise.
3. To provide knowledge about energy systems and bioenergetics involved in different types of physical activities.
4. To understand physiological responses and adaptations to strength and endurance training.
5. To examine the causes of fatigue, overtraining, and environmental effects on sports performance.
6. To equip students with the ability to apply physiological principles in planning safe and effective exercise and training programs.