

Sports Science

Course Code	Course Title	Credit Hours
HPE-1105	GAMES-I	3(2+1)
HPE-1205	GAMES-II	3(1+2)
HPE-2305	TALENT IDENTIFICATION IN SPORTS	3
HPE-2306	GAMES-III	3(1+2)
HPE-2405	ADMINISTRATION AND MANAGEMENT IN SPORTS	3
HPE-2406	ATHLETICS	3(1+2)
HPE-2424	Basics of Human Anatomy (Elective-I)	3
HPE-2425	Basics of Human Physiology (Elective-II)	3

Semester I

GAMES-I (Badminton, Basketball & Football)

Course Code: HPE-1105 (2+1 Cr. Hr)

COURSE OBJECTIVES

This course is aimed at developing the knowledge of students about rules of the sports & games along with the coaching skills of different sports among the students. The course will enhance the organizational skills in the students and knowledge regarding organization and conduct of tournament at school, college, university and National levels. It will also help the students to develop and polish their leadership qualities and sports-man spirit.

COURSE CONTENTS:

- i. **INTRODUCTION**
 - a. Definition of Games and Sports
 - b. Types of Games and Sports
 - c. Values of Games and Sports
- ii. **SYSTEMS OF TOURNAMENT**

- a. Single elimination or knockout system
 - b. Round robin or league system
 - c. Combination system
 - d. Challenge system
 - i. Ladder system
 - ii. Pyramid system
- iii. **HISTORY, RULES AND TECHNIQUES OF GAMES (RACKET)**
- a. Badminton
- iv. **HISTORY, RULES AND TECHNIQUES OF GAMES (BALL GAMES)**
- a. Basket Ball
- v. **HISTORY, RULES AND TECHNIQUES OF GAMES (FIELD GAMES)**
- a. Foot Ball
- vii. **PRACTICAL OF GAMES MENTIONED ABOVE.**

RECOMMENDED BOOKS

1. Mukherjee, S. (2015). *Video games and storytelling: Reading games and playing books*. Springer.
2. Scott, D. M. (2015). *The new rules of marketing and PR: How to use social media, online video, mobile applications, blogs, news releases, and viral marketing to reach buyers directly*. John Wiley & Sons.
3. Müller, M., & Pickles, J. (2015). Global games, local rules: Mega-events in the post-socialist world.
4. Jones, M. E. (2016). *Rules of the game: Sports Law*. Rowman & Littlefield.
5. Gardiner, S., O'Leary, J., Welch, R., Boyes, S., & Naidoo, U. (2012). *Sports law*. Routledge.

Semester II

GAMES-II (Tennis, Netball & Hockey, Rolling & Twisting)

Course Code: HPE-1205 (1+2 Cr. Hr)

(Tennis, Netball & Hockey)

COURSE OBJECTIVES

This course is aimed at developing the knowledge of students about rules of the sports & games along with the coaching skills of different sports among the students. The course will enhance the organizational skills in the students and knowledge regarding organization and conduct of tournament at school, college, university and National levels. It will also help the students to develop and polish their leadership qualities and sports-man spirit.

COURSE CONTENTS:

- i. ORGANIZATION AND CONDUCT OF TOURNAMENTS**
 - a. Board level
 - b. University level
 - c. Provincial level
 - d. National level

- ii. HISTORY, RULES AND TECHNIQUES OF GAMES (RACKET)**
 - a. Tennis

- iii. HISTORY, RULES AND TECHNIQUES OF GAMES (BALL GAMES)**
 - a. Net Ball

- iv. HISTORY, RULES AND TECHNIQUES OF GAMES (FIELD GAMES)**
 - a. Hockey

RECOMMENDED BOOKS

1. Mukherjee, S. (2015). *Video games and storytelling: Reading games and playing books*. Springer.
 2. Scott, D. M. (2015). *The new rules of marketing and PR: How to use social media, online video, mobile applications, blogs, news releases, and viral marketing to reach buyers directly*. John Wiley & Sons.
 3. Müller, M., & Pickles, J. (2015). *Global games, local rules: Mega-events in the post-socialist world*.
 4. Jones, M. E. (2016). *Rules of the game: Sports Law*. Rowman & Littlefield.
- Gardiner, S., O'Leary, J., Welch, R., Boyes, S., & Naidoo, U. (2012). *Sports law*. Routledge

(Rolling & Twisting)

COURSE OBJECTIVES

The purpose of introducing this practical course on Gymnastic Apparatus work is to provide students the basic training to acquire knowledge to participate in healthful activities effectively as means of improving the physical fitness of the youth.

COURSE CONTENTS:

1. **EXERCISE ON GROUND (Skills, Coaching and Officiating)**
 - a. Simple Turn
 - b. Forward roll on straddle Seat
 - c. Forward Roll
 - d. Backward Up Rise
 - e. Cartwheel
 - f. Twisting

RECEMMENDED BOOKS

1. Mauldon, Elizabeth. *Teaching gymnastics*. Routledge, 2014.
2. Hadden, R. (2018). *Women in Athletics*.
3. Forutanpour, B. (2017). *U.S. Patent No. 9,597,565*. Washington, DC: U.S. Patent and Trademark Office.
4. Manner, K. E., & Bennett, B. C. (2016). *U.S. Patent No. 9,358,439*. Washington, DC: U.S. Patent and Trademark Office.

Semester III

TALENT IDENTIFICATION IN SPORTS

Course Code: HPE-2305 (3.0 Cr. Hr.)

COURSE OBJECTIVES

This course will provide opportunities to familiarize students with the talent in sports and how to develop it on scientific basis. This course will help a sportsman to enhance performance. It will help to a common person, Managers, Coaches and parents to know about the stages and phases of talent development of athletes that ultimately lead towards sporting excellence.

COURSE CONTENTS:

- i. Introduction to Talent Identification in Sports
- ii. Characteristics of development and excellence
- iii. Anthropometric, Physiological, Psychological and Social contents of Talent Identification
- iv. Traditional Methods of Talent Identification in Sports
- v. Modern Methods of Talent Identification in Sports
- vi. Sports Talent Identification models of China, Iran, USA and India
- vii. Developing a Multidimensional Model for Talent Identification In Pakistan

RECOMMENDED BOOKS

1. Baker, J., Cobley, S., Schorer, J., & Wattie, N. (Eds.). (2017). *Routledge handbook of talent identification and development in sport*. Taylor & Francis.
2. Baker, J., Cobley, S., Schorer, J., & Wattie, N. (2017). Talent identification and development in sport. *Routledge Handbook of Talent Identification and Development in Sport*, 1.
3. Kristiansen, E., Parent, M. M., & Houlihan, B. (Eds.). (2016). *Elite Youth Sport Policy and Management: A Comparative Analysis*. Taylor & Francis.
4. Schorer, J., Wattie, N., Cobley, S., & Baker, J. (2017). Concluding, but definitely not conclusive, remarks on talent identification and development.
5. Grix, J. (Ed.). (2017). *Understanding UK sport policy in context*. Routledge.

Semester III

GAMES-III (Squash, Table Tennis, Volleyball, Handball, Cricket & SPRINT RACES)

Course Code: HPE-2306 (1+2 Cr. Hr)

(Squash, Table Tennis, Volleyball, Handball, Cricket)

COURSE OBJECTIVES

This course is aimed at developing the knowledge of students about rules of the sports & games along with the coaching skills of different sports among the students. The course will enhance the organizational skills in the students and knowledge regarding organization and conduct of tournament at school, college, university and National levels. It will also help the students to develop and polish their leadership qualities and sports-man spirit.

COURSE CONTENTS:

- i. HISTORY, RULES AND TECHNIQUES OF GAMES (RACKET)**
 - a. Squash
 - b. Table Tennis

- ii. HISTORY, RULES AND TECHNIQUES OF GAMES (BALL GAMES)**
 - a. Volleyball
 - b. Handball

- iii. HISTORY, RULES AND TECHNIQUES OF GAMES (FIELD GAMES)**
 - a. Cricket

RECOMMENDED BOOKS

1. Mukherjee, S. (2015). *Video games and storytelling: Reading games and playing books*. Springer.
1. Scott, D. M. (2015). *The new rules of marketing and PR: How to use social media, online video, mobile applications, blogs, news releases, and viral marketing to reach buyers directly*. John Wiley & Sons.
2. Müller, M., & Pickles, J. (2015). *Global games, local rules: Mega-events in the post-socialist world*.
3. Jones, M. E. (2016). *Rules of the game: Sports Law*. Rowman & Littlefield.
4. Gardiner, S., O'Leary, J., Welch, R., Boyes, S., & Naidoo, U. (2012). *Sports law*. Routledge.

(SPRINT RACES)

COURSE OBJECTIVES

This course is aimed at developing the knowledge of students about rules of the Athletics sport along with its coaching and organizational skills among the students. The course will enhance the organizational skills in the students and knowledge regarding organization and conduct of tournament at school, college, university and National levels. It will also help the students to develop and polish their leadership qualities and sports-man spirit.

COURSE CONTENTS:

i. INTRODUCTION

- a. Definition of Athletics Sport
- b. History of Athletics Sports
- c. Types of Track and Field events
- d. Value of Track and Field Events at National and International Events

ii. SYSTEMS OF ATHLETICS CHAMPIONSHIP ORGANIZATION

- a. Introduction to Track Events
- b. Introduction to Field Events

RECOMMENDED BOOKS

1. Hadden, R. (2018). *Women in Athletics*.
 2. Margenau, E. (2014). *Sports Without Pressure: A Guide for Parents and Coaches of Young Athletes*. Routledge.
 3. Müller, M., & Pickles, J. (2015). *Global games, local rules: Mega-events in the post-socialist world*.
 4. Jones, M. E. (2016). *Rules of the game: Sports Law*. Rowman & Littlefield.
- Gardiner, S., O'Leary, J., Welch, R., Boyes, S., & Naidoo, U. (2012). *Sports law*. Routledge

Semester IV

ADMINISTRATION AND MANAGEMENT IN SPORTS

Course Code: HPE-2405 (3+0 Cr. Hr)

COURSE OBJECTIVES

Good administration and better management can produce best results. Physical Education and Sports are the fields that require most excellent administration for converting the efforts into real success. This particular course will help the physical educators and sports managers to understand the soul of administrative routines and become aware of the qualities and the qualifications of good administration, in addition to understanding the need of public relations and use of these relations for the promotion of physical education and sports.

COURSE CONTENTS:

i. INTRODUCTION

- a. Meaning and Definition of Administration
- b. Need and importance of Administration in Physical Education
- c. Types of Administration
- d. Qualifications and traits of the Administrator
- e. Duties of Administrator

ii. ADMINISTRATIVE SETUP IN PHYSICAL EDUCATION

- a. Administrative organization and structure
- b. Private and Public organizations
- c. Objectives of the organization
- d. Physical Education at various levels of education in Pakistan
- e. Administrative setup of Sports and Physical Education in Pakistan

iii. STRUCTURE, STRATEGIES & POLICIES OF FEDERATIONS OF PAKISTAN

- a. IOC
- b. OCA
- c. Athletics
- d. Hockey
- e. Cricket
- f. Football
- g. Volleyball
- h. Badminton
- i. Weightlifting

iv. HUMAN RESOURCE MANAGEMENT

- a. Introduction
- b. Supervision
- c. Establishment of policies
- d. Job description

- e. Job induction
- f. Job placement
- g. Volunteers
- h. On job training
- i. Total quality control / total quality management (T.Q.M.)

v. PERSONNEL ADMINISTRATION IN PHYSICAL EDUCATION

- a. Principles of personnel Administration
- b. Facilities for staff and staff moral
- c. Teaching load, In-service training
- d. Qualification of staff
- e. Evaluation and Supervision
- f. Conduct of Sports Meeting

vi. PUBLIC RELATION

- a. Definition of Public Relation
- b. Objectives
- c. Need and importance of Public Relation in Physical Education
- d. Principles of Public Relation

vii. PLANNING & ORGANIZING A SPORTS EVENT

- a. Bidding or applying for an event (National & International)
- b. Award of the events
- c. The contingent
- d. Finance
- e. Documentation
- f. Clothing & equipment
- g. Protocol
- h. Customs
- i. Briefing

viii. FINANCIAL MANAGEMENT

- a. Importance of fiscal management
- b. Accounting
- c. Budgeting and Analysis
- d. Fund raising

RECOMMENDED BOOKS

1. Rodríguez, P., Késenne, S., & Koning, R. (Eds.). (2015). *The economics of competitive sports*. Edward Elgar Publishing.
2. Macdonald, R. D. (2017). *Sports Business Management: Decision Making Around the Globe*, George Foster, Norm O'Reilly, Antonio Dávila (assisted by Carlos Shimizu, Kevin Hurd). Routledge (Taylor & Francis), 711 Third Avenue, New York (2016). 512 pp., ISBN: 978-1-138-91954-9 (pbk).
3. Masterman, G. (2014). *Strategic sports event management*. Routledge.
4. Stewart, B., Nicholson, M., Smith, A. C., & Hoyer, R. (2018). *Sport management: principles and applications*. Routledge.
5. Shank, M. D., & Lyberger, M. R. (2014). *Sports marketing: A strategic perspective*. Routledge

Semester IV

ATHLETICS (Throwing Events, Long Races)

Course Code: HPE-2406 (1+2 Cr. Hr.)

(Throwing Events)

COURSE OBJECTIVES

This course is aimed at developing the knowledge of students about rules of the Athletics sport along with its coaching and organizational skills among the students. The course will enhance the organizational skills in the students and knowledge regarding organization and conduct of tournament at school, college, university and National levels. It will also help the students to develop and polish their leadership qualities and sports-man spirit.

COURSE CONTENTS:

i. PRACTICAL FOR THROW EVENTS

- a. Discus Throw
- b. Shot Put
- c. Hammer Throw
- d. Javelin Throw

RECOMMENDED BOOKS

1. Hadden, R. (2018). *Women in Athletics*.
2. Margenau, E. (2014). *Sports Without Pressure: A Guide for Parents and Coaches of Young Athletes*. Routledge.
3. Müller, M., & Pickles, J. (2015). *Global games, local rules: Mega-events in the post-socialist world*.
4. Jones, M. E. (2016). *Rules of the game: Sports Law*. Rowman & Littlefield.
5. Gardiner, S., O'Leary, J., Welch, R., Boyes, S., & Naidoo, U. (2012). *Sports law*. Routledge.

(Long Races)

COURSE OBJECTIVES

This course is aimed at developing the knowledge of students about rules of the Athletics sport along with its coaching and organizational skills among the students. The course will enhance the organizational skills in the students and knowledge regarding organization and conduct of tournament at school, college, university and National levels. It will also help the students to develop and polish their leadership qualities and sports-man spirit.

COURSE CONTENTS:

i. PRACTICAL FOR LONG RACES

- a. 800M
- b. 1500M
- c. 3000M
- d. 5000M
- e. 10000M

RECOMMENDED BOOKS

1. Hadden, R. (2018). *Women in Athletics*.
 2. Margenau, E. (2014). *Sports Without Pressure: A Guide for Parents and Coaches of Young Athletes*. Routledge.
 3. Müller, M., & Pickles, J. (2015). *Global games, local rules: Mega-events in the post-socialist world*.
 4. Jones, M. E. (2016). *Rules of the game: Sports Law*. Rowman & Littlefield.
- Gardiner, S., O'Leary, J., Welch, R., Boyes, S., & Naidoo, U. (2012). *Sports law*. Routledge.

BASICS OF HUMAN ANATOMY (Elective-I)

Course Code: HPE-2424(3+0 Cr. Hr)

COURSE OBJECTIVES

The outlines of this course have been drawn with the objective to provide basic knowledge of human anatomy and body parts such as head and neck, thorax, abdomen and pelvis, Skeleton, Bones Tissues, Joints and Muscles to acquaint students with initial information about human body structure and functions.

COURSE CONTENTS:

i. INTRODUCTION

- a. Definition of Anatomy
- b. Importance of Anatomy in Sports
- c. Terms & terminologies used in Anatomy
- d. Cell, Cell Characteristics and Cell Organelle
- e. Cell Division
- f. Body Tissue and Organs (Types & General Classification)

ii. ANATOMY OF SKELETAL SYSTEM

- a. Cartilage, Bone & its Classification
- b. Gross & Microscopic Structure of Bone
- c. Types of Bone Fractures and Healing Process of Fracture
- d. Joints and their Classification

iii. ANATOMY OF MUSCULAR SYSTEM

- a. Muscles & their Classification
- b. Gross & Microscopic Structure of Muscles

iv. ANATOMY OF DIGESTIVE SYSTEM

- a. Gross & Microscopic anatomy of Digestive System
- b. Functional Anatomy of Digestive System

- v. **ANATOMY OF CARDIOVASCULAR SYSTEM**
 - a. Gross & Microscopic Anatomy of Heart
 - b. Gross & Microscopic Structure of Blood Vessels
 - c. Anatomy of Blood

- vi. **ANATOMY OF NERVOUS SYSTEM**
 - a. General structure & Types of Neurons
 - b. Anatomy of Central Nervous System
 - c. Anatomy of Peripheral Nervous System
 - d. Types of Senses

- vii. **ANATOMY OF RESPIRATORY SYSTEM**
 - a. Anatomy of Complete Airway
 - b. Microscopic Anatomy of Lungs

RECOMMENDED BOOKS

1. Standring, S. (Ed.). (2015). *Gray's anatomy e-book: the anatomical basis of clinical practice*. Elsevier Health Sciences.
2. Le Minor, J. M., & Sick, H. (2015). *Bourgerie: Atlas of Human Anatomy and Surgery*. Taschen.
3. Logan, B. M. (2016). *Logan's Illustrated Human Anatomy*. CRC Press.
4. Diogo, R., Noden, D. M., Smith, C. M., Molnar, J., Boughner, J. C., Barrocas, C. A. A., & Bruno, J. A. (2016). *Understanding Human Anatomy and Pathology: An Evolutionary and Developmental Guide for Medical Students*. CRC Press.
5. Hull, K. L. (2014). *Study Guide to Accompany Memmler The Human Body in Health and Disease*. Lippincott Williams And Wilkin.

BASICS OF HUMAN PHYSIOLOGY (Elective-II)

Course Code: HPE-2425 (3+0 Cr. Hr)

COURSE OBJECTIVES

The outline of this course has been drawn with the objective to provide basic knowledge of human physiology and various parts of the body. It will acquaint the students with initial information about human body structure and its functions.

COURSE CONTENTS:

- i. **INTRODUCTION**
 - a. Definition of Physiology
 - b. Importance of Anatomy and Physiology in Sports
 - c. Terms & Terminologies used in Anatomy and Physiology

- ii. **TISSUES AND ORGANS**
 - a. Definition
 - b. Types
 - c. Physiology Endocrine System in Human Body

- iii. **PHYSIOLOGY OF SKELETAL SYSTEM**
 - a. Physiology of Bones
 - b. Mechanism of Bone Mineralization
 - c. Classification of major bones of human body
 - d. Coordination of Musculoskeletal system

- iv. **PHYSIOLOGY OF MUSCULAR SYSTEM**
 - a. Physiology of Cardiac Muscles
 - b. Physiology of Smooth Muscles
 - c. Physiology of Skeletal Muscles
 - d. Nerve Stimulus to Muscular system
 - e. Muscle Nomenclature
 - f. Classification of Major Muscles of Human Body

- v. **PHYSIOLOGY OF DIGESTIVE SYSTEM**
 - a. Overview of Physiology of Human GIT
 - b. Motility of GIT
 - c. Secretary function of GIT
 - d. Absorptive function of GIT

- vi. **PHYSIOLOGY OF CARDIOVASCULAR SYSTEM**
 - a. Overview of Physiology of Heart and Blood vessels
 - b. Cardiac Cycle
 - c. Conduction system of Heart
 - d. Heart Sounds
 - e. Heart Rate, Blood Pressure, Cardiac Output etc.
 - f. Functions of Blood
 - g. Introduction to Lymphatic System

- vii. **PHYSIOLOGY OF NERVOUS SYSTEM**
 - a. Overview of Physiology of Nervous System
 - b. Physiology of Central Nervous System
 - c. Physiology of Peripheral Nervous System
 - d. Physiology of Neurons

RECOMMENDED BOOKS

1. Sherwood, L. (2015). *Human physiology: from cells to systems*. Cengage learning.
2. Hull, K. L. (2014). *Study Guide to Accompany Memmler The Human Body in Health and Disease*. Lippincott Williams And Wilkin.
3. Peck, M. (2015). *Discovering Human Physiology*.
4. Kenney, W. L., Wilmore, J., & Costill, D. (2015). *Physiology of sport and exercise 6th edition*. Human kinetics.
5. Herman, I. P. (2016). *Physics of the human body (Biological and Medical Physics, Biomedical Engineering)*. Springer.