

AC-20/05/2025

Item No.

8.36(R)

As Per NEP 2020

University of Mumbai



Revised Syllabus for Minor Vertical 1

Faculty of Interdisciplinary Studies

Board of Studies in Sports Science and Management

Second Year Programme in Minor (B.Sc. Sports Management)

Semester	II	
Title of Paper	Sem.	Total Credits 2
Anatomy and Physiology	II	2
From the Academic Year		2025-26

Sem. - II

Syllabus

BSC (Sports Management)

(Sem.- II)

Title of Paper Anatomy and Physiology

Sr. No.	Heading	Particulars
1	Description the course :	This course offers a foundational understanding of the structure and function of the human body with specific relevance to physical activity, sports performance, and athlete health. It introduces students to the basic principles of human anatomy and physiology, covering key systems such as the skeletal, muscular, circulatory, respiratory, nervous, and endocrine systems. Students will explore how these systems work individually and collectively to support movement, physical performance, energy production, and recovery. The course also emphasizes the physiological adaptations that occur in response to exercise and training, making it essential for future sports managers, coaches, trainers, and fitness professionals. Through theoretical learning and applied examples, this course bridges the gap between biological sciences and sports practice, laying the groundwork for informed decision-making in sports training, injury prevention, and athlete management.
2	Vertical :	Minor
3	Type :	Theory
4	Credit:	2 credits (1 credit = 15 Hours for Theory work in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks

7	Course Objectives: 1. To provide foundational knowledge of human anatomy and physiological systems relevant to sports and physical activity. 2. To explain the structure and function of major body systems including muscular, skeletal, circulatory, respiratory, and nervous systems. 3. To understand the physiological responses and adaptations of the human body to exercise and training. 4. To relate anatomical knowledge to sports performance, injury prevention, and rehabilitation. 5. To prepare students for advanced courses in sports science, biomechanics, and fitness assessment.
8	Course Outcomes: 1. Identify and describe the major organs and systems of the human body. 2. Explain how various body systems function and interact during rest and physical activity. 3. Analyze physiological changes during different types and intensities of exercise. 4. Apply anatomical and physiological knowledge to improve athletic performance and prevent sports-related injuries. 5. Demonstrate understanding of basic health parameters such as heart rate, blood pressure, and VO₂ max in fitness settings.
9	Modules: - Anatomy and Physiology
	Module 1: Introduction to Anatomy and Physiology
	1. Definitions and scope 2. Anatomical terminology and planes of the body 3. Levels of organization: cells, tissues, organs, and systems 4. Homeostasis and feedback mechanisms
	Module 2: Skeletal and Muscular Systems
	1. Structure and function of bones and joints 2. Types of bones and classification of joints 3. Muscular system: muscle types, structure, and functions 4. Major muscle groups used in sports and exercises
	Module 3: Cardiovascular and Respiratory Systems
	1. Structure and function of the heart, blood vessels, and circulation 2. Blood composition and its role in exercise 3. Respiratory system: structure and function of lungs, airways, gas exchange 4. Physiological responses of these systems to physical activity
	Module 4: Nervous and Endocrine Systems in Sports

1. Central and peripheral nervous systems
2. Neurons, reflexes, and motor control
3. Endocrine glands and hormonal control in exercise
4. Role of nervous and endocrine systems in coordination, reaction time, and fatigue

11 Reference Books:

1. **Ross & Wilson** – *Anatomy and Physiology in Health and Illness*
Authors: Anne Waugh & Allison Grant
Publisher: Elsevier
 – A widely used book that covers all body systems with illustrations and clinical relevance.
2. **Tortora, G.J., & Derrickson, B.** – *Principles of Anatomy and Physiology*
Publisher: Wiley
 – A detailed and comprehensive text ideal for understanding structure-function relationships.
3. **Gerard J. Tortora** – *Introduction to the Human Body*
Publisher: Wiley
 – A beginner-friendly guide that breaks down complex concepts.
4. **William C. Whiting & Stuart Rugg** – *Dynamics of Human Anatomy*
Publisher: Human Kinetics
 – Especially helpful for understanding biomechanics and muscular function in sports.
5. **David A. Morton, Kurt H. Albertine, & K. Bo Foreman** – *The Big Picture: Gross Anatomy*
Publisher: McGraw Hill
 – Provides visual learning and simplified explanations for gross anatomy.
6. **C.N. Chhatwal & B. M. Bhargava** – *Textbook of Anatomy and Physiology for Nurses*
Publisher: Jaypee Brothers Medical Publishers
 – Simple and useful for Indian students, especially for basics.
7. **Dr. D. K. Pandey** – *Human Anatomy and Physiology*
Publisher: S. Chand Publishing
 – An Indian context resource covering major anatomical and physiological systems.

12 Internal Continuous Assessment: 40%

**External, Semester End Examination
60% Individual Passing in Internal
and External Examination**

QUESTION PAPER PATTERN

(External and Internal)

Theory courses evaluation scheme for Second Year (UG) under NEP
For theory courses with 2 credit points total marks allotted would be 50

1. Internal Assessment: 20 Marks
2. External Assessment: 30 Marks

Nature of Examination		Bifurcation of Marks				
1. Internal Assessment for Theory Courses						
Continuous Internal Assignment	Sr.	Examination	Module	Marks	Time	Total Marks
	1	Class Test	Module 1 or on completed syllabus	10	30 Min	20
	2	Assignments / Case Study / Presentations / Projects / Group Discussion / Ind. Visit / Tutorials		10		
Note: Class Test						
1. MCQ's - 5 Marks						
3. Answer in Brief (2 out of 3 questions) - 5 Marks						
2. External Assessment for Theory Courses						
Semester End Examination	Question No	Paper Pattern (Theory question paper pattern: All questions are compulsory)	Unit	Marks	Time	Total Marks
	Q.1	Match the Column/Fill in the Blanks/Multiple Choice Questions (1/2 Mark each)	From all Modules	5	1 Hours	30
	Q.2	Answer in one sentence (1 mark each)		5		
	Q.3	Answer the following		10		
	Q.4	Short Notes (Attempt any 2 out of 3)		10		

**Sign of the BOS
Chairman
Dr. Manoj N. Reddy
Ad-hoc Board of
Studies in
Sports Science and
Management**

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Dr. C.A.Chakradeo
Faculty of
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