MANONMANIAM SUNDARANAR UNIVERSITY,
TIRUNELVELI-12

SYLLABUS

UG - COURSES – AFFILIATED COLLEGES

Course Structure for B. Sc. Physical Education
(Choice Based Credit System)

(with effect from the academic year 2026-2027 onwards)

Semester-V				
Part	**Subject Status**	**Subject Title**	**Subject Code**	**Credit**
III	CORE	TEST, MEASUREMENT & EVALUATION IN PHYSICAL EDUCATION	FCPE51	4
III	CORE	EXERCISE PHYSIOLOGY	FCPE52	4
III	CORE	SPORTS NUTRITION	FCPE53	4
III	CORE	THEORIES OF TRACK AND FIELD	FCPE54	3
III	ELECTIVE	MEASUREMENT AND EVALUATION IN HUMAN PERFORMANCE (Practical)	FEPEP3	3
III	ELECTIVE	TRACK AND FIELD (Practical)	FEPEP4	3
IV	NAAN MUDHALVAN	PHYSICAL LITERACY *		2
IV		FIELD VISIT	FIFK51	2

Total Marks: 100 Internal Exam: 25 marks + External Exam: 75 marks

A. **Scheme for internal Assessment**:
Maximum marks for written test: **20 marks**
3 internal tests, each of **I hour** duration shall be conducted every semester.
To the average of the **best two** written examinations must be added the marks scored in. The **assignment** for 5 marks.

The break up for internal assessment shall be:
Written test- 20 marks; Assignment -5 marks Total - 25 marks

B. Scheme of External Examination
3 hrs. examination at the end of the semester
A – Part : 1 mark question two - from each unit
B – Part : 5 marks question one - from each unit
C – Part : 8 marks question one - from each unit

- **Conversion of Marks into Grade Points and Letter Grades**

S.No	Marks	Letter Grade	Grade point (GP)	Performance
1	90-100	O	9-10	Outstanding
2	80-89	A+	8-8.9	Excellent
3	70-79	A	7-7.9	Very Good
4	60-69	B+	6-6.9	Good
5	50-59	B	5-5.9	Above Average
6	40-49	C	4-4.9	Pass
7	0-39	RA	-	Reappear
8	0	AA	-	Absent

- **Cumulative Grade Point Average (CGPA)**

$$\mathbf{CGPA} = \frac{\mathbf{\Sigma\,(GP \times C)}}{\mathbf{\Sigma C}}$$

- **GP** = Grade point, **C** = Credit
- CGPA is calculated only for Part-III courses
- CGPA for a semester is awarded on cumulative basis

- **Classification**
  a) First Class with Distinction : CGPA $\geq$ 7.5*****
  b) First Class : CGPA $\geq$ 6.0
  c) Second Class : CGPA $\geq$ 5.0 and $<$ 6.0
  d) Third Class : CGPA$<$ 5.0

TEST, MEASUREMENT & EVALUATION IN PHYSICAL EDUCATION

Learning outcomes:

- The students will be able to recognize and relate the concept of test, measurement and evaluation in the context of Physical Education.
- Construct and conduct the physical fitness and sports skill test.
- The students will be able to implement the criteria of test selection.
- Develop the art of applications of test, measurement and evaluation in sports.
- Development of practical competency in conducting physical fitness and skill tests.

Unit-I

Meaning of Test, Measurement and Evaluation–Brief History of Test, Measurement and Evaluation–Need and Importance of measurement and Evaluation in Physical Education.

Unit-II

Classification of Test–Standardized and Teacher Made test-Object and subject Tests – construction of Knowledge's test and skill Test–Administration of Test–Duties during testing–Duties after Testing.

Unit-III

Criteria of test selection–Validity, reliability, Objectivity, Norms, Administrative feasibility–Strength test–Bend Knee sit ups test. Flexibility test–Sit and reach test – Speed test–50mts run–Cardiorespiratory Endurance–Cooper 2minute Run/Walk test. Explosive strength test–Standing Broad Jump.

Unit-IV

AAHPERD Youth Fitness test. JCP test Barrow motor ability test Harward step test Magaia–Kalamen power test

Unit-V

Test of Specific sport skills Badminton: French Short Serve Test Basketball: Johnson Basketball Ability test Hockey: Hendry Friedal Field Hockey test. Soccer: McDonald Volleying Soccer test. Tennis Boer: Miller Tennis test Volleyball: Helmen Volleyball test

Books for References:

1. Safrit Margarat J Measurement in Physical Education and Exercises Science, St. Louis Times Morror Mosby college publishing.
2. Bosco James Measurement and Evaluation in Physical Education and Sports New Jersy Prenstice Hallin1983
3. Barry L. Johnson, Jack K.Nelson and Measurement for Evaluation in Physical education the Surjeet Publications.
4. A.K.Gupta Tests & Measurement in Physical Education sports publication New Delhi–52 A Practical applied to measurement in Physical Education–Horold M.Borrow.



EXERCISE PHYSIOLOGY

Learning outcomes:

- The student would be empowered with the applicable knowledge of physiology in physical activity and sports.
- The learner would be able to incorporate this knowledge in the training and coaching programme for the betterment of their trainee's performance.
- Understand the meaning, nature and scope of exercise physiology analyze the effects of exercise physiology on various system of the body.
- Analyze the factors affecting skills, motor ability, warm-up and metabolic process and interpret the physiological principles on physical education and sports.

Unit-I

Functional Adaptations to Exercise Proportion and Structure of muscle – Structure of muscle – fiber – filament model of contraction – muscular theory of contraction – Muscular fatigue

Unit-II

MORPHOLOGICAL FEATURE OF SKELETAL MUSCLE AND FUNCTION.
Structure of the skeletal muscle – Chemical composition – Sliding filament theory of muscular contraction–muscle fiber types–fiber distribution and performance – All or none principle – muscle tone – Types of muscular contraction –Stair case Phenomenon or treppe –Heat production in the muscle–Residual muscle soreness– Effect of Training on muscular system.

Unit-III

RESPIRATORY SYSTEM AND EXERCISE: Mechanism of breathing–Pulmonary ventilation/minute ventilation during Rest and exercise–control of ventilation–Lung volumes and capacities-Effect of exercise on Respiratory system.

Unit-IV

CARDIOVASCULAR SYSTEM AND EXERCISE: Structure properties of the heart and cardiac cycle, cardiac output during rest and exercise Stroke volume and heart rate – control of heart rate – Heart rate response to exercise on stroke volume – Blood pressure–factors affecting blood pressure and Heart rate–Regulation of blood flow– effect of exercise on circulatory system.

Unit-V

EXERCISE AND ENVIRONMENT: Exercise and temperature regulations – Hothumid climate–Exercise and temperature regulations in cold climates – Effect of

High altitude on Physical performance –Physiological adaptations to altitude– Physiological changes in under Water conditions.

Books for References:

1. William D.Mcarole. Frank. I Katch Victor.
2. Exercise Physiology Energy, Nutrition and Human performance Lea & Febiger Philade Richard W.Bowers and Edward L. Fox–Sports Physiology Third Edition wmc Brown Publishers
3. Laurence E Morehouse Augustus T. Miller, JR Seventh Edition Physiology of Exercise Thec. v.
4. Mostly Company.
5. David H.Clarke Exercise Physiology prenties Hall, Inc: Englewood Cliffs, new jersey. Larry G. Shaver Essentials of exercise Physiology surjeet publications.
6. Dr.Amrit Kumar R.Moses introduction to exercise physiology poompugar pathipagam.
7. Donald Health. David Reid Williams.

SPORTS NUTRITION

Learning outcomes:

- Will develop skills to establish daily caloric requirement and to design the diet plan.
- Will acquaint student with principles of sports nutrition.
- Will orient the student to the role of food on Physical performance.
- Would make the student understand and prepare weight management plans.

Unit-I

INTRODUCTION TO NUTRITION Definition – Meaning – Need of sports Nutrition – Essential nutrition – Energy nutrients minerals and vitamins – Water – basic four food plan -balanced diet – daily recommended allowances.

Unit-II

Nutrients: Ingestion to energy metabolism Basics of Nutrition, Carbohydrates, Fats, Proteins, Vitamins, Minerals, Water, Balanced diet, Nutritive value of Food stuffs.

Unit-III

Nutrition and Weight Management Nutrition for Athletes and players, Energy requirements in Sports, Carbohydrate in loading

Unit-IV

Percentage of energy derived from foods, Glycemic Index of food, Dietary fiber of food. Nutritive value of food stuffs.

Unit-V

Steps of planning of Weight Management Principles of weight control, Exercise. The Key to successful weight loss management designing weight loss programme. Tips for control body weight

Books for References:

1. William D. Mc Arodle Frank I. Katch Victor L Katch Exercise Physiology Energy, Nutrition and Human performance Lea & Febiger Philadelphia
2. Richard W. Bowers on Edward L. Fox sports Physiology Third Edition.WM. C. Brown Publishers.
3. Laurence E. Morehouse Augustus T. Miller, Jr. Seventh edition Physiology of exercise. The C.V. Mosby Company.
4. David H. Clarke exercise Physiology prentice – Hall, Inc. Englewood Cliffs, New Jersey. Larry G. Shaver Essentials of Exercise Physiology subject publications.

THEORIES OF TRACK AND FIELD

Learning outcomes:

- Critically reflect on World Athletics Events.
- Identify and trigging out the best Sports persons.
- Define and apply specific techniques for all the Track and Field events.
- Learning the Running, Jumping and Throwing through Athletic practices

Unit-I

History of Track and Field in India, Asia, and World – Organizational set-up (Working Federations): World, Asia, India and State.

Unit-II

Warm-up, Warm down, Physical fitness Qualities, load and safety measures in track and field. Techniques in Sprints, Middle Distance and Long distance Running, types of starts, acceleration and finishing.

Unit-III

Techniques in Jumping events: Long Jump, Triple Jump, High Jump, Pole vault - Techniques in Throwing events: Shot Put, Discus Throw, Javelin Throw, Hammer Throw

Unit-IV

Combined Events Decathlon, Heptathlon, Pentathlon and Triathlon. Scoring system of combined events Techniques in Hurdles, and Relay Races

Unit-V

Competitions, Rules, Officiating, Equipments and their specifications, Standard and Non Standard track Guiding principles of standard track. Lay out of 200 m Track and Lay out and maintenance of 400mTrack

Books for References:

1. Goel, R.C., 1992. Encyclopaedia of Sports and Games, Trange paper, Delhi.
2. A.A.F.I., 1994, Competitive Rules Hand Book, Ashok Printers, Kanpur.
3. Gambetta, V., 1981, Track and Field Coaching Manual, Leisure Press Champaign, Illidis.
4. Thirunarayan, C., and Hariharan, S., 1970, Track and Field the South Indian Press, Karaikudi.

MEASUREMENT AND EVALUATION IN HUMAN PERFORMANCE **(Elective Practical)**

Learning outcomes:

- Apply the procedure of testing various fitness abilities in Sports
- Apply the procedure of testing various skill abilities in Sports
- Apply the procedure of measuring various abilities in Sports

Unit-I

Strength: Bend knee sit-ups test- Flexibility : Sit and reach test- Speed : 50m run Cardiovascular Endurance: Cooper12minute run/walk test Explosive Strength : Standing Broad Jump

Unit-II

AAPHERD Health related Physical fitness Test –YMCA Fitness Test -Motor fitness– JCR test.

Unit-III

Barrow motor ability test - Harvard step test - Kraus Weber test –Margaria Kalamen power test – SDAT World Beaters Scheme Test for School Boys

Unit-IV

Johnson Basketball test–Mor Christian Soccer test–SAI Hockey test.

Unit-V

Brady Volleyball Test-French and GSC Badminton Tests-Hewitt Tennis Test.

Books for References:

1. Bangsbo, J. (1994). Fitness Training in Football: A Scientific Approach. Denmark, August Krogh Inst: University of Copenhagen.
2. James R.Morrow., Allen Jackson, James G. Disch & Dale Mood. (2000). Measurement and Evaluation in Human Performance (2nd Ed.), USA: Human Kinetics Publishers.
3. Barrow, Harold M & McGee, Rosemary. (1979). A Practical Approach to Measurement in Physical Education, Philadelphia: Lea and Febiger.
4. Clake, H.Harrison. Application of Measurement to Health and Physical Education, New Jersey: Prentice Hall Inc.1976.
5. Safrit, Margaret J. (1995). Introduction to Measurement in Physical Education and Exercise Science, St. Louis: Mosby.
6. Edmund O.Acevedo and Michael A. Starks. (2003). Exercise Testing and Prescription lab Manual, USA: Human Kinetics Publishers.
7. James R. Morrow., Allen Jackson, James G.Disch & Dale Mood. (2011). Measurement and Evaluation in Human Performance 4th Ed.), USA: Human Kinetics Publishers.

TRACK AND FIELD **(Elective Practical)**

Learning outcomes:

- To study the fundamental movements for Track & Field events.
- To apply training means and methods and techniques in Track & Field events
- To study advance level of techniques in Track &Field events
- To understand the laying of competition area and officiating.
- Understand the strategy and tactics of Track events.
- Efficacy and hid ended talent bringing out for their high performance in the Sports arena through regular specific physical exercises.

Unit-I

Track Events

1. Starting techniques: Standing start, Crouch start and its variations, Proper use of blocks.
2. Finishing techniques: Run Through, Forward lunging, Shoulder Shrug.
3. Various Middle Distance, Long distance and Road Races- Techniques and Tactics involved

Hurdles:

1. Interpretation of Rules and Officiating.
2. Fundamental Skills-Starting, take off/ Clearance and Landing Techniques.
3. Types of Hurdles races

4. Ground Marking and Officiating.

Relays:

1. Fundamental Skills
2. Various patterns of Baton Exchange.
3. Understanding Relay Zones.
4. Ground Marking, Rules and Officiating

Unit-II

Discus throw, javelin throw, hammer throw, shot-put

1. Basic skills and techniques of the throwing events
2. Ground marking/ sector marking
3. Interpretation of rules and officiating
4. Grip
5. Stance
6. Release
7. Reserve/ (follow through action)
8. Rules and their interpretations and duties of officials

Unit-III

Long Jump

1. Approach run
2. Take off
3. Flying Phase
4. Landing.

Unit-IV

High Jump

1. Approach run
2. Take off
3. Flying Phase
4. Landing.

Unit-V

Triple Jump

1. Approach run
2. Take off and landing for hop and jump
3. Flying phase

Landing

Books for References:

1. Joseph L. Rogers, (2000). USA Track & Field Coaching Manual. Champaign, IL: Human Kinetics.
2. American Sport Education Program. (2008). Coaching Youth Successfully. Champaign, IL: Human Kinetics
3. Bob Swope. (2006). Teaching Track & Field: Guide for Kids & Parents. USA: Author House
4. Gerry Carr. (1991). Fundamentals of Track and Field (2nd Ed.,). USA: Human Kinetics
5. Herald Muller and Wolfgang Ritzdon. (1995). Run!Jump!Throw!: The Official IAAF Guide to Teaching Athletics. Published by IAAF.
6. IAAF Competition Rules 2018-19. Published by IAAF

Naan Mudhalvan Course / PHYSICAL LITERACY

Learning outcomes:

- Understand the basic concept of Movement Education and Physical Literacy
- Know about motor skills and movement pattern
- Learn about the movement concepts
- Understand and apply the concept of participation in Physical Activity

Unit-I

Introduction Definition, Meaning & Importance of Movement Education- Definition, Meaning & Importance of Physical Literacy- Concept of developmentally Appropriate Physical Activities

Unit-II

Motor Skill & Movement Pattern Classification of Motor Skills: Fundamental (Locomotor, Non-locomotor, Manipulative Skill), Specialized (Manipulative, Rhythmic Movement, Game & Sport Skills).

Unit-III

Movement Concepts Introduction to Movement Concepts, Development of Movement Concepts: Space Awareness, Effort Concepts, Relationships- Long Term Athlete Development (LTAD)

Unit-IV

Personal & Social Development Personal Development: Self-concept, Cognitive Functioning and Motivational outcomes - Social Development: Altruism, Controlling Aggression, Cooperation, Group development.

Unit -V

Sports for Development Sport for Development: Sport for Education, Economic, Gender, Health and Peace

Books for References:

1. Abels, K. & Bridges, J. M. (2010) Teaching Movement Education: Foundations for Active Lifestyles. Champaign, IL: Human Kinetics Publishers.
2. Graham, G., Holt, Shirley & Parker, Melissa. (1993). Children Moving A Reflective Approach to Teaching Physical Education. New York: McGraw Hill Education.
3. Lund, J., Tannehill& Lund, Jacalyn. (2010). Standards-Based Physical Education Curriculum Development, 2nd Edition.Jones&Barlett Learning.
4. Frank, A. M (2003). Sports and Education: A Reference Handbook (Contemporary Education Issues), ABC-CLIO.
5. Ciccomascolo, L. E. & Sullivan, E. C. (2013). The Dimensions of Physical Education. Jones &Barlett Learning.
6. Pangrazi, R. P. (1998). Dynamic of Physical Education for Elementary School Children 12th Ed). Allyn& Bacon.
7. Griffin, L. & Butler, J. (2005). Teaching Games for Understanding: Theory, Research, and Practice. Champaign, IL: Human Kinetics Publishers.