UNIVERSITY OF THE PUNJAB

NOTIFICATION

It is hereby notified that the Syndicate at its meeting held on 15.11.2021 approved the recommendations of the Academic Council made at its meeting dated 07.10.2021 regarding approval of revised/updated Curricula/Syllabus of M.Phil and Ph.D (Sports Sciences and Physical Education) with effect from Academic Session 2014. Moreover, the start of M. Phil and Ph.D (Sports Sciences and Physical Education) programs were approved from Session 2010.

Sd/-
Muhammad Rauf Nawaz
Registrar

Admin. Block,
Quaid-i-Azam Campus,
Lahore.
No. D/110/Acad.

Dated: 10.01/2022.

Copy of the above is forwarded to the following for information and necessary action: -

1. Dean, Faculty of Arts Humanities
2. Chairman, Department of Sports Sciences & Physical Education
3. Controller of Examinations
4. Director, Quality Enhancement Cell
5. Director, IT
6. Secretary to the Vice-Chancellor
7. PS to PVC
8. PS to Registrar
9. Assistant Syllabus

Assistant Registrar (Academic)
for Registrar

CURRICULA / SYLLABI FOR

MASTER OF PHILOSOPHY (MPhil)

AND

DOCTOR OF PHILOSOPHY (PhD)

IN

SPORT SCIENCES AND PHYSICAL EDUCATION

Department of Sport Sciences and Physical Education, University of the Punjab, Lahore

MASTER OF PHILOSOPHY (M.Phil.)

DEPARTMENT OF SPORT SCIENCES AND PHYSICAL EDUCATION

FACULTY OF ARTS & HUMANITIES

1. Department Mission

The Department has developed a clear mission with abundant potential to expand the scope and quality of its activities. Its core aims are leadership in the field within Pakistan and a raising of the international profile as a research-led centre of excellence in Sport Sciences and Physical Education (SSPE). Sport Sciences and Physical Education (SSPE) Department aims at total education through the physical, intellectual, emotional, and social development of people to bring up healthier, happier, and more successful people to the public.

2 Department Introduction

The Department of Sports Sciences is committed to offering a BS (Hons), Master's Degree to equip the future sports scholars and coaches to address the challenges of sports issues in Pakistan and Internationally. Our programs emphasize scientific academic preparations combined with playfield experiences, coaching techniques and Human Performance Laboratory Analysis.

We provide an environment and our faculty encourages the students for applied research in areas of Exercise Physiology, Sports Psychology, Sports Nutrition, Sports Biomechanics, Scientific Coaching, Sports Administration & Management and Marketing Research in Sports. The curriculum and pedagogy of the program seek to emphasize the enhancement of professional abilities and skills of the students with overall leadership qualities.

The Department is undertaking MS/MPhil and PhD programs with specializations in different areas, as per HEC criteria. For details, see HEC admission criteria and university regulations also given in university Calendar and Punjab University website (www.pu.edu.pk). Any of the below-mentioned courses may be offered for MS/MPhil and PhD degrees for completion of coursework requirements.

3 Program Introduction

Total twenty-four (24) credit hour course work along with six (6) credit hour thesis is required for M.Phil. Degree. course work will be carried out during 2 semesters of 18 weeks each.

This is important to point out that there must not be any repetition of courses to any degree of every candidate.

4 Program Objectives

- Generating professional development in sports discipline
- Identify and explain new trends in sports
- Explaining issues in sports by critical thinking and problem-solving skills
- Evaluating current research practices in sports by:
  - **a)** Formulating and summarizes sports-related research that integrates knowledge and experience with existing theories
  - **b)** Developing advanced-level skills of quantitative and qualitative research methodologies used in the sports field.
- Produce collaborative learners who proceed with their professional development and can use their abilities to contribute to the sports profession

5 Market Need/Rationale of the Program

a) Potential students for the program

The program aimed to stimulate critical and analytical thinking for the people who want to do work in public and private institutes specifically in sports sciences and physical education departments as well as in all sports organizations. The program is comprised of courses in sports leadership, management, coaching, nutrition, psychology, testing and measurements, biomechanics, different sports, track and field events. The program focuses on the latest innovative theories and practices in sports.

b) Potential employers

Through this program, people will be equipped with a different set of valuable skills that will help them in their future careers.

Some of the skills that could be developed include:

- Interpersonal skills
- Athletic Performance analysis and Evaluating
- Physical fitness
- Coaching
- Research

This program leads itself to a wide range of careers in sports coaching, administration, and fitness as well as other industries in the market such as:

- Sports Science and Physical Education Teaching
- Professional Sportsperson/Consultant
- Developing Sports policy at the Local and National level
- Sports Nutritionist
- Director Sports in Sports Organization/Institutes

c) Academic projections

Several National and International universities are offering MS/Mphil, PhD degrees related to sports science and Physical Education. Several reasons showed its significance in Sports such as helping people to learn skills physically and emotionally. Further, it is also providing the life lessons like confidence, emotional intelligence, motivation, human behaviours, stress handling and coping strategies. The world universities are offering sports as a degree program because of the following salient features:

- Sports is not just playing in the fields. It teaches us the importance of a healthy diet the essential vitamins and minerals we need on daily basis.
- It teaches us the sportsman spirit. Whether we win or lose, it helps in promoting our character.
- Physical activity can prevent heart diseases and risks of cancers. Also, it can reduce the life risks by manifolds.

List of the universities offering MS/MPhil Program:

- University of Karachi
- Gomal University
- Sarhad University
- University of Lahore
- Riphah International University
- Islamia University Bahawalpur
- Isra University

d) Faculty

- Dr. Muhammad Zafar Iqbal Butt

(Chairman/Associate Professor)

- Dr Alamgir Khan Qureshi
  (Assistant Professor)
- Dr. Muhammad Tahir Nazeer
  (Adhoc. Assistant Professor)
- Dr Sajjad Ali Gill
  (Adhoc. Assistant Professor)
- Dr Yasmeen Shoaib
  (Lecturer)
- Mr. Muhammad Abdul Jabar Adnan
  (Lecturer)
- Mrs Hira Atta
  (Lecturer)
- Visiting faculty

e) Physical Facilities

- Classrooms
- Lecture Hall
- Practical / Lab facilities
- Basketball, Lawn Tennis, Volleyball and Badminton courts
- Cricket Ground
- Hockey Ground
- Table Tennis Hall

6 Admission and Eligibility Criteria

- **Years of study completed**
- M.A. / M.Sc. BS (Hons.) degree or its equivalent in the relevant subject from a recognized University (16 years of education) as per HEC rules
- **Study Program**
  - MPhil Sports Sciences and Physical Education.
- **Percentage /CGPA**
  - Candidates must have a minimum of 3.00 or a high CGPA out of 4.00 for M.Phil. program.

- **Entry test**
  - GAT (General) / Department Entry Test.
  - The GAT-General (www.nts.org.pk/gat/gat.asp) conducted by the National Testing Service with a minimum 50% cumulative score will be required at the time of admission to M. Phil. The GAT-General test is valid for two years.
  - In the case of the department entry test, 70% marks are required for admission in M.Phil.

7 Duration of the Program

As per HEC Rules:

- For the award of MPhil/MS/Equivalent degree, candidates will either need to complete 30 credit hours of course work or complete 24 credit hours of course work along with a minimum of 6 credit hours for research work/thesis.

8 Categorization of Courses as per HEC recommendation and difference

Category (Credit hour)							
Semester	**Course**	**Core Courses**	**Basic Courses**	**Major Electives**	**Minor Electives**	**Any Other**	**Semester Load**
1	Research Methods and Advance Statistics	03					
2	Sports Physiology		03				
3	Sports Psychology		03				
4	Sports Management in Physical Education			03			
5	Sports Nutrition		03				
6	Sports Biomechanics			03			
7	Lab Sports Biomechanics			01			
8	Sports Physiotherapy and Rehabilitation		03				
9	Lab Sports Physiotherapy and Rehabilitation		01				
10	Scientific Coaching Methods		03				
11	Lab Scientific Coaching Methods		01				
12	Meditation and Health				03		
13	Lab Meditation and Health				01		
14	Human Anatomy	03					
15	Track and Field			03			

16	Lab Track and Field			01			
17	Planning Sports Facilities		03				
PU	Same as HEC						
HEC Guidelines	Followed 100%						
Differences (HEC & PU)	Nil						

9 Scheme of Studies / Semester-Wise Workload

Semester I	Code	Course Title	Course Type	Prerequisite	Credit Hour
1	SSM-501 T	Research Methods and Advance Statistics	Core Course	Nil	03
2	SSM-514 T	Human Anatomy	Core Course	Nil	03
3	SSM-505 T	Sports Nutrition	Basic Course	Nil	03
4	SSM-503 T	Sports Psychology	Basic Course	Nil	03
Total Credit Hours					12

Semester II	Code	Course Title	Course Type	Prerequisite	Credit Hour
1	SSM-508 T	Sports Physiotherapy & Rehabilitation	Basic Course	Nil	03
2	SSM-509 L	Lab Sports Physiotherapy & Rehabilitation	Basic Course	Nil	01
3	SSM-510 T	Scientific Coaching Methods	Basic Course	Nil	03
4	SSM-511 L	Lab Scientific Coaching Methods	Basic Course	Nil	01
5	SSM-506 T	Sports Biomechanics	Major Elective	Nil	03
6	SSM-507 L	Lab Sports Biomechanics	Major Elective	Nil	01
Total Credit Hours					12

10 Award of Degree

Degree awarding criteria for M.Phil.

- MPhil program will be for four semesters. In the first two semesters, 24 credit hours of course work and in 3rd and 4th semesters 6 credit hours research work will be carried out.
- The research work submitted for M.Phil. will not be part of PhD thesis.

11 NOC from Professional councils (if applicable)

Nil

12 Faculty Strength

Degree	Area/ Specialization	Total
PhD	1. Sports Sciences and Physical Education / Sports Nutrition	1
	2. Sports Sciences and Physical Education / Exercise Physiology	1
	3. Sports Sciences and Physical Education / Sports Biomechanics	1
	4. Sports Sciences and Physical Education / Sports Psychology	1
	5. Sports Sciences and Physical Education / Trauma & Rehabilitation	1
PhD Enrolled	1. Sports Sciences and Physical Education	1
MS/MPhil	1. Sports Sciences and Physical Education	1
	Total	07

13 Present Student-Teacher Ratio in the Department

40:1 (Student: Teacher)

14 Course Outlines

(WRITTEN BELOW)

Course Title: **RESEARCH METHODS AND ADVANCED STATISTICS**

Code Number: SSM- 501 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

At the successful completion of this course students will be able:

1) To use statistical packages (SPSS and Excel etc.,) for quantitative research analysis.
2) To apply advanced statistical methods in experimental research.
3) Able to critically evaluate the research methodological designs.

Course Contents

Unit-I

1.1 Research Methods and Advanced Statistics course
1.1.1 Research Concepts in Sport Management
1.1.2 Research Defined
1.1.3 Types of Research
1.1.4 Research Traditions
1.1.5 Summary

Unit-II

2.1 Ethical Issues in Research
2.1.1 Protection of Human Subjects
2.1.2 Ethical Principles and Guidelines
2.1.3 Institutional Review Board
2.1.4 Informed Consent
2.1.5 Ethical Consideration of research
2.1.6 Summary

Unit-III

3.1 The Research Process
3.1.1 Creation of Research Questions
3.1.2 Selection of a Topic
3.1.3 Reviewing the Literature
3.1.4 Development of a Conceptual Framework
3.1.5 Identification of Variables
3.1.6 Clarification of Hypotheses
3.1.7 Summary

Unit-IV

4.1 Research Design
4.1.1 Types of Research Designs
4.1.2 Determination of Sample Size
4.1.3 Sampling Strategies
4.1.4 Sampling Errors
4.1.5 Reliability
4.1.6 Validity
4.1.7 Summary

Unit-V

5.1 Data Collection and Analysis
5.1.1 Non-response Bias
5.1.2 Preparation of Data for Analysis
5.1.3 Levels of Measurement
5.1.4 Descriptive Statistics
5.1.5 Inferential Statistics
5.1.6 Choosing a Statistical Analysis Method
5.1.7 Drawing Conclusions
5.1.8 Summary

Unit-VI

6.1 Data Publication
6.1.1 Academic Conference Presentation
6.1.2 Academic Journal Selection
6.1.3 Research Article Structure
6.1.4 Journal Publication Process
6.1.5 Evaluating Journal Articles
6.1.6 Summary

Unit-VII

7.1 Research Methods and Advanced Statistics course
7.1.1 Surveys
7.1.2 Internet Surveys
7.1.3 Design and Implementation
7.1.4 Types of Error
7.1.5 Data Collection
7.1.6 Data Analysis
7.1.7 Summary

Unit-VIII

8.1 Interviews
8.1.1 Interview Process
8.1.2 Interview Techniques
8.1.3 Data Analysis
8.1.4 Summary

Unit-IX

9.1 Observation Research
9.1.1 Methodological Foundations
9.1.2 Observation Site and Observer Roles
9.1.3 Participant Observation in New Media
9.1.4 Data Collection
9.1.5 Field Notes
9.1.6 Data Analysis
9.1.7 Summary

Unit-X

10.1 Case Study Research
10.1.1 Applied Research Advantages
10.1.2 Research vs. Teaching Case Studies
10.1.3 Design and Implementation
10.1.4 Research Preparation
10.1.5 Data Collection
10.1.6 Data Analysis
10.1.7 Case Study Report
10.1.8 Summary

Unit-XI

11.1 Historical Research
11.2 Academic Perspective
11.3 Practical Applications
11.4 Tools and Materials
11.5 Topic Selection
11.6 Source Material
11.7 Data Analysis
11.8 Historical Writing
11.9 Summary

Unit-XII

12.1 Legal Research
12.1.1 Qualities of Legal Research
12.1.2 Nature of the Law
12.1.3 Legal Research Techniques
12.1.4 Sources of Legal Information
12.1.5 Design and Implementation
12.1.6 Summary

Unit- XIII

13.1 Statistical methods in sports management
13.1.1 Analyses of Structure
13.1.2 Importance of Reliability and Validity
13.1.3 Cronbach Alpha
13.1.4 Exploratory Factor Analysis and Principal Components Analysis
13.1.5 Confirmatory Factor Analysis
13.1.6 Summary

Unit-XIV

14.1 Relationships Among Variables
14.1.1 Bivariate Correlation
14.1.2 Simple Linear Regression
14.1.3 Multiple Regression
14.1.4 Path Analysis
14.1.5 Summary

Unit-XV

15.1 Significance of Group Differences
15.1.1 T-Test
15.1.2 One-Way ANOVA
15.1.3 One-Way ANCOVA
15.1.4 Factorial ANOVA
15.1.5 Factorial ANCOVA
15.1.6 One-Way MANOVA
15.1.7 One-Way MANCOVA
15.1.8 Factorial MANOVA
15.1.9 Factorial MANCOVA
15.1.10 Summary

Unit-XVI

16.1 Prediction of Group Membership
16.1.1 Discriminant Analysis
16.1.2 Logistic Regression
16.1.3 Cluster Analysis
16.1.4 Summary

Teaching Learning strategies

a) Inquiry-based learning
b) Cooperative Learning
c) Multimedia usage
d) Concrete examples
e) Think -Pair-Share

Assessment and Examination

#	Elements	Weightage	Details
1	Mid Term	35%	It takes place at the mid-point of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.
2	Formative Assessment	25%	It is a continuous assessment. It includes classroom Participation, attendance, assignments and Presentations, homework, attitude, and behaviour, hands-on activities, short tests, quizzes etc.
3	Final Assessment	40%	It takes place at the end of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.

Reference books

1. Veal, A. J. (2017). *Research methods for leisure and tourism*. Pearson UK.
2. Thomas, J. R., Silverman, S., & Nelson, J. (2015). *Research methods in physical activity, 7E*. Human kinetics.
3. Jones, I. (2014). *Research methods for sports studies*. Routledge.
4. Veal, A. J., & Darcy, S. (2014). *Research methods in sport studies and sport management: A practical guide*. Routledge.
5. Walliman, N. (2017). *Research methods: The basics*. Routledge.
6. Gratton, C., & Jones, I. (2014). *Research methods for sports studies*. Routledge.
7. Jones, I. (2014). *Research methods for sports studies*. Routledge.

8. Nelson, L., Potrac, P., & Groom, R. (Eds.). (2014). *Research methods in sports coaching*. London: Routledge.

Course Title: **SPORTS PHYSIOLOGY**
Code Number: SSM- 502 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

At the end of the course Student will be able to:

1) Understand the skeletal, and neuromuscular structures of the human body and its adaptation to performance, fitness, and wellness.
2) Have an understanding of physical fitness, physical activity, exercise, and health.

Course Contents

Unit-I **Introduction to Exercise Physiology Body Energy Systems with reference to Exercise**

1.1 Introduction of Body Energy Systems
1.2 Comparison of Aerobic and Anaerobic energy system during rest and exercise.
1.3 Recovery from exercise, the oxygen debt, replenishment of energy stores during recovery.
1.4 Muscle glycogen synthesis, liver glycogen replenishment and restoration of own stores.

Unit-II **Introduction to Exercise Physiology of Muscular System**

2.1 Skeletal muscle, its structure, function and efficiency.
2.2 The motor unit and strength gradation. Muscle force, velocity and power.
2.3 Nervous control of muscular movement.
2.4 Basic structure and function of the nerve-Neuro muscular functions.
2.5 The nervous system and motor skills.

Unit-III **Introduction to Exercise Physiology of Respiratory System**

3.1 Pulmonary ventilation, minute ventilation, ventilator mechanics, pressure changes.
3.2 Gaseous exchange and transport, mechanism of total oxygen to CO_2 blood.
3.3 Blood flow and gas transports, cardiac output during exercise.
3.4 Circulating mechanics, changes in blood pressure and resistance during exercise
3.5 Cardiorespiratory control at rest and during exercise

Unit-IV **Physiological Effects of Physical Training**

4.1 Training effects and factors influencing training effects.
4.2 Exercise and training for health and fitness
4.3 Causes and risk factors of cardiovascular diseases
4.4 The exercise prescription

Unit-V Exercise and Environmental Aspects

5.1 Training Performance at altitude for strength Sports
5.2 Athletic performance at altitude for Endurance Sports
5.3 Introduction to Heat balance during rest and exercise
5.4 Heat disorders and temperature regulation
5.5 Physiological responses to cold

Unit-VI Nutrition and Exercise Performance

6.1 Diet before activity, during activity, After the activity
6.2 Exercise and weight control
6.3 Exercise and acid-base balance in the body
6.4 Exercise and endocrine system: Characters and mechanism of hormones action
6.5 Hormonal responses to exercise and training
6.6 Effects of age and gender on athletic performance
6.7 Exercise during pregnancy and mensural cycle

Unit-VII The theories and principles of training

7.1 **Theories of Training** – Theory of Cognitivism, Theory of Constructivism, Theory of Social constructivism, Theory of Experiential learning, Theory of Transformative learning
7.2 **Principles of Training** – Principle of Problem-centered, Principle of Activation, Principle of Demonstration, Principle of Application, Principle of Integration.

Unit-VIII Applications of exercise physiology on different sports

8.1 Swimming
8.2 Road cycling
8.3 Hockey
8.4 Basketball
8.5 Football
8.6 Athletics
8.7 Wrestling
8.8 Powerlifting / Power Sports

Unit-IX Key laboratory measures of physiological capacities and their use in predicting athletic performance.

9.1 Measures of Bone Health – Biochemical marker of bone resorption, bone formation, bone metabolism, Cortisol level
9.2 Measures of Muscle Health and Fatigue – Fiber types and muscle performance, Fatigue and muscle performance, Muscle Cortisol, methyl histidine level, Muscle protein turnover, Central Fatigue
9.3 Measures of Hydration and Renal Function – Effects of dehydration, Electrolyte losses, Hypernatremia, Total body water assessment, Biomarkers of renal function like amounts of

Protein, electrolytes urine, Urine Specific gravity, colour, quantity etc., Rate of Sweat loss and thirst etc.

9.4 Measures of Stress and Immune Function – Stress Responses, Autonomic Nervous System, Hypothalamus and Pituitary gland function, Immunity and Psychological Stress, Immunological alternation during acute and chronic stress etc.

Unit-X Cardiovascular and pulmonary exercise physiology, as well as select laboratory procedures used to assess cardiopulmonary capacities.

10.1 Introduction to Physiology of Cardiovascular and Pulmonary exercises
10.2 Laboratory blood diagnostic tests like HDL, LDL, VLDL, BP, HbA1C, Hb, Coronary Calcium scan etc. as a parameter to assess cardiopulmonary capacities
10.3 Electrophysiological cardiac monitors like ECG, Holter Monitor, Event Monitor, Cardiac Stress testing to assess cardiopulmonary capacities.

Unit-XI The future of sports physiology

11.1 Sports Physiology and Sports Medicine
11.2 Sports Physiology and Cardiorespiratory rehabilitation and research
11.3 Sports Physiology and Exercise Psychology
11.4 Sports Physiology and Neuromusculoskeletal rehabilitation and research
11.5 Sports Physiology and Olympics
11.6 Sports Physiology and Doping

Unit-XII Contemporary Issues in Physiological Measurement

12.1 Availability of Patient / Player
12.2 Religious Issues
12.3 Sleep, rest and recovery issues
12.4 Sampling and Sampling timing
12.5 Patient/player cooperation and truthfulness
12.6 Multidrug therapy
12.7 Other Issues

Assessment and Examination

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1	Mid Term	35%	It takes place at the mid-point of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.
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			and Presentations, homework, attitude, and behaviour, hands-on activities, short tests, quizzes etc.
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Reference Books

1. Fox, E. L., Bowers, R. W., Foss, M. L., & Mathews, D. K. (1981). *The physiological basis of physical education and athletics*. Saunders College Pub.
2. McArdle, W. D., Katch, F. I., & Katch, V. L. (1991). Exercise physiology: energy, nutrition, and human performance.
3. Schneider, E. C. (1939). *Physiology of muscular activity*. WB Saunders Company.
4. American College of Sports Medicine. (2012). *ACSM's resource manual for guidelines for exercise testing and prescription*. Lippincott Williams & Wilkins.
5. Kapandji, A. I., & Kapandji, I. A. (2007). *The Physiology of the Joints: The Upper Limb. Volume One*. Churchill Livingstone.
6. Ehrman, J. K., Gordon, P. M., Visich, P. S., & Keteyian, S. J. (2009). *Clinical exercise physiology*. Human Kinetics.
7. Johnson, A. (2009). *Human performance: An ethnographic and historical account of exercise physiology*. University of Pennsylvania.
8. McArdle, W. D., Katch, F. I., & Katch, V. L. (2006). *Essentials of exercise physiology*. Lippincott Williams & Wilkins.
9. Roger, B., Guermazi, A., & Skaf, A. (Eds.). (2017). *Muscle Injuries in Sport Athletes: Clinical Essentials and Imaging Findings*. Springer.
10. Wackerhage, H., Smith, J., & Wisneiwski, D. (2017). Molecular exercise physiology. *Oxford textbook of childrenVs sport and exercise medicine*, 430-440.

Title: SPORTS PSYCHOLOGY
Code Number: SSM- 503 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

The focus is primarily on helping athletes using psychological Principles and skills to achieve optimal mental health and to enhance performance. After this course, students can treat Psycho-Pathological disorders of the athletes. Students who complete this course and its requirements will be able to identify and explain the theoretical foundation of the psychological processes that influence human performance in sports, implement sport psychology theories and research practices, evaluate sport psychology and psychological factors related to athletic

performance, apply principles of theories of cognition and Utilization of psychology theories to assess individual differences and human lifespan development.

Course Contents

Unit-I

1.1 The Nature of Learning
1.1.1 Motor Learning – coordination of motion, theories of learning
1.1.2 Kinesthesis, proprioception and labyrinthine, receptors, reflex action and the automatizing motor skills
1.1.3 Feedback, servomechanism and knowledge of results
1.1.4 Reinforcement and Readings – Retention and forgetting

Unit-II

2.1 Factors and Conditions affecting motor learning
2.1.1 Speed of perception, attention and Concentration, the learning curve, imitation and learning, self-activity and mental practices, trial and continuous revision learning
2.1.2 The whole and the part leaning, autogenic technique, ergogenic effects

Unit-III

3.1 Motivation
3.1.1 Defining Motivation
3.1.2 Reviewing Approaches of Motivation
3.1.6 Theories of Motivation
3.1.7 Summary

Unit-IV

4.1 Stress Anxiety and Arousal
4.1.1 Measuring Stress Arousal and Anxiety
4.1.2 Defining Stress and Stress Process
4.1.3 Sources of Stress and Anxiety
4.1.4 Arousal, Anxiety and Performance
4.1.5 Summary

Unit-V

5.1 Cognitive process in sports
5.1.1 Mental Imagery
5.1.2 Attention and concentration
5.1.3 Mental toughness

Unit-VI

6.1 self-confidence
6.1.1 Measuring Self-confidence

Unit-VII

7.1 Social psychology of sports
7.1.1 Team Cohesion
7.1.2 Team Building
7.1.3 Social facilitation and Social Loafing
7.1.4 Fans Spectators

Unit-VIII

8.1 Feedback, Reinforcement and intrinsic motivation
8.1.1 Principles of reinforcement
8.1.2 Guidelines for using positive reinforcement
8.1.3 Behavior modification in sports
8.1.4 Intrinsic and extrinsic motivation

Unit-IX

9.1 Imagery
9.1.1 Defining Imagery
9.1.2 Evidence of imagery effectiveness
9.1.3 Imagery in sports –when-where-why and what
9.1.4 Factors affecting the effectiveness of imagery
9.1.5 How to develop an imagery program

Unit-X

10.1 Concentration
10.1.1 Defining Concentration
10.1.2 Explaining attentional focus: three perspective
10.1.3 Design and Implementation
10.1.4 Connecting concentration to optimal performance
10.1.5 Types of attentional Focus
10.1.6 Using self-talk to enhance concentration
10.1.7 Assessing attentional skills
10.1.8 Improving Concentration

Unit-XI

11.1 Group Dynamics
11.1.1 Group Dynamics in Sports
11.1.2 Theoretical approaches to group dynamics
11.1.3 Group Size
11.1.4 Collective self-efficacy

11.1.5 Nature of group cohesion
11.1.6 Correlates of Group Cohesion

Unit XII

12.1 The fundamentals of Goal settings
12.1.1 Defining Goals
12.1.2 Goal Setting Model
12.1.3 Issues in Goal Setting

Unit- XIII

13.1 Leadership
13.1.1 Approaches to studying Leadership
13.1.2 Multidimensional Model of leadership
13.1.5 Four components of effective Leadership

Unit-XIV

14.1 Introduction to psychological skill Training
14.1.1 Why PST is important
14.1.2 Myths about PST
14.1.3 PST Effectiveness
14.1.4 PST Phases
14.1.5 PST program Development (when- who)
14.1.6 Common problems in implementing PST Program

Unit-XV

15.1 Exercise and Psychology well-being
15.1.1 Reducing Anxiety and depression with exercise
15.1.2 Understanding the effects of exercise psychological well-being
15.1.3 Changing personality and cognitive functioning with exercise

Unit-XVI

16.1 Athletic Injury and psychology
16.1.1 what is the injury?
16.1.2 Causes of injury
16.1.3 Relationship between stress injury
16.1.4 Psychological reactions to exercise and athletic injury
16.1.5 Role of psychology in Injury rehabilitation.

Assessment and Examination

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Reference books.

1. Morgan William P. Contemporary Readings in Sports Psychology Spring Field, Minois, USA, 1970.
2. John D.Lauther: Sports Psychology, Prentice Hall Inc. Englewood.
3. John H. Kerr, 2005 Rethinking Aggressin and Violence in Sports 2006
4. Fair Play in sport Sigmund Loland: 2006
5. Motivation and Emotion in Sport John H. Kerr: 2002
6. The Sport Psych Handbook Shane Murphy: 2005
7. Comprehensive Stress Management Jerrold S. Greenberg: 2002
8. Imagery in Sport Tony Morris, Michael Spittle, Anthony P. Watt: 2005
9. Managing Performance Stress Model and Methods David Pargman: 2006
10. Martens, R. (1987). Science, knowledge, and sports psychology. *The Sport Psychologist,* 29-55.
11. Burton, D., & Raedeke, T. (2008). Coaching philosophy. *Sport psychology for coaches.* Champaign, IL: Human Kinetics.
12. Martens, R., & Burton, D. (1982). Sport imagery training. *Psychological skills training for athletes.* Unpublished manuscript, University of Illinois.

Course Title: **SPORTS MANAGEMENT IN PHYSICAL EDUCATION**
Code Number: SSM- 504 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

Students will enable to address various issues and problems related to the Management and Administration of Sports Programs and to Identify and analyze ethical and legal issues, and responses for use in managerial decision making in sport

Course Contents

Unit-I

1.1 The evolution of sports management
1.1.1 Meaning of sports management
1.1.2 Scope of Sports Management
1.1.3 Summary

Unit-II

2.1 Management and Leadership
2.1.1 Functions of management
2.1.2 Managerial skills
2.1.3 Managerial roles
2.1.4 Management Vs Leadership
2.1.5 Models and theories Of Leadership
2.1.6 Summary

Unit-III

3.1 The sports Marketing
3.1.1 Importance and purpose of sports Marketing
3.1.2 Four Ps of Marketing
3.1.3 Target Market and Segmentation
3.1.4 Summary

Unit-IV

4.1 Human Resource
4.1.1 Significance of Human Resource
4.1.2 A model of human Resource Management
4.1.7 Job design Strategies
4.1.8 Performance Appraisal
4.1.9 Reward System
4.1.10 Summary

Unit-V

5.1 Ethics
5.1.1 Fundamental concepts of Ethics
5.1.2 Theories of ethics
5.1.3 Personal ethics and organizational responsibility-ethics and professionalization of sport management-Implication for sports management preparation and practice
5.1.4 Summary

Unit-VI

6.1 Sports and Society
6.1.1 The role and Importance of sports in our society
6.1.2 Sports and Social change
6.1.3 Sports, Body and Health
6.1.4 Summary

Unit-VII

7.1 Event management
7.1.1 Event Feasibility
7.1.2 Event Planning
7.1.3 Event Requirement
7.1.4 Event Evaluation
7.1.5 Summary

Unit-VIII

8.1 Personal Skills
8.1.1 Time Management
8.1.2 Time Management and action Plan
8.1.3 Personal Management
8.1.4 Summary

Unit-IX

9.1 Education versus training
9.1.1 Sports Management Education
9.1.2 Summary

Unit-X

10.1 Organizational Management
10.1.1 The Role of Sports Manager
10.1.2 General Management Approaches
10.1.3 Quality Management

Unit-XI

Unit-XII

Unit-XIII

Unit-XIV

Unit-XV

15.1.3 Budget Process
15.1.4 Summary

Unit-XVI

16.1 Sports Facility and Event Management
16.1.1 Sports Facilities / Venue
16.1.2 Types of Venues
16.1.3 Event Management Process
16.1.4 Summary

Assessment and Examination

#	Elements	Weightage	Details
1	Mid Term	35%	It takes place at the mid-point of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.
2	Formative Assessment	25%	It is a continuous assessment. It includes classroom Participation, attendance, assignments and Presentations, homework, attitude, and behaviour, hands-on activities, short tests, quizzes etc.
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Reference 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., & Hoye, R. (2018). *Sport management: principles and applications*. Routledge.

5. Shank, M. D., & Lyberger, M. R. (2014). *Sports marketing: A strategic perspective*. Routledge.

Course Title: **SPORTS NUTRITION**
Code Number: SSM- 505 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

On completion of this course students will be able to:

1) Understand nutrition and health benefits
2) Nutritional requirements for elite and recreational athletes
3) Pre and Post meal requirements for elite and recreational athletes

Course Contents

Unit-I

1.1 Introduction of nutritional terms including nutrition, nutrient, diet, digestion, absorption, excretion, metabolism and energy
1.1.1 Importance of nutrition in exercise and sports
1.1.2 Functions of food
1.1.3 Nutritional aspects of growth and development through the life cycle

Unit-II

2.1 Nutrition and optimal performance for every athlete
2.1.1 Factors affecting nutritional needs
2.1.2 Considerations for men and women
2.1.3 Nutrition for recovery and Immune Function
2.1.4 Nutritional aspects of growth and development through the life cycle
2.1.5 Summary

Unit-III

3.1 Energy
3.1.1 Introduction to energy
3.1.2 Conversion from food to energy
3.1.7 Measurements of energy food contents
3.1.8 Summary

Unit-IV

4.1 Measurements of Energy Expenditures
4.1.1 BMI & BMR
4.1.2 How is the energy released from the food and stored in the body?
4.1.7 Energy Systems
4.1.8 Summary

Unit-V

5.1 Energy into muscular activity
5.1.1 How energy is consumed during exercise
5.1.2 Fuels used during exercise
5.1.3 Summary

Unit-VI

6.1 Nutrition, Exercise and Sports
6.1.1 Carbohydrate loading
6.1.2 Pre-competition and post-competition meals
6.1.4 Psychology of food choice and eating behaviour/ and exercise
6.1.3 Summary

Unit-VII

7.1 Energy Sources
7.1.1 Carbohydrates
7.1.2 Protein
7.1.3 Fat and lipids
7.1.4 Vitamins
7.1.5 Minerals
7.1.6 Summary

Unit-VIII

8.1 Fluid Balance and Exercise
8.1.1 Water, total body water, functions of water, water balance, water intake, water elimination and R.D.A. of water
8.1.2 Temperature Regulation during exercise
8.1.3 Rate of gastric emptying
8.1.4 Adequate hydration before during and after exercise
8.1.5 Dehydration

Unit-IX

9.1 Eating Disorders
9.1.1 Eating Disorder of depressed athletes
9.1.2 Caffeine effects on metabolism
9.1.3 Dietary assessment techniques
9.1.4 Summary

Unit-X

10.1 Balanced diet
10.2 Pre, during and post-contest meal
10.3 Dietary recommendations for health & physical performance
10.4 Food supplements

Unit-XI

11.1 Weight Management
11.1.1 Principles of weight management
11.1.2 Physiological factors of weight management
11.1.3 Obesity
11.1.4 Concepts of dieting
11.1.5 Gaining weight
11.1.6 Summary

Unit-XII

12.1 Nutritional strategies and problems in sport
12.2 Food Policies
12.3 Epidemiology - uses and abuses
12.4 Academic review

Assessment and Examination

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Reference Books

1. Fink, H. H., & Mikesky, A. E. (2017). *Practical applications in sports nutrition*. Jones & Bartlett Learning.
2. Bean, A. (2017). *The complete guide to sports nutrition*. Bloomsbury Publishing.
3. Harris, S. S., Anderson, S. J., & American Academy of Orthopaedic Surgeons. (2018). *Care of the young athlete*.
4. Thompson, J. J., & Manore, M. (2015). *Nutrition for Life: Books a la Carte Edition*. Benjamin-Cummings.
5. Beals, K. A., Disordered Eating Among Athletes. Human Kinetics, Champaign, IL,2004.
6. O'Conner, H, and Caterson, I., Weight loss and the athlete. In Burke L., Deakin V., Eds. *Clinical Sports Nutrition, 3rd Edition.* McGraw-Hill: Boston, 2006
7. Nutrition for All: Hamid I B & Zafar Iqbal Butt

Course Title: **SPORTS BIOMECHANICS**
Code Number: SSM- 506 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

On completion of this course students will be able to:

1) Describe motion with precise, well-defined mechanical and anatomical terminology.
2) Understand and quantify linear and angular characteristics of motion.
3) Understand the quantitative relationships between angular and linear motion characteristics of a rotating body.
4) Understand and quantify the cause and effect relationship between force and linear and angular motion.

Course Contents

Unit-I

1.1 What is Biomechanics
1.2 Nature and Scope of Biomechanics in Physical Education
1.3 Role of Biomechanics on Kinesiology education and research
1.4 Problem-solving approach in Biomechanics

Unit-II

2.1 Kinematic Concepts
2.2 Forms of motion and standard reference
2.3 Joint movement
2.4 Qualitative Analysis
2.5 Quantitative Analysis

Unit-III

3.1 Kinetic Concepts
3.2 Mechanical load on the human body
3.3 Measuring Kinetic quantities
3.4 Biomechanics of Human Bone Growth and Development

Unit-IV

4.1 Composition and structure of bone tissue
4.2 Bone growth and development
4.3 Bone response to stress
4.4 Osteoporosis and bone injury

Unit-V

5.1 Biomechanics of Human Skeletal Articulations
5.2 Joint architecture
5.3 Joint stability and flexibility
5.4 Joint injuries

Unit-VI

6.1 Biomechanics of Human Skeletal Muscle
6.2 Structural organization of Human Skeletal Muscle
6.3 Skeletal muscle function
6.4 Muscular force generation
6.5 Strength, power and endurance

Unit-VII

7.1 Muscle injuries
7.2 Linear Kinematics of Human Movement
7.3 Linear Kinematics
7.4 Kinematics of projectile motion
7.5 Projectile motion analysis

Unit-VIII

8.1 Kinetic Concepts for Analyzing Human Motion
8.2 Linear Kinetics
8.3 Concept of Inertia, Mass, Force, Newton's Laws of Motion. Friction
8.4 Concept of Impulse, Conservation of Momentum, impact, Pressure, work

Unit-IX

9.1 Angular Kinetics
9.2 Concept of Eccentric Force, Moment, Resultant Moment, Equilibrium, levers
9.3 Concept of Center of Gravity, Moment of Inertia, Angular, Momentum, Centripetal and Centrifugal force

Unit-X

10.1 Kinematic Concepts for Analyzing Human Motion
10.2 Introduction to Linear Kinematics
10.3 Concept of Vectors and Scalars, Distance and Displacement, Speed and Velocity
10.4 Concept of Acceleration, Projectile Motion

Unit-XI

11.1 Introduction to Angular Kinematics
11.2 Concept of Angular Distance, Displacement and Angular Speed
11.3 Concept of Angular Velocity and Acceleration

Unit XII

12.1 Nature of Fluids
12.2 Laminar versus Turbulent flow
12.3 Fluid properties
12.4 Buoyancy

Unit- XIII

13.1 Equilibrium and human movement
13.2 Centre of gravity
13.3 Stability
13.4 Balance

Unit-XIV

14.1 Advance Biomechanical Analysis of track and field sports
14.1.1 Long jump
14.1.2 High jump
14.1.3 Javelin throw
14.1.4 Shotput
14.1.5 Sprint races
14.1.6 Long races

Unit-XV

15.1 Advance Biomechanical Analysis of team sports
15.1.1 Volleyball
15.1.2 Football
15.1.3 Cricket
15.1.4 Hockey

Unit-XVI

16.1 Advance Biomechanical Analysis of individual Sports
16.1.1 Badminton
16.1.2 Swimming
16.1.3 Powerlifting

Assessment and Examination

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Reference books

1. Oomens, C., Brekelmans, M., Loerakker, S., & Baaijens, F. (2018). *Biomechanics: concepts and computation*. Cambridge University Press.
2. Özkaya, N., Leger, D., Goldsheyder, D., & Nordin, M. (2016). *Fundamentals of biomechanics: equilibrium, motion, and deformation*. Springer.
3. Macchiarelli, R., & Zanolli, C. (2017). Hominin biomechanics, virtual anatomy and inner structural morphology: From head to toe. A tribute to Laurent Puymerail.
4. Blazevich, A., & Blazevich, A. J. (2017). *Sports biomechanics: the basics: optimising human performance*. Bloomsbury Publishing.
5. Hume, P. A., Kerr, D. A., & Ackland, T. R. (Eds.). (2018). *Best Practice Protocols for Physique Assessment in Sport*. Springer Singapore.

Course Title: **LAB SPORTS BIOMECHANICS**
Code Number: SSM- 507 L
Credit Hours: 01 hr
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

The student will learn through Practical understanding of the mechanical and anatomical principles that govern human motion and develop the ability to link the structure of the human body with its function from a mechanical perspective.

Course Contents

Unit-I

1.1 Advanced Biomechanical Analysis of Volleyball

Unit-II

2.1 Advanced Biomechanical Analysis of Basketball

Unit-III

3.1 Advanced Biomechanical Analysis of Football

Unit-IV

4.1 Advanced Biomechanical Analysis Hockey

Unit-V

5.1 Advanced Biomechanical Analysis of Cricket

Unit-VI

6.1 Advanced Biomechanical Analysis of Tennis

Unit-VII

7.1 Advanced Biomechanical Analysis of Badminton

Unit-VIII

8.1 Advanced Biomechanical Analysis of Table Tennis

Unit-IX

9.1 Advanced Biomechanical Analysis of Squash

Unit-X

10.1 Advanced Biomechanical Analysis of Swimming

Unit-XI

11.1 Advanced Biomechanical Analysis of Sprint Races

Unit-XII

12.1 Advanced Biomechanical Analysis of Long Races

Unit-XIII

13.1 Advanced Biomechanical Analysis of Javelin Throw

Unit-XIV

14.1 Advanced Biomechanical Analysis of Shot Put

Unit-XV

15.1 Advanced Biomechanical Analysis of Long Jump

Unit-XVI

16.1 Advanced Biomechanical Analysis of High Jump

Assessment and Examination

#	Elements	Weightage	Details
1	Mid Term	35%	It takes place at the mid-point of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.
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3	Final Assessment	40%	It takes place at the end of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.

Reference books

1. Oomens, C., Brekelmans, M., Loerakker, S., & Baaijens, F. (2018). *Biomechanics: concepts and computation*. Cambridge University Press.
2. Özkaya, N., Leger, D., Goldsheyder, D., & Nordin, M. (2016). *Fundamentals of biomechanics: equilibrium, motion, and deformation*. Springer.
3. Macchiarelli, R., & Zanolli, C. (2017). Hominin biomechanics, virtual anatomy and inner structural morphology: From head to toe. A tribute to Laurent Puymerail.
4. Blazevich, A., & Blazevich, A. J. (2017). *Sports biomechanics: the basics: optimising human performance*. Bloomsbury Publishing.
5. Hume, P. A., Kerr, D. A., & Ackland, T. R. (Eds.). (2018). *Best Practice Protocols for Physique Assessment in Sport*. Springer Singapore.

Course Title: **SPORTS PHYSIOTHERAPY AND REHABILITATION**
Code Number: SSM- 508 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

The program will provide physical education teachers with:

1) The necessary scientific background knowledge to appreciate the issues arising in the field of Sports & Exercise Physiotherapy.
2) The necessary skills and knowledge to provide advice on the prevention of sports injuries.
3) Up-to-date training in modern methods of assessing, diagnosing, and treating sports injuries, including emergency care.
4) Opportunities to learn about the theory and application of Sports Psychology, Podiatry, Biomechanics, Sports Nutrition, Sports Pharmacology, Exercise Physiology, Fitness Assessment, and ethical issues within sport.
5) An opportunity to learn about the medical applications of exercise in maintaining health and in disease.
6) An introduction to research appropriate to the field of Sports & Exercise Physiotherapy.
7) This course is designed to acquaint the students with the injuries its management and rehabilitation elaborating central nervous system, knee, Tennis Elbow ankle injuries and explaining safety rules and basic physiotherapist treatment to manage in case of emergency.

Course Contents

Unit-I Introduction to Sports Physiotherapy & Rehabilitation

1.1 Definition & meaning of sports physiotherapy
1.2 Need and importance of sports Physiotherapy
1.3 Need and importance of sports Rehabilitation
1.4 Need and importance of Sports Medicine (Preventive, curative and rehabilitative aspects)

Unit-2 Sports Injuries

2.1 Nature and Scope of injuries in Sports
2.2 Classification of sports injuries
2.3 Causes of Injuries in Sports
2.4 First aid and its requirements on the playing field
2.5 Qualification and duties of a trainer

Unit-3 Sports Injuries Management

3.1 Management of Sports injuries
3.2 Management of Soft-tissue injuries
3.3 Management of Injuries of skeletal Muscle
3.4 Management of Tender strain, pull, cramp, tear myositis, tendinitis.

3.5 Management of Injuries to skull, abrasion, cuts, boil
3.6 Management of Injuries of ligaments, Cartilage, Sprain & Strain
3.7 Management of Injuries of other vital organs

Unit-4 First Aid Management

4.1 Introduction to first aid Management and rehabilitation program
4.2 First aid management of Fractures according to their types and nature
4.3 First aid management of soft tissue injuries
4.4 First aid management of open and close injuries
4.5 First aid management of psychological injuries
4.6 First aid management of physiological and systemic injuries

Unit-5 Introduction to Physiotherapy and Exercise Therapy

5.1 Physiotherapy and its use in the treatment and rehabilitation of Sports injuries
5.2 Exercise Therapy and its use in treatment/management and rehabilitation of sports injuries.
5.3 Principles of the prescription of exercise therapy

Unit-6 Massage Therapy

6.1 Introduction of Massage therapy, history of massage therapy
6.2 Types of Massage
6.2 Indicators and counter indicators of massage
6.3 Techniques of Massage
6.4 Classification of Heat Therapy based Massage
6.5 Classification of Cold therapy massage

Unit-7 Introduction to Electrotherapy and Magnetotherapy

7.1 Introduction to Electrotherapy and Magnetotherapy
7.2 General introductory working Knowledge of Ultra-violet lamp, Infra-red lamp & Ultra-Sonic lamp and their application in injury treatment
7.3 Introduction to Short wave diathermy and its application in sports injury treatment

Unit-8 Active Treatments for Injury Management

8.1 Introduction to Muscle Strengthening Exercises and their periodical application in injury management
8.2 Introduction to stretching exercises, their types & application in injury management.

Unit-9 Rehabilitation exercises Programming for different body parts

9.1 Rehabilitation exercise programs for Head and Neck
9.2 Rehabilitation exercise programs for shoulders
9.3 Rehabilitation exercise programs for Elbow

9.4 Rehabilitation exercise programs for Wrist
9.5 Rehabilitation exercise programs for Hip
9.6 Rehabilitation exercise programs for Knee
9.7 Rehabilitation exercise programs for Ankle
9.8 Rehabilitation exercise programs for the vertebral column

Unit-10 Clinical Exercises for Rehabilitation of sports caused injuries

10.1 Clinical exercise program for soft tissue injuries
10.2 Clinical exercise program for hard-tissue injuries
10.3 Clinical exercise program for physiological and systemic injuries
10.4 Clinical exercise program for psychological injuries

Unit-11 Public Health, Exercise Programing and Medical Emergencies

11.1 Introduction to the concept of Population Health and its measures
11.2 Introduction to the concept of Exercise Programming and its implementation on the general public
11.3 Introduction to the concept of medical emergencies and their role in sports

Unit-12 Player Profiling with reference to Injury Management

12.1 Introduction to the concept of Player's injury management profiling
12.2 Player injury profiling for research and development

Assessment and Examination

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Reference Books

1. Casa, D. J., & Stearns, R. L. (Eds.). (2016). *Preventing Sudden Death in Sport & Physical Activity*. Jones & Bartlett Publishers.
2. Borozne, J. (1977). Safety in Team Sports. Sports Safety Series, Monograph No. 3.
3. Damron, C. F. (1977). Accident Surveillance Systems for Sports. Sports Safety Series, Monograph No. 2.
4. Borozne, J. (1977). Administration and Supervision for Safety in Sports. Sports Safety Series: Monograph No. 1.
5. Prentice, W. E. (1994). *Rehabilitation techniques in sports medicine*. St. Louis, MO:: Mosby.
6. Heil, J. (1993). *Psychology of sports injury*. Human Kinetics Publishers.
7. Porter, S. (2013). *Tidy's Physiotherapy E-Book*. Elsevier Health Sciences.
8. Donatelli, R. A. (2006). *Sports-Specific Rehabilitation-E-Book*. Elsevier Health Sciences.

Course Title: **LAB SPORTS PHYSIOTHERAPY AND REHABILITATION**
Code Number: SSM- 509 T
Credit Hours: 01 hr
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

This course is designed to acquaint the students with the Practical knowledge of injuries its management and rehabilitation elaborating central nervous system, knee, Tennis Elbow ankle injuries and explaining safety rules and basic physiotherapist treatment to manage in case of emergency.

Course Contents

Unit-I

1.1 Development and implementation of different exercise plans on one strength and one endurance athlete
1.1.1 Strengthening Exercises
1.1.2 Isometric Exercises
1.1.3 Isotonic exercises
1.1.4 Isokinetic Exercises
1.1.5 Eccentric exercises
1.1.6 Concentric exercises
1.1.7 Stretching exercises
1.1.8 Static and dynamic stretching and requirements for stretching.
1.1.9 Clinical exercises for different muscular injuries

Unit-II

2.1 First-aid Management and rehabilitation program
2.2 First aid to fractures
2.3 Dislocation and common joints involved in dislocation

Unit-III

3.1 Physiotherapeutic treatments and rehabilitation in Sports injuries
3.2 Exercise Therapy - Principles of the prescription of exercise Therapy
3.3 Massage, types & techniques of Massage, indication and counter indication of massage therapy

Unit-IV

4.1 Application of Heat Therapy on different strength and endurance athletes
4.2 Hot Water fermentation applications on different injuries management
4.3 Ice cold treatment applications on different injuries management

Assessment and Examination

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7. Porter, S. (2013). *Tidy's Physiotherapy E-Book*. Elsevier Health Sciences.
8. Donatelli, R. A. (2006). *Sports-Specific Rehabilitation-E-Book*. Elsevier Health Sciences.

Course Title: **SCIENTIFIC COACHING METHODS**
Code Number: SSM- 510 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

On completion of this course students will be able to:

1) Understand the applications of basic principles of psychology and physiology as they pertain to coaching individuals and teams.
2) Enable the coach to use effective motivation and communication techniques for various sports situations.

Course Contents

Unit-I

1.1 Introduction to Sports Coaching
1.2 Nature of Sports coaching Profession and Coaching ethics
1.3 The essential spirit of coaching and
1.4 Innovative Coaching Tools
1.5 Powerful Questioning Techniques
1.6 Coaching Philosophy, Art and science of Coaching
1.7 Coaching Styles
1.8 Coaching interventions
1.9 Coaching techniques

Unit-II

2.1 Coaching Competencies
2.2 NLP Process for change
2.3 Three Step Coaching Technique
2.4 Coaching Competency Wheel
2.5 Visualization in Sports Coaching
2.6 Organizational Focus on Sports Coaching
2.7 Comprehensive Executive Coaching Toolkit
2.8 Coaching trends and Research
2.9 Performance Management

Unit-III

3.1 Cognitive Behavioral Perspective
3.2 Cognitive behavioural coaching
3.3 CBS Tools & Techniques
3.4 Conflict Coaching
3.5 Process and Practices in coaching
3.6 Career Management Tools used in sports coaching

3.7 Transpersonal Coaching
3.8 Transformational Coaching

Unit-IV

4.1 Applied Positive Psychology and Emotional Quotient (EQ) in Sports Coaching
4.2 Understanding different tools, concepts and approaches in Sports Coaching
4.3 Transpersonal tools and techniques to create deep awareness and personal change
4.4 Teaching Methodology for A Coach
4.5 Skill, Technique and Ability in the transfer of learning
4.6 Skill Development for transfer of learning
4.7 Development of Skill analysis and strategies

Unit-V

5.1 Components of Fitness
5.2 Health-Related Fitness (Need, Importance & Improvement)
5.3 Skill Related Fitness (Need, Importance & Improvement)
5.4 Training Principles (Need, Importance & Improvement)

Unit-VI

6.1 Physical training
6.2 Mental training
6.3 Technical training
6.4 Tactical training
6.5 Periodization in Sports Coaching
6.6 Warm-Up and Cool Down

Unit-VII

7.1 Understanding coaching as an organizational intervention.
7.2 Understanding and utilizing cutting edge leadership coaching models and frameworks
7.3 Introduction to the Nine Personal Capacities of the Authentic Leader.
7.4 Introduction to models, tools and techniques to assist coaching leaders in transition.
7.5 Key steps in the team coaching processing. Contracting, scoping and delivery.
7.6 Explore models, tools and concepts for effective leadership and development.
7.7 Understand how to introduce team coaching to an organization including process, design and delivery.
7.8 Techniques for managing team conflict, communication, motivation and alignment.

Unit-VIII

8.1 Coaching & Training Plans of Major Games
8.2 Training plan for Team sports
8.3 Training plan for Individual Sports

Assessment and Examination

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2. Lyle, J., & Cushion, C. (2016). *Sport coaching concepts: A framework for coaching practice*. Routledge.
3. Beauchamp, M. R., & Eys, M. A. (Eds.). (2014). *Group dynamics in exercise and sports psychology*. Routledge.
4. Berry, M., Lomax, J., & Hodgson, C. (Eds.). (2015). *Adventure sports coaching*. Routledge.
5. Nicholls, A. R. (2017). *Psychology in sports coaching: theory and practice*. Routledge.
6. Nelson, L., Groom, R., & Potrac, P. (Eds.). (2016). *Learning in sports coaching: Theory and application*. Routledge.

Course Title: **LAB SCIENTIFIC COACHING METHODS**
Code Number: SSM- 511 L
Credit Hours: 01 hr
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

On completion of this course students will be able to:

1) Use effective motivation and communication techniques for various sports situations.
2) Demonstrate the practical coaching skills

Course Contents

Unit-I

1.1 General/specific Warm-up and Cool down techniques
1.2 Training plan for Basketball players
1.3 Practical demonstration of coaching and communication skills

Unit-II

2.1 General/specific Warm-up and Cool down techniques
2.2 Training plan for Volleyball players
2.3 Practical demonstration of coaching and communication skills

Unit-III

3.1 General/specific Warm-up and Cool down techniques
3.2 Training plan for Hockey players
3.3 Practical demonstration of coaching and communication skills

Unit-IV

4.1 General/specific Warm-up and Cool down techniques
4.2 Training plan for Badminton players
4.3 Practical demonstration of coaching and communication skills

Unit-V

5.1 General/specific Warm-up and Cool down techniques
5.2 Training plan for Tennis players
5.3 Practical demonstration of coaching and communication skills

Unit-VI

6.1 General/specific Warm-up and Cool down techniques
6.2 Training plan for Table Tennis players
6.3 Practical demonstration of coaching and communication skills

Unit-VII

7.1 General/specific Warm-up and Cool down techniques
7.2 Training plan for football players
7.3 Practical demonstration of coaching and communication skills

Unit-VIII

8.1 General/specific Warm-up and Cool down techniques
8.2 Training plan for Cricket players
8.3 Practical demonstration of coaching and communication skills

Unit-IX

9.1 General/Specific Warm-up and Cool down techniques
9.2 Training plan for Swimming players
9.3 Practical demonstration of coaching and communication skills

Unit-X

10.1 General/specific Warm-up and Cool down techniques
10.2 Training plan for Sprint racers
10.3 Practical demonstration of coaching and communication skills

Unit-XI

11.1 General/specific Warm-up and Cool down techniques
11.2 Training plan for long racers
11.3 Practical demonstration of coaching and communication skills

Unit XII

12.1 General/specific Warm-up and Cool down techniques
12.2 Training plan for javelin throwers
12.3 Practical demonstration of coaching and communication skills

Unit- XIII

13.1 General/specific Warm-up and Cool down techniques
13.2 Training plan for long jumpers
13.3 Practical demonstration of coaching and communication skills

Unit-XIV

14.1 General/specific Warm-up and Cool down techniques
14.2 Training plan for High jumpers
14.3 Practical demonstration of coaching and communication skills

Unit-XV

15.1 General/specific Warm-up and Cool down techniques
15.2 Training plan for Triple Jumpers
15.3 Practical demonstration of coaching and communication skills

Unit-XVI

16.1 General/specific Warm-up and Cool down techniques
16.2 Training plan for gymnasts
16.3 Practical demonstration of coaching and communication skills

Assessment and Examination

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5. Nicholls, A. R. (2017). *Psychology in sports coaching: theory and practice*. Routledge.

6. Nelson, L., Groom, R., & Potrac, P. (Eds.). (2016). *Learning in sports coaching: Theory and application*. Routledge.

Course Title: **MEDITATION AND HEALTH**
Code Number: SSM- 512 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes
Students will be able to get the knowledge of Meditation and Yoga which will help to know how they can improve their health through its implementation.

Course Contents

Unit-I Basics of Yoga

1.1 Yoga Meaning
1.2 Need and Importance of Yoga
1.3 Historical background of yoga
1.4 Major Types of yoga
1.4.1 Bhakti Yoga
1.4.2 Karma Yoga
1.4.3 Gnana Yoga
1.4.4 Raja Yoga
1.4.5 Hatha Yoga
1.4.6 Ashtanga Yoga.

Unit-II Yoga techniques for performing floor work routines

2.1 Yoga routines on cue
2.2 Different types and techniques for stretching, warm-up, and cool down
2.3 Use of bands and blocks in Yoga

Unit-III Concepts related to the subject of Yoga

3.1 Body Strengthening and toning exercises and programs
3.2 Postural correction, body alignment and flexibility exercises and programs
3.3 Psychological aspects related to Yoga
3.4 Yogic diet
3.5 Physiological, Therapeutic and Spiritual effects of Yoga
3.6 Values of Yoga

Unit-IV Meditation Techniques - Asanas

4.1 Definition, Aim and Objectives of Asanas
4.2 Muscular and neural Macular and neural mechanisms involved in Asanas
4.3 Asanas vs. muscular Exercises

4.4 Classification of Asanas
4.5 Salient features of meditative, cultural and relaxing Asanas
4.6 Correct performance of Asanas as per classical instructions in yogic texts
4.7 Benefits of Asanas

Unit-V Meditation Techniques – Pranayama and Kriyas

5.1 Definition, aim and objective of Pranayama
5.2 Classification and Phases of pranayama
5.3 Comparison of pranayama with normal breathing and deep breathing
5.4 Respiratory factors involved in Pranayama
5.5 Definition, aim and objective of Kriyas
5.6 Pre-requisites and precautions in practices of Kriyas
5.7 Techniques and classification of Kriyas

Unit-VI Meditation Techniques – Meditation Bandhas and Mudras

6.1 Definition, Aim and Objectives of Meditation Bandhas and Mudras
6.2 Neurophysiologic and psycho-physiological mechanisms involved in Meditation, Bandhas and Mudras
6.3 Classification of Bandhas and Mudras
6.4 Role of Bandhas in different phases of pranayama

Uni-VII Health and Fitness

7.1 Definition, meaning and factors that influence Health
7.2 Need and importance of health
7.3 Guiding principles of health and health education
7.5 Definition, meaning and factors that influence Physical fitness
7.5 Definition, meaning and factors that influence wellness
7.6 Components of Health-related physical fitness
7.7 Assessment of Health-related fitness

Assessment and Examination

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Reference Books

1. Swami Digamberji. Yoga and Physical Education, Kavivalyadhama. Konavla, India.
2. Yogamimamsa, Quarterly Publication Kaivalyadhama Lonavla, India.
3. Dr M.L.Gharota, Science of Yoga, Kaivalayadhama, Lonavla, India.
4. Dr.Karambalkar, Therapeutic value of yoga, Kaivalyadhama, Lonavla, India.
5. Barry L.Johnson and Jack K Nelson, Practical Measurements for evaluation in Physical Education Burguss Publishing Company, University of Minnesota.
6. Werner.W.K.Hoeger and Sharon A Hdger, Fitness and wellness, Morton publishing company, Englewood.
7. Resthowel and A.K. Uppal, Foundations of Physical Education, Friends Publication, New Delhi.
8. Sjoman, N. E. (1999). *The yoga tradition of the Mysore Palace*. Abhinav publications.

Course Title: **LAB MEDITATION AND HEALTH**
Code Number: SSM- 513 L
Credit Hours: 01 hr
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

Students will be able to get the knowledge of Meditation and Yoga which will help to know how they can improve their health through its implementation.

Course Contents

Unit-I

1.1 Practices of different Asanas on different sports players

Unit-II

2.1 Practices of different Meditation Bandhas and Mudras in different phases of pranayama
2.2 Practices of Neurophysiologic and psycho-physiological mechanisms involved in Meditation, Bandhas and Mudras

Assessment and Examination

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Course Title: **HUMAN ANATOMY**
Code Number: SSM- 514 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

The outlines of this course have been drawn to provide 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

Unit-I Introduction of Human Anatomy

1.1 Definition of Anatomy
1.2 Importance of Anatomy in Sports
1.3 Terms & terminologies used in Anatomy
1.4 Cell, Cell Characteristics and Cell Organelle
1.5 Cell Division
1.6 Body Tissue and Organs (Types & General Classification)
1.7 The anatomical aspect of human development and inheritance

Unit-II Anatomy of Skeletal System

2.1 Cartilage, Bone & its Classification
2.2 Gross & Microscopic Structure of Bone
2.3 Types of Bone Fractures and Healing Process of Fracture
2.4 Joints and their Classification
2.5 Anatomical classification of joints

Unit-III Anatomy of Muscular System

3.1 Muscles & their Classification
3.2 Gross & Microscopic Structure of Muscles
3.3 Anatomy of tendons and ligaments

Unit-IV Anatomy of Digestive System

4.1 Gross & Microscopic anatomy of different parts of Digestive System
4.2 Functional Anatomy of Digestive System

Unit-V Anatomy of Cardiovascular System

5.1 Gross & Microscopic Anatomy of Heart
5.2 Gross & Microscopic Structure of Blood Vessels

5.3 Anatomy of Blood

Unit-VI Anatomy of Nervous System

6.1 General structure & Types of Neurons
6.2 Anatomy of Central Nervous System
6.3 Anatomy of Peripheral Nervous System
6.4 Types of Senses
6.5 Anatomy of Sensory-motor and integrative system

Unit-VII Anatomy of Respiratory System

7.1 Anatomy of Complete Airway
7.2 Gross Anatomy of Lungs
7.3 Microscopic Anatomy of Lungs

Assessment and Examination

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Reference 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). *Bourgery: 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.
6. Saladin, K. S. (2004). Anatomy & physiology: the unity of form and function.
7. Beers, M. H., Fletcher, A. J., Jones, T. V., Porter, R., Berkwitz, M., & Kaplan, J. L. (2003). *The Merck manual of medical information*. Pocket Books.
8. Stephens, T. D., & Tate, P. (2002). *Essentials of anatomy and physiology*. McGraw-Hill.

Course Title: **TRACK AND FIELD**
Code Number: SSM- 515 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

Through this course, students are tuned to get the required information regarding marking of the tracks, judgment and officiating for various Athletic Events including Running, Jumping, and Throwing Etc

Course Contents

Unit-I

1.1 History of Ancient Olympic Games with Special Reference to Track & Field
1.2 Rules of participation
1.3 Program of activities
1.4 Modern Olympic Games with Special Reference to Track & Field

Unit-II

2.1 Laying Out Standard Track
2.2 How to conduct Track and Field Events
2.3 Preparation of Track and Field competition program (Board, University, Province, National and International level)
2.4 Formation of committees for Track and Field competition
2.5 Officials and Their Duties
2.6 Officials and their Duties in Track Events
2.7 Officials and their Duties in Field Events

Unit-III

3.1 Rules and Techniques of all Track Events
3.2 Rules of Techniques of all Field Events
3.3 Rules and Techniques of Cross Country races
3.4 Rules and Techniques of Recreation Races
3.5 Rules and Techniques of walk races

Unit-IV

4.1 Introduction, Rules and Techniques of Pentathlon
4.1 Introduction, Rules and Techniques of Decathlon

Unit-V

5.1 Introduction to Coaching Principles

5.2 Introduction to coaching principles of Track events
5.3 Introduction to coaching principles of Field events

Unit-VI

6.1 Introduction to Running injuries
6.2 Introduction to Track events running-related injuries
6.3 Introduction to Field events related injuries

Unit-VII

7.1 Meet management of Track events (Short, Middle- and Long-Distance races)
7.2 Meet management field Events (All track and field events)

Assessment and Examination

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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.

Course Title: **LAB TRACK AND FIELD**
Code Number: SSM- 516 L
Credit Hours: 01 hr
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

Through this course, students are tuned to get the required information regarding marking of the tracks, judgment and officiating for various Athletic Events including Running, Jumping, and Throwing Etc.

Course Contents

Unit-I

1.1 Laying out Running track
1.2 Laying out Standard 400m track

Unit-II

2.1 Laying out Jumping events pits

Unit-III

3.1 Meet management of Track Events
3.2 Meet management of Cross Country races
3.3 Meet management of Walk races
3.4 Meet management of Pentathlon
3.5 Meet management of Decathlon
3.6 Meet management of Field events

Assessment and Examination

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Course Title: **PLANNING SPORTS FACILITIES**
Code Number: SSM- 517 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

On completion of this course students will be able:

1) To know about the Internal processes of a sport facility
2) To collaborate the skills of people with the facility

Course Contents

Unit-I

1.1 Planning process basic Consideration
1.2 Need for Area and Facilities
1.3 Need for Planning
1.4 Planning Factors
1.5 Planning Units – Types and Function

Unit-II

2.1 Planning for Sports & Physical Education Facilities
2.2 Major Concepts
2.3 Steps in Planning Process
2.4 Responsibilities of Physical Educator

Unit-III

3.1 Facilities for Research
3.2 General Consideration
3.3 Teaching and Research Laboratories
3.4 Specific Laboratories Facilities
3.5 Measurement and Evaluation
3.6 Biomechanics
3.7 Exercise Physiology
3.8 Motor Learning and Psychology Learning

Unit-IV

4.1 Planning, Location and Size of the Facilities
4.1.1 Field House
4.1.2 Stadium
4.1.3 Gymnasium
4.1.4 Swimming Pool
4.1.5 Artificial Surfaces (Indoor and outdoor)

Unit-V

5.1 Facilities for Faculty and Staff
5.2 Administrative Units
5.3 Essential administrative facilities
5.4 Administrative Office
5.5 Faculty offices
5.6 Audiovisual Room
5.7 Conference Rooms
5.8 Locker Shower Room
5.9 Toilet and Lavatory Facilities

Unit-VI

6.1 Conservation and Maintenance of Sports Infrastructure
6.2 Understanding of PC-I
6.3 Compilation of PC-I
6.4 Concept of project management?
6.5 Phases of project management

Unit-VII

7.1 Biding and planning for different events
7.2 Identifying reasons for creating bidding or hosting an event
7.3 Event feasibility

Unit-VIII

8.1 Facility Design and construction
8.2 Estimating cost and budgeting
8.3 Estimated construction cost
8.4 Sit selection
8.5 Design process
8.6 Construction Process

Unit-IX

9.1 Standards of indoor recreational sports facilities
9.2 General indoor planning standards and considerations
9.3 Usage patterns
9.4 Facility zones
9.5 Building efficiency

Unit-X

10.1 Standards for outdoor Recreational Sports Facilities

10.2 Identifying the need
10.3 Site consideration
10.4 Field design consideration
10.5 Court design consideration
10.6 Sidewalks and trails

Unit-XI

11.1 Furniture, fixtures, and equipment
11.2 Preliminary furniture list
11.3 Schematic design phase
11.4 Verifying the procurement procedure
11.5 Design development phase
11.6 Construction of documentation phase

Unit- XII

12.1 Facility Maintenance,
12.2 Maintenance and repair programs in sports facilities
12.3 Basic maintenance components in a sports facility
12.4 Marketing a sports facility
12.5 Marketing concepts related to sports facilities

Unit-XIII

13.1 Legal Issues and Event Management
13.2 Risk management and insurance needs of sport facility
13.3 Governmental regulations related to sport facilities
13.4 Security, crowd management and crisis management in sport facilities
13.5 Attracting events and event planning
13.6 Post-event activities and future marketing in sport facilities

Unit-XIV

14.1 Case Study Assignments
14.2 Review case studies that involve various types of sports facilities and issues.
14.3 Utilize problem-solving and critical-thinking skills, past coursework
14.4 Current research to offer recommendations to resolve issues presented in each case
14.5 Apply case studies and results to group projects

Unit-XV

15.1 Case Study Assignments
15.2 Review case studies that involve various types of sports facilities and issues.
15.3 Utilize problem-solving and critical-thinking skills, past coursework
15.4 Current research to offer recommendations to resolve issues presented in each case

Assessment and Examination

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2. Gold, J. R., & Gold, M. M. (Eds.). (2016). *Olympic cities: City agendas, planning, and the world's games, 1896–2020*. Routledge.
3. Shank, M. D., & Lyberger, M. R. (2014). *Sports marketing: A strategic perspective*. Routledge.
4. Field, B. (2018). *Forecasting techniques for urban and regional planning*. Routledge.
5. Sheard, R. (2014). *Sports architecture*. Taylor & Francis.

DOCTOR OF PHILOSOPHY (PhD)

DEPARTMENT OF SPORT SCIENCES AND HEALTH AND PHYSICAL EDUCATION

FACULTY OF ARTS & HUMANITIES

1. Department Mission

The Department has developed a clear mission with abundant potential to expand the scope and quality of its activities. Its core aims are leadership in the field within Pakistan and a raising of the international profile as a research-led centre of excellence in Sport Sciences and Physical Education (SSPE). Sport Sciences and Physical Education (SSPE) Department aims at total education through the physical, intellectual, emotional, and social development of people to bring up healthier, happier, and more successful people to the public.

2 Department Introduction

The Department of Sports Sciences is committed to offering a BS (Hons), Master's Degree to equip future sports scholars and coaches to address the challenges of sports issues in Pakistan and Internationally. Our programs emphasize scientific academic preparations combined with on playfield experiences, coaching techniques and Human Performance Laboratory Analysis (HPLA).

We provide an environment, and our faculty encourages the students for applied research in areas of Exercise Physiology, Sports Psychology, Sports Nutrition, Sports Biomechanics, Scientific Coaching, Sports Administration & Management and Marketing Research in Sports. The curriculum and pedagogy of the program seek to emphasize the enhancement of professional abilities and skills of the students with overall leadership qualities.

The Department is undertaking PhD program with specializations in different areas, as per HEC criteria. For details, see HEC admission criteria and university regulations also given in university Calendar and Punjab University website (www.pu.edu.pk). Any of the below-mentioned courses may be offered for PhD degree for completion of coursework requirements.

3 Program Introduction

Total 18 credit hours' courses are needed for the PhD degree, which will be carried out during 2 semesters of 18 weeks each followed by 12 credit hours of research work before which

candidate has to pass the comprehensive examination of all subjects studied in course work. This is important to point out that there must not be any repetition of courses to any degree of every candidate.

4 Program Objectives

- Generating professional development in sports discipline
- Identify and explain new trends in sports
- Explaining issues in sports by critical thinking and problem-solving skills
- Evaluating current research practices in sports by:
  a) Formulating and summarizes sports-related research that integrates knowledge and experience with existing theories
  b) Developing advanced-level skills of quantitative and qualitative research methodologies used in the sports field.
- Produce collaborative learners who proceed with their professional development and can use their abilities to contribute to the sports profession

5 Market Need/Rationale of the Program

a) Potential students for the program

The program aimed to stimulate critical and analytical thinking for the people who want to do work in public and private institutes specifically in sports sciences and physical education departments as well as in all sports organizations. The program is comprised of courses in sports leadership, management, coaching, nutrition, psychology, testing and measurements, biomechanics, different sports, track and field events. The program focuses on the latest innovative theories and practices in sports.

b) Potential employers

Through this program, people will be equipped with a different set of valuable skills that will help them in their future careers.

Some of the skills that could be developed include:

- Interpersonal skills
- Athletic Performance analysis and Evaluating
- Physical fitness
- Coaching

- Research

This program leads itself to a wide range of careers in sports coaching, administration, and fitness as well as other industries in the market such as:

- Sports Science and Physical Education Teaching
- Professional Sportsperson/Consultant
- Developing Sports policy at the Local and National level
- Sports Nutritionist
- Director Sports in Sports Organization/Institutes

c) Academic projections

Many National and International universities are offering MS/Mphil, PhD degrees related to sports science and Physical Education. Several reasons showed its significance in Sports such as helping people to learn skills physically and emotionally. Further, it is also providing the life lessons like confidence, emotional intelligence, motivation, human behaviours, stress handling and coping strategies. The world universities are offering sports as a degree program because of the following salient features:

- Sports is not just playing in the fields. It teaches us the importance of a healthy diet the essential vitamins and minerals we need on daily basis.
- It teaches us the sportsman spirit. Whether we win or lose, it helps in promoting our character.
- Physical activity can prevent heart diseases and risks of cancers. Also, it can reduce the life risks by many folds.

List of the universities offering PhD Program:

- University of Karachi
- University of Sindh Jamshoro
- Gomal University
- University of Lahore

d) Faculty

- Dr Muhammad Zafar Iqbal Butt
  (Chairman/Associate Professor)
- Dr Alamgir Khan Qureshi
  (Assistant Professor)

- Dr. Muhammad Tahir Nazeer
  (Adhoc. Assistant Professor)
- Dr Sajjad Ali Gill
  (Adhoc. Assistant Professor)
- Dr Yasmeen Shoaib
  (Adhoc. Assistant Professor)
- Mr. Muhammad Abdul Jabar Adnan
  (Lecturer)
- Mrs Hira Atta
  (Lecturer)
- Visiting faculty

e) Physical Facilities

- Classrooms
- Lecture Hall
- Practical / Lab facilities
- Basketball, Lawn Tennis, Volleyball and Badminton courts
- Cricket Ground
- Hockey Ground
- Table Tennis Hall

6 Admission and Eligibility Criteria

- **Years of study completed**
  - MS / M.Phil. or equivalent degree with Ist. Div / CGPA equal and greater than 3.0 / OPM 70% after the acquisition of 18 years of education.
- **Study Program**
  - PhD Sports Sciences and Physical Education.
- **Percentage /CGPA**
  - Candidates must have a minimum of 3.00 or a high CGPA out of 4.00 for admission to PhD Program.
- **Entry test**
  - GAT (Subject) test / Department Entry Test.

- The GAT-Subject (www.nts.org.pk/gat/gat.asp) conducted by the National Testing Service with a minimum 60% cumulative score is required at the time of admission to PhD. The GAT-Subject test is valid for a period of two years.
- A subject test conducted by the National Testing Service (NTS) or ETS, USA in the area of specialization chosen at the PhD level must be cleared before admission for the PhD Program.
- In the case of the department entry test, 70% marks are required for admission to the PhD program.

  https://hec.gov.pk/english/scholarshipsgrants/Documents/MPHIL_Phd_Criteria.pdf

7 Duration of the Program

As per HEC Rules:

- Course work of 18 credit hours preferably in the first year is required to be completed and followed by a comprehensive examination for granting candidacy as PhD researcher with a 12 credit hour of research work.

8 Categorization of Courses as per HEC recommendation and difference

Category (Credit hour)							
Semester	**Course**	**Core Courses**	**Basic Courses**	**Major Electives**	**Minor Electives**	**Any Other**	**Semester Load**
1	Modern Trends in Physical Education			03			
2	Sports Medicine	03					
3	Fitness and Wellness		03				
4	Lab Fitness and Wellness		01				
5	Sports Education			03			
6	Lab Sports Education			01			
7	Measurement and Evaluation in Physical Education	03					
8	Lab Measurement and Evaluation in Physical Education	01					
9	Leadership in Sports	03					
10	Sociological Perspectives in Sports			03			
11	Media and Sports		03				
PU	Same as HEC						
HEC Guidelines	Followed 100%						

Differences (HEC & PU)	Nil						

9 Scheme of Studies / Semester-Wise Workload

Semester I	Code	Course Title	Course Type	Prerequisite	Credit Hour
1	SSM-703 T	Fitness and Wellness	Basic Course	Nil	03
2	SSM-703 L	Lab Fitness and Wellness	Basic Course	Nil	01
3	SSM-707 T	Measurement and Evaluation in Physical Education	Core Course	Nil	03
4	SSM-708 L	Lab Measurement and Evaluation in Physical Education	Core Course	Nil	01
Total Credit Hours					08

Semester II	Code	Course Title	Course Type	Prerequisite	Credit Hour
1	SSM-702 T	Sports Medicine	Core Course	Nil	03
2	SSM-709 T	Leadership in Sports	Core Course	Nil	03
3	SSM-705 T	Sports Education	Major Elective	Nil	03
4	SSM-706 L	Lab Sports Education	Major Elective	Nil	01
Total Credit Hours					10

10 Award of Degree

Degree awarding criteria for PhD

- A course work of at least 18 credit hours
- A PhD student shall be required to pass a comprehensive examination (written) after completing course work, and before undertaking the synopsis/research work.

- A PhD student shall be required to submit the synopsis within six months of completing course work and before commencing the research work.
- A PhD student will give a seminar relevant to his/her field of research at his/her convenience within a year of submission of synopsis to the department for the approval of various statutory bodies such as DPCC/Advanced Studies & Research Board.
- Evaluation by at least two foreign experts from advanced countries and two examiners within Pakistan
- Acceptance/publication of at least one research paper in an HEC approved "X" category journal is a requirement for the award of a PhD degree ("Y" in the case of Social Sciences only).

11 NOC from Professional councils (if applicable)

Nil

12 Faculty Strength

Degree	Area/ Specialization	Total
PhD	1. Sports Sciences and Physical Education / Sports Nutrition	1
	2. Sports Sciences and Physical Education / Exercise Physiology	1
	3. Sports Sciences and Physical Education / Sports Biomechanics	1
	4. Sports Sciences and Physical Education / Sports Psychology	1
	5. Sports Sciences and Physical Education / Trauma & Rehabilitation	1
PhD Enrolled	1. Sports Sciences and Physical Education	1
MS/MPhil	1. Sports Sciences and Physical Education	1
	Total	07

13 Present Student-Teacher Ratio in the Department

40:1 (Student: Teacher)

14 Course Outlines

(WRITTEN BELOW)

Course Title: **MODERN TRENDS IN PHYSICAL EDUCATION**
Code Number: SSM- 701 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

Students will be able to get knowledge about the latest trends in physical education

Course Contents

Unit-I

1.1 Introduction to Trends and Issues in Physical Education and Sport
1.2 Olympic Education for Values Education
1.3 Developmentally Appropriate Practices used in Physical Education

Unit-II

2.1 Achieving Quality Physical Education in Schools: Developing a Good Curriculum
2.2 Professional Preparation
2.3 Teacher Training Program in Pakistan
2.4 Diploma Course and Certificate Course
2.5 Undergraduate course
2.6 Post Graduate Course
2.7 Higher Education (Research Degrees)
2.8 Comparison of Different course contents.

Unit-III

3.1 Professional Organizations of Physical Education and Sports
3.2 Physical Education and sport in Pakistan, Germany, Britain
3.3 Comparisons of Professional Organization in Pakistan and other countries

Unit-IV

4.1 Careers in Physical Education and Sport
4.2 Schemes of Government (Central and State) for Sports in Pakistan
4.3 Teaching Career, Coaching Career, Fitness and Health-related career in Sports
4.4 Therapy-related career, Media related careers in sports, management and performance-related careers in Sports.
4.5 Assistance for infrastructure for coaching programs for competitions, Publications and research laboratories
4.6 Avenues of placements of Players, Coaches, Educators in the Public and Private sector.

Unit-V

5.1 Modern Facilities and Equipment of Sports
5.2 Types of the surface of playgrounds (Track & Field and games)
5.3 Modern equipment used in various sports events

Unit-VI

6.1 Achieving Quality Physical Education in Schools: Active teaching and learning
6.2 Assessment in Physical Education; Trends and issues
6.3 Talents Identification and Profiling in Sports
6.3.1 Prerequisites and conditions for developing talent
6.3.2 Early recognition, screening and selection with performance factors.
6.3.3 Specific characteristics of the anatomical, physiological, psychological and motor development of children and adults.
6.4 Main tasks of training in Sports
6.5 Main features of sports training junior training program principle tasks.
6.6 Comparative study of various modern training methods

Unit-VII

7.1 ICTs' in Physical Education and sport
7.2 Future of Physical Education and Sport
7.3 Issues and challenges in Physical Education and sports leadership values
7.4 Future and challenges in Physical Education personnel in organization and administration, in training and competition.
7.5 Modernization of equipment in Physical Education and sports.

Unit-VIII

8.1 Student Health sustenance through Physical Education and Sport
8.2 Starting a lifelong habit towards Physical Education and Sport

Assessment and Examination

#	Elements	Weightage	Details
1	Mid Term	35%	It takes place at the mid-point of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.
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Reference books

1. Betram, S. J. G., & Kaleeswaran, P. CHALLENGES IN PHYSICAL EDUCATION AND SPORTS SCIENCES-A COMPARATIVE STUDY.
2. Darling-Hammond, L., Hammerness, K., Grossman, P., Rust, F., & Shulman, L. (2005). The design of teacher education programs. *Preparing teachers for a changing world: What teachers should learn and be able to do*, 390-441.
3. Darst, P. W., & Pangrazi, R. P. (2006). Dynamic physical education for secondary school students (5'ed.).
4. Kelly, L. E., Kelly, L., & Melograno, V. (2004). *Developing the physical education curriculum: An achievement-based approach*. Human kinetics.
5. Mitchell, S. A., Oslin, J. L., & Griffin, L. L. (2013). *Teaching sport concepts and skills: A tactical games approach for ages 7 to 18*. Human Kinetics.
6. Siedentop, D. L., Hastie, P., & Van der Mars, H. (2019). *Complete guide to sport education*. Human Kinetics.
7. Darling-Hammond, L., Hammerness, K., Grossman, P., Rust, F., & Shulman, L. (2005). The design of teacher education programs. *Preparing teachers for a changing world: What teachers should learn and be able to do*, 390-441.
8. Launder, A. G., & Piltz, W. (2013). *Play practice: The games approach to teaching and coaching sports*. Human Kinetics.

Course Title: **SPORTS MEDICINE**
Code Number: SSM- 702 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

1) To demonstrate and discuss the role of a Certified Athletic Trainer.
2) To instruct students in basic first aid and emergency care.
3) To demonstrate appropriate taping, wrapping, and bracing techniques for athletic injuries.
4) Volunteer in the training room and on the field to use the skills learned in the classroom.

Course Contents

Unit-I Introduction to Sports Medicine

1.1 Definition, meaning and a brief history of sports Medicine
1.2 Preventive, curative and rehabilitative aspects of Sports medicine
1.3 Components of Physical examination

Unit-II Injuries in Sports

2.1 Terminologies and Classification of Common Soft and hard Tissue and nerve injuries due to Sports participation
2.2 General Effects of Injuries
2.3 Regional injuries and their management
2.3.1 Injuries of Head
2.3.2 Injuries of Ears
2.3.3 Injuries of Eyes
2.3.4 Injuries of Nose
2.3.5 Injuries of Back
2.3.6 Injuries of Shoulders
2.3.7 Injuries of Elbows
2.3.8 Injuries of Hand
2.3.9 Injuries of Abdomen
2.3.10 Injuries of Thighs
2.3.11 Injuries of Knee
2.3.12 Injuries of Leg and foot
2.3.13 Injuries of Ankle
2.3.14 Injuries of Wrist
2.4 General principles of injury management
2.5 Management of soft-tissue injuries
2.6 Management of bony injuries
2.7 Management of nerve injuries

Unit-III Evaluation and Management of Specific disorders

3.1 Evaluation and management of specific disorders in different body parts
3.1.1 Traumatic lesions of the spinal cord
3.1.2 Aftercare of fracture
3.1.3 Treatment of back disorders
3.1.4 Deformities in lower back and scoliosis

Unit-IV Introduction to applied sports medicine

4.1 Introduction to applied sports medicine
4.2 Role of exercise in the prevention of various diseases
4.2.1 Cardiovascular disorders
4.2.2 Asthmatic disorders
4.2.3 Diabetes
4.2.4 Obesity
4.2.5 Gastrointestinal disorder
4.2.6 Skin disorder
4.2.7 Urogenital disorder

Unit-V Sports Nutrition

5.1 Importance of sports nutrition
5.2 Exercise and food intake before, during and after activity
5.3 Computerized meal and exercise plan
5.4 Role of carbohydrate, fats and proteins in strength and endurance training to prevent injuries
5.5 Diet prescriptions for strength and endurance sports

Unit-VI Therapeutic modalities to manage sports injuries

6.1 Introduction to therapeutic modalities and procedures
6.2 Principles of therapeutic modalities and procedures
6.2.1 Hydrotherapy
6.2.2 Diathermy
6.2.3 Ultrasound
6.2.4 Electrical muscle stimulation
6.2.5 Transculanor electrical nerve stimulation (TENS)
6.2.6 Cryopathic exercises
6.2.7 Different types of baths
6.2.8 Different types of massage

Unit-VII Physical Rehabilitation

7.1 Meaning, definition and goals of physical rehabilitation
7.2 Principles of Rehabilitation

7.3 Local Problems (Pain, Swelling, Restricted Movement)
7.4 Types of exercises i.e. Isometric, Isotonic, Isokinetic, Manual resistance as part of Physical rehabilitation
7.5 Proprioceptive neuromuscular facilitation program for neck, Shoulder, Shoulder joint, Arm, Elbow joint, Wrist, Hand, Lower back, Hip joint, Thigh, Knee, Lower leg, ankle and foot.

Unit-VIII Internal Injuries and their rehabilitation

8.1 Introduction and management to Internal Injuries like Cramps, Ruptures and other systemic injuries
8.2 Nutritional Considerations to manage internal injuries
8.3 First Aid, CPR to Emergency Responses

Unit-IX Doping in Sports

9.1 Definition of Doping, TUEs, Drugs, Narcotics, Steroids, Prohibited methods and procedure
9.2 Use of Doping in Sports
9.3 Types of Doping
9.4 Banned Drugs list classification
9.5 Doping Control procedure
9.6 Effect of Doping on Athletes

Assessment and Examination

#	Elements	Weightage	Details
1	Mid Term	35%	It takes place at the mid-point of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.
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Reference Books

1. Reeser, J. C., & Bahr, R. (Eds.). (2017). *Handbook of sports medicine and science, Volleyball*. John Wiley & Sons.
2. Harris, S. S., Anderson, S. J., & American Academy of Orthopaedic Surgeons. (2018). *Care of the young athlete*.
3. Whyte, G., Loosemore, M., & Williams, C. (Eds.). (2015). *ABC of sports and exercise medicine*. John Wiley & Sons.
4. Miller, M. D. (Ed.). (2016). *Orthopaedic knowledge update: sports medicine*. American Academy of Orthopaedic Surgeons.
5. Magee, D. J., Zachazewski, J. E., Quillen, W. S., & Manske, R. C. (2015). *Pathology and intervention in musculoskeletal rehabilitation* (Vol. 3). Elsevier Health Sciences.
6. Hayton, M., Ng, C. Y., Funk, L., Watts, A., & Walton, M. (Eds.). (2019). *Sports injuries of the hand and wrist*. Springer International Publishing.
7. Maffulli, N., Renström, P., & Leadbetter, W. B. (2005). *Tendon injuries*. Springer-Verlag New York Incorporated.
8. Hyde, T. E., & Gengenbach, M. S. (Eds.). (2007). *Conservative management of sports injuries*. Jones & Bartlett Learning.

Course Title: **FITNESS AND WELLNESS**
Code Number: SSM- 703 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

This course will provide opportunities to familiarize students with the importance of Fitness for general purposes and for sports. This course will help a sportsman to enhance his performance. It will help a common person to care about his/her health and fitness. After successful completion of the course, students will have a thorough knowledge of health-related fitness and skill-related fitness. They are going to study the impact of exercise on the human body to enhance student's appreciation of the Value of Exercise.

Course Contents

Unit-I Introduction

1.1 Facts about Health and Wellness
1.2 Facts about Physical Fitness
1.3 Facts about Healthy lifestyle
1.4 Warm-up and Cooldown

Unit-II How much Physical Activity is enough?

2.1 The Principles of Physical activity
2.2 Physical activity Pyramid
2.3 Facts about Physical activity
2.4 Patterns and strategies for action

Unit-III Health Benefits of Physical Activity

3.1 Physiological benefits
3.2 Psychological benefits
3.3 Social benefits

Unit-IV Safe Physical activity and Exercises

4.1 Environmental Safety and Physical Activity
4.2 Nutritional Safety and Physical Activity
4.3 Exercise and Equipment safety and Physical Activity

Unit-V Basic Resistance Training Program

5.1 Concept of resistance training and progression in the sports activity
5.2 Resistance Training Program according to Sports Specificity

Unit-VI General Physical Fitness & Sports specific Fitness Program

6.1 Health-related and Skill related Physical Fitness
6.2 Sports specificity and Fitness components

Unit-VII Weight Management

7.1 Diet Management
7.2 Exercise Management
7.3 Lifestyle Management

Unit-VIII Illicit Drugs Use, Misuse & abuse

8.1 Concept of Illicit Drugs
8.2 Illicit Drugs Use
8.3 Illicit Drugs Misuse & abuse

UNIT-IX Special Problems and Exercise Instructions

9.1 Hypertension
9.2 Diabetes
9.3 Anorexia
9.4 Arthritis
9.5 Asthma
9.6 Peptic ulcer
9.7 Obesity
9.8 Cardiovascular disorders
9.9 Back pain
9.10 Knee pain
9.11 Heel pain
9.12 Exercise programs for children, Adolescent youth, Middle ages, Adults and Senior clients

Assessment and Examination

#	Elements	Weightage	Details
1	Mid Term	35%	It takes place at the mid-point of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.
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Reference Books

1. Hoeger, W. W., Hoeger, S. A., Hoeger, C. I., & Fawson, A. L. (2018). *A lifetime of Physical Fitness and Wellness*. Cengage Learning.
2. Hoeger, W. W., & Hoeger, S. A. (2015). *Principles and labs for fitness and wellness*. Cengage Learning.
3. Thompson, J. J., & Manore, M. (2015). *Nutrition for Life: Books a la Carte Edition*. Benjamin-Cummings.
4. Velasco, M. (2016). *The beach community wellness program fitness and nutrition manual*. California State University, Long Beach.
5. Sharma, J. (2015). *HEALTH, WELLNESS, FITNESS AND HEALTHY LIFESTYLES*. Horizon Books (A Division of Ignited Minds Edutech P Ltd).

Course Title: **LAB FITNESS AND WELLNESS**
Code Number: SSM- 704 T
Credit Hours: 01 hr
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

This course will provide students with the knowledge, skills and abilities necessary to integrate healthy living strategies in a variety of recreational settings. There will be gym sessions connected with this course.

Course Contents

Unit-I

1.1 Assessment of Health and skill-related Physical fitness components of;
1.1.1 Athletics (Athletes, Jumpers and throwers)
1.1.2 Powerlifting
1.1.3 Hockey
1.1.4 Wrestling
1.1.5 Badminton
1.1.6 Volleyball

Unit-II

2.1 Development and implementation of different training patterns (Plyometric training, Flexibility, Fartlek Training, Weight training and Circuit training) on;
2.1.1 Football
2.1.2 Weightlifting
2.1.3 Basketball
2.1.4 Cricket

Assessment and Examination

#	Elements	Weightage	Details
1	Mid Term	35%	It takes place at the mid-point of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.
2	Formative Assessment	25%	It is a continuous assessment. It includes classroom Participation, attendance, assignments and Presentations, homework, attitude, and behaviour, hands-on activities, short tests, quizzes etc.
3	Final Assessment	40%	It takes place at the end of the semester.

			It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.

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1. Hoeger, W. W., Hoeger, S. A., Hoeger, C. I., & Fawson, A. L. (2018). *A lifetime of Physical Fitness and Wellness*. Cengage Learning.
2. Hoeger, W. W., & Hoeger, S. A. (2015). *Principles and labs for fitness and wellness*. Cengage Learning.
3. Thompson, J. J., & Manore, M. (2015). *Nutrition for Life: Books a la Carte Edition*. Benjamin-Cummings.
4. Velasco, M. (2016). *The beach community wellness program fitness and nutrition manual*. California State University, Long Beach.
5. Sharma, J. (2015). *HEALTH, WELLNESS, FITNESS AND HEALTHY LIFESTYLES*. Horizon Books (A Division of Ignited Minds Edutech P Ltd).

Course Title: **SPORTS EDUCATION**
Code Number: SSM- 705 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

The course will enable the future coach to place the training processes properly and thoughtfully.

Course Contents

Unit-I

1.1 Sports training
1.2 Task and characteristics of sports training
1.3 Principles of Sports Training
1.4 Methods of training (Weight, Isotonic, Isometric, Isokinetic training)

Unit-II

2.1 Types of Training
2.2 Effect of training on physiological systems
2.2.1 Training effects on muscles
2.2.2 Training effects on heart rate
2.2.3 Training effects on oxygen consumption
2.2.4 Training effects on blood lactate-lung capacity
2.2.5 Training effects on work capacity
2.2.6 Training effects on body composition

Unit-III

3.1 Concept of Training load
3.2 Important features of training load (Intensity, Volume, Duration and Frequency)
3.3 Principles of training load (Adoption of load, Principles of overload).

Unit-IV

4.1 Concept of Training Plan
4.2 Periodization in Sports
4.2.1 Season development in Periodization
4.2.2 Cycle development in Periodization
4.3 Training Plan Development

Unit-V

5.1 Forms, Characteristics and methods of development of Strength in Men, Women and children.
5.2 Forms, Characteristics and methods of development of Endurance in Men, Women and children.
5.3 Forms, Characteristics and methods of development of Speed in Men, Women and children.
5.4 Forms, Characteristics and methods of development of Agility in Men, Women and children.
5.5 Forms, Characteristics and methods of development of Reaction time and coordination in Men, Women and children.
5.6 Forms, Characteristics and methods of development of Flexibility in Men, Women and children.
5.7 Forms, Characteristics and methods of development of Power in Men, Women and children.

Unit-VI

6.1 Technical preparation of Player for Sports Skills
6.2 Tactical preparation of Player for Sports
6.3 Psychological preparation of Player for Sport
6.4 Nutritional preparation of Player for Sports
6.5 Fundamentals and methods for the development of techniques in sports (Stage of technical development Causes and Correction of faults).

Unit-VII

7.1 Doping and Drugs Effects on Players
7.2 Doping and drugs management to avoid convicted in Doping

Assessment and Examination

#	Elements	Weightage	Details
1	Mid Term	35%	It takes place at the mid-point of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.
2	Formative Assessment	25%	It is a continuous assessment. It includes classroom Participation, attendance, assignments and Presentations, homework, attitude, and

			behaviour, hands-on activities, short tests, quizzes etc.
3	Final Assessment	40%	It takes place at the end of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.

Reference books

1. Baker, J., & Farrow, D. (2015). *Routledge handbook of sport expertise*. Routledge.
2. Lyle, J., & Cushion, C. (2016). *Sport coaching concepts: A framework for coaching practice*. Routledge.
3. Beauchamp, M. R., & Eys, M. A. (Eds.). (2014). *Group dynamics in exercise and sports psychology*. Routledge.
4. Berry, M., Lomax, J., & Hodgson, C. (Eds.). (2015). *Adventure sports coaching*. Routledge.
5. Nicholls, A. R. (2017). *Psychology in sports coaching: theory and practice*. Routledge.
6. Nelson, L., Groom, R., & Potrac, P. (Eds.). (2016). *Learning in sports coaching: Theory and application*. Routledge.

Course Title: **LAB SPORTS EDUCATION**
Code Number: SSM- 706 L
Credit Hours: 01 hr
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

The course will enable the future coach to place the training processes properly and thoughtfully.

Course Contents

Unit-I

1.1 Practical application of sports Training Principals
1.2 Practical application of training methods

Unit-II

2.1 Measurement of Effects of training on different physiological systems
2.2 Practical applications of Types of Training on different players
2.3 Practical application of Training load

Unit-III

3.1 Preparation of Training Plan for professional sportspersons
3.2 Development of Strength training program for Men, Women and Children
3.3 Development of training plan for Speed development in Children
3.4 Development of training plan for Flexibility development in Children and Men

Unit-IV

4.1 Practical work on Coordination exercises
4.2 Diet plan development for strength and endurance sports players

Unit-V

5.1 Development of training plan for Athletes
5.2 Development of training plan for Footballers
5.3 Development of training plan for Powerlifters
5.4 Development of training plan for Wrestlers
5.5 Development of training plan for Cricketers
5.6 Development of training plan for Hockey Players

Assessment and Examination

#	Elements	Weightage	Details
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2. Beauchamp, M. R., & Eys, M. A. (Eds.). (2014). *Group dynamics in exercise and sports psychology*. Routledge.
3. Berry, M., Lomax, J., & Hodgson, C. (Eds.). (2015). *Adventure sports coaching*. Routledge.
4. Nicholls, A. R. (2017). *Psychology in sports coaching: theory and practice*. Routledge.
5. Nelson, L., Groom, R., & Potrac, P. (Eds.). (2016). *Learning in sports coaching: Theory and application*. Routledge.
6. Baker, J., & Farrow, D. (2015). *Routledge handbook of sport expertise*. Routledge.

Course Title: **MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION**
Code Number: SSM- 707 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

Upon completion of this course, the student will be able to:

1) Define and describe terminology that applies to measurement and evaluation.
2) Become familiar with using computer programs that do statistical computations.
3) Formulate an appropriate way to grade students in the school setting to include authentic assessment and rubrics.
4) Administer a variety of tests as they apply to physical education, health and fitness.
5) Analyze and interpret data collected from a test appropriate to our field.
6) Develop questions to assess the cognitive domain for a variety of written test formats.
7) Become familiar with current and new assessment practices in the schools.
8) Analyze and evaluate various fitness movements.
9) Develop an evaluation process for assessing the affective domain.

Course Contents

Unit-I

1.1 Basic Principles of Measurement and Evaluation
1.2 Inter Relationship of Measurement and Evaluation
1.3 Modern Trends in Measurement and Evaluation

Unit-II

2.1 Need for selecting appropriate measurement and Evaluation in Physical Education and Sports
2.2 Criteria for selecting Evaluation and measurement
2.3 Technical Standards: Objectivity, Reliability, Validity, Norms
2.4 Administrative considerations: Equipment, Time, Money, Utility, Facility, Feasibility

Unit-III

3.1 Using the technology and Measurement and Evaluation
3.2 Rating Scales in Physical Education
3.3 Construction of Rating Scales
3.4 Rules for the use of Rating scales
3.5 Types of Rating devices

Unit-IV

4.1 Assessing and Grading

4.2 Grading in Physical Education
4.3 Purpose of grading
4.4 Criteria of grading
4.5 Methods of grading

Unit-V

5.1 Tests of Physical Performance
5.2 Testing methods and protocols Speed, Agility, Balance, Strength, Endurance, Flexibility, Perceptual Motor abilities, and Generality of components.

Unit-VI

6.1 Motor Ability Test
6.2 Barrow motor ability test
6.3 Carpenter motor ability test
6.4 Scott motor ability test
6.5 Latchaw motor ability test

Unit-VII

7.1 Strength Training
7.2 Strength Training for women
7.3 Strength Training for children

Unit-VIII

8.1 Specific Sports Skills Test for;
8.1.1 Badminton
8.1.2 Basketball
8.1.3 Hockey
8.1.4 Soccer
8.1.5 Tennis
8.1.6 Volleyball

Unit-IX

9.1 Review of basic statistical concepts relevant to educational measurement
9.1.1 Summarizing Data Using Tables and Graphs
9.1.2 Describing Data Numerically: The Four Sets of Measures
9.1.3 Descriptive Statistics, Z-Scores and the Normal Distribution
9.1.4 Linear Correlation
9.2 Correlation and Prediction
9.2.1 Calculating Prediction and Correlation
9.2.2 Multiple Correlation
9.3 Inferential Statistics

9.3.1 Hypothesis testing
9.3.2 Variables testing / Framework testing
9.2.1 ANOVA, t-test and regression analysis

Unit-X

10.1 Measuring learning outcomes
10.1.1 Review of previously learned taxonomies of educational objectives
10.1.2 Table of specifications
10.1.3 The test's "blueprint", matching instructional and testing objectives
10.1.4 The Classical Test Theory and Test Reliability

Unit-XI

11.1 Construction and Administration of Psychomotor tests
11.1.1 Test construction guidelines
11.1.2 What is a good test
11.1.3 Definition of Performance to be measured
11.1.4 Analysis of Performance
11.1.5 Determining the validity, reliability and objectivity of the test

Unit-XII

12.1 Putting the test into practice
12.1.1 Following the accuracy of measurements
12.1.2 Standard Error of Measurement (SEM) and Accuracy
12.1.3 Adopting and adapting the standardized tests to the local situation

Unit-XIII

13.1 Terminology: Statistics, Frequency distribution
13.1.1 Describing a distribution of test scores
13.1.2 Measures of central tendency

Unit-XIV

14.1 Percentile rank
14.1.1 Measures of variability
14.1.2 Graphing
14.1.3 Pearson Product Moment Correlation
14.1.4 Spearman Rank Order

Unit- XV

15.1 Correlation coefficient
15.1.1 Assessment and Grading of students

15.1.2 Testing of health-related components of physical fitness
15.1.3 Sports Skills testing

Unit-XVI

16.1 Authentic assessment and rubrics
16.1.1 Fitness technique evaluation
16.1.2 Test construction - cognitive domain
16.1.3 Assessing the affective domain
16.1.4 Standard scores: T-scores, Z-scores

Assessment and Examination

#	Elements	Weightage	Details
1	Mid Term	35%	It takes place at the mid-point of the semester. It is mostly in the form of a test but owing to the nature of the course. The teacher may assess their students based on the term paper, research proposal development, fieldwork and report writing etc.
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Reference books

1. Morrow Jr, J. R., Mood, D., Disch, J., & Kang, M. (2015). *Measurement and Evaluation in Human Performance, 5E*. Human Kinetics.
2. Norkin, C. C., & White, D. J. (2016). *Measurement of joint motion: a guide to goniometry*. FA Davis.
3. Baker, J., & Farrow, D. (2015). *Routledge handbook of sport expertise*. Routledge.
4. Lacy, A. C., & Williams, S. M. (2018). *Measurement and evaluation in physical education and exercise science*. Routledge.
5. Palange, P., Laveneziana, P., Neder, J. A., & Ward, S. A. (Eds.). (2018). *Clinical exercise testing* (Vol. 80). European Respiratory Society.

Course Title: **LAB MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION**
Code Number: SSM- 708 L
Credit Hours: 01 hr
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

Upon completion of this course, the student will be able to:

1) Administer a variety of tests as they apply to physical education, health and fitness.
2) Become familiar with current and new assessment practices in the schools.
3) Develop an evaluation process for assessing the affective domain.

Course Contents

Unit-I

1.1 Balance Testing
1.1.1 Recording the score
1.1.2 Treating the scores
1.1.2 Interpreting the test scores treatment

Unit-II

2.1 Aerobic Testing
2.1.1 Recording the score
2.1.2 Treating the scores
2.1.3 Interpreting the test scores treatment

Unit-III

3.1 Strength and Power Testing
3.1.1 Recording the score
3.1.2 Treating the scores
3.1.3 Interpreting the test scores treatment

Unit-IV

4.1 Speed Testing
4.1.1 Recording the score
4.1.2 Treating the scores
4.1.3 Interpreting the test scores treatment

Unit-V

5.1 Agility Testing
5.1.1 Recording the score
5.1.2 Treating the scores

5.1.3 Interpreting the test scores treatment

Unit-VI

6.1 Reaction Time Testing
6.1.1 Recording the score
6.1.2 Treating the scores
6.1.3 Interpreting the test scores treatment

Unit-VII

7.1 Trunk Testing
7.1.1 Administration of the test
7.1.2 Scoring of the test

Unit-VIII

8.1 Upper Extremity Testing
8.1.1 Administration of the test
8.1.2 Scoring of the test

Unit-IX

9.1 Lower Extremity Testing
9.1.1 Administration of the test
9.1.2 Scoring of the test

Unit-X

10.1 Flexibility Testing
10.1.1 Recording the score
10.1.2 Treating the scores
10.1.3 Interpreting the test scores treatment

Unit-XI

11.1 Volleyball and Field Hockey skills Testing
11.1.1 Administration of the tests
11.1.2 Validity, Reliability and Objectivity of the tests
11.1.3 Scoring of the tests

Unit-XII

12.1 Tennis skill Testing
12.1.1 Administration of the tests
12.1.2 Validity, Reliability and Objectivity of the tests

12.1.3 Scoring of the tests

Unit-XIII

13.1 Soccer skill Testing
13.1.1 Administration of the tests
13.1.2 Validity, Reliability and Objectivity of the tests
13.1.3 Scoring of the tests

Unit XIV

14.1 Long jump skill Testing
14.1.1 Administration of the tests
14.1.2 Validity, Reliability and Objectivity of the tests
14.1.3 Scoring of the tests

Unit- XV

15.1 General Motor Skill Testing
15.1.1 Administration of the tests
15.1.2 Validity, Reliability and Objectivity of the tests
15.1.3 Scoring of the tests

Unit-XVI

16.1 Anthropometric Testing
16.1.1 Administration of the tests
16.1.2 Validity, Reliability and Objectivity of the tests
16.1.3 Scoring of the tests

Assessment and Examination

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			paper, research proposal development, fieldwork and report writing etc.

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2. Norkin, C. C., & White, D. J. (2016). *Measurement of joint motion: a guide to goniometry*. FA Davis.
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4. Lacy, A. C., & Williams, S. M. (2018). *Measurement and evaluation in physical education and exercise science*. Routledge.
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Course Title: **LEADERSHIP IN SPORTS**
Code Number: SSM- 709 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes
The objective of this course is to facilitate future leaders to develop essential Leadership skills needed to address complex sports issues. The purpose of this course is to enable students to understand the framework, the roles and the functions of the leaders in an effective organization.

Course Contents

Unit-1 Introduction to Leadership

1.1 Introduction of leadership
1.2 Types of leadership
1.3 Theories of leadership
1.4 Concept of development of leadership
1.5 Qualities of an effective leader
1.6 Difference between leader & manager

Unit-2 Leadership Positions in Sports and Physical Education

2.1 The Growing Field of Physical Education and Sport
2.2 Career opportunities in Physical Education and Sports
2.3 Career Positioning in Physical Education and Sports

Unit-3 Role and Contribution of Leadership in Development and Promotion of Sports

3.1 Issues in Physical Education and Sports
3.2 Leadership in Youth Sports
3.3 Teaching Values in Physical Education and Sports
3.4 Quality Leadership in team Sports
3.5 Advocacy of Physical Education and Sports in Society

Unit-4 Communication in Sports

4.1 Introduction of Communication in Sports
4.2 Historical development of Communication in Sports
4.3 Types of communication
4.4 Methods of communication
4.5 Network of communication
4.6 Barriers to effecting communication
4.7 Mixed Communication model for Sports Communication
4.8 Press release, press conference, media coverage
4.9 Annual reports of individual and organization a performance

Unit-5 Decision Making and Leadership in Sports

5.1 Introduction of Decision Making in Sports
5.2 Decision-making process
5.3 Types of managerial decisions
5.4 Managerial Decision-making process
5.5 Models of decision-making for Sports

Unit-6 Leadership and Conflict Management in Sports

6.1 Types of Conflicts in Sports
6.2 Reasons for Conflict development in Sports
6.3 Strategies to minimize Conflict development
6.4 Conflict Management in Sports
6.5 Sports Conflicts Management Models

Unit-7 Motivation and Fair Play in Sports

7.1 Introduction to Motivation in Sports
7.2 Methods to enhance motivation in Sports
7.3 Introduction to fair play
7.4 Concept of Olympism
7.5 Ethical Issues in the fair play
7.6 Official and unofficial rules of fair play

Assessment and Examination

#	Elements	Weightage	Details
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Reference Books

1. Shropshire, K. (2015). *Sport matters: Leadership, power, and the quest for respect in sports*. Wharton Digital Press.
2. BORLAND, B., Burton, L. J., & Kane, G. M. (2014). *Sports leadership in the 21st century*. Jones & Bartlett Publishers.
3. Klenke, K. (2017). *Women in Leadership 2nd Edition: Contextual Dynamics and Boundaries*. Emerald Publishing Limited.
4. Chapman, M. O. (2014). *Leadership in a New Season: The Spiritual Level Developmental Criteria for Building Strong Cultures and Spiritually Evaluating Sports Teams*. Lulu. com.
5. Kim, W. C., & Mauborgne, R. A. (2017). *Blue Ocean Leadership (Harvard Business Review Classics)*. Harvard Business Review Press.
6. Miles, J. C., & Priest, S. (1999). *Adventure Programming*. Venture Publishing, Inc., 1999 Cato Avenue, State College, PA 16801.

Course Title: **SOCIOLOGICAL PERSPECTIVES OF SPORTS**
Code Number: SSM- 710 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

Upon completion of this course, the student will be able to:

A) Develop an understanding of the various levels of interactions in society through sports.
B) Improve the moral and ethical background and personality development.

Course Contents

Unit-I

1.1 Introduction
1.1.1 Introduction to Sociology
1.1.2 Scope and significance
1.1.3 Current trends of sociology

Unit-II

2.1 Sports and Society
2.1.1 Definitions
2.1.2 Types of Societies and Cultures
2.1.3 Development of youth sports
2.1.4 The role of sports in the development of individual and society

Unit-III

3.1 Deviance and Social Control in Sports
3.1.1 Definition of deviance and social control
3.1.2 Types and approaches of deviance
3.1.3 Social control through sports

Unit-IV

4.1 Violence and Sports
4.1.1 Violence in a sociological perspective
4.1.2 The psychology of violence
4.1.3 Violence in sports
4.1.4 Violence on and off the field
4.1.5 Violence among the spectators
4.1.6 The role of sports to control the violence

Unit-V

5.1 Sports and Socialization

5.1.1 Definitions
5.1.2 Theories and agencies of socialization
5.1.3 Politics in Sports
5.1.4 Political instability and Sports

Unit-VI

6.1 Sports as Social Institution
6.1.1 Definition of social institution
6.1.3 Sports and religion
6.1.5 Sports and economic
6.1.6 Sports as a recreational

Unit-VII

7.1 Sports Problems
7.1.1 The social problems in sports
7.1.2 Poverty, Illiteracy and sports
7.1.3 Unemployment and sports
7.1.4 Remedies and solution of social problems through sports

Unit-VIII

8.1 Social Dynamics
8.1.1 Becoming a social being
8.1.2 The social construction of the self
8.1.3 Socialization through the life course
8.1.4 Gender Socialization

Unit-IX

9.1 Interaction in Groups
9.1.1 Characteristics of social Group
9.1.2 Network-in group-out groups

Unit-X

10.1 Social Institutions
10.1.1 The nature of family-defining Family-variations-families and economies
10.1.2 Perspectives on the family

Unit-XI

11.1 Education
11.1.1 Education for changing world
11.1.2 Educational attainment, Achievement, Equality

11.1.3 The structure of educational institutions

Unit-XII

12.1 Technology, Environment and Health
12.1.1 The nature of science and technology
12.1.2 Impact of Technology
12.1.3 Health and technology Change

Unit-XIII

13.1 Culture and sports
13.1.1 Components of culture
13.1.2 Cultural Change

Unit-XIV

14.1 Social stratification
14.1.1 Caste and class system
14.1.2 The functions of social stratifications

Unit- XV

15.1 Social Change
15.1.1 Causes of social change
15.1.2 Modernity

Unit-XVI

16.1 Theoretical Analysis of modernity
16.1.1 Structural-Functional theory
16.1.2 Social Conflict theory

Assessment and Examination

#	Elements	Weightage	Details
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Reference books

1. Sage, G. H., & Eitzen, D. S. (2013). *Sociology of North American sport*. Paradigm Publishers.
2. Delaney, T., & Madigan, T. (2015). *The sociology of sports: An introduction*. McFarland.
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5. Hargreaves, J. (2002). *Sporting females: Critical issues in the history and sociology of women's sport*. Routledge.
6. Coakley, J., & Pike, E. (2001). *Sports in society*. Boston: McGraw-Hill.
7. Cashmore, E. (2005). *Making sense of sports*. Routledge.
8. Wheaton, B. (2013). *The cultural politics of lifestyle sports*. Routledge.
9. Cleland, J. (2015). *Sociology of football in a global context*. Routledge.
10. Maguire, J. (2013). *Reflections on Process Sociology and Sport: 'Walking the Line'*. Routledge.

Course Title: **MEDIA AND SPORTS**
Code Number: SSM- 711 T
Credit Hours: 03 hrs
Pre-requisites course Requirement/Skills: Nil

Learning Outcomes

Media is a powerful institution and is playing a very effective role in every walk of life. It is playing an important role in the propagation of sports and bringing the masses closer to the glamour of sports. The course will meet the need to bring the students at home with the role of media in the mobilization of sports for national cohesion and boosting the economy of the country through sports as an industry**.**

Course Contents

Unit-1 Introduction to Media

1.1 Types and Characteristics of Media
1.2 Role of Media in Globalization of Sports
1.3 Mobilization through Media
1.4 Media and Olympism

Unit-2 Sports and Media

2.1 The Professions of Sports Journalism
2.2 Sports Writing and Journalism
2.3 Sports Broadcasting
2.4 Sports Photography
2.5 Careers in Sports Media

Unit-3 Media and International Competition Games (Olympic Games)

3.1 The Press Commissions, Radio Commissions and Multimedia Commissions
3.2 Facilities and Services of Media at the games
3.3 News and Entertainment of Sport s through media

Unit -4 Sports Marketing through Media

4.1 Sports Journals
4.2 Sports Periodicals
4.3 Sports Magazines
4.4 Banners for Sports
4.5 Pamphlets for Sports
4.6 Multimedia marketing through Sports

Unit-5 Sports and Journalism

5.1 Introduction to Sports Journalism
5.2 Components of Sports Journalism
5.3 Professional approaches for Images and Messages in Media Sports
5.4 Sports Marketing and Role of Government
5.5 Media as a Source of Propagation in Sports
5.6 Media and the Development of Sports.

Unit-6 Writing for Sports

6.1 Setting up a sport blog
6.2 Making postings on the blog
6.3 Writing for the media
6.4 Advance reporting and Publishing
6.5 Law and Order for Sports Media
6.6 General ethics for Sports Media

Unit-7 Electronic media for Sports

7.1 E-Gaming
7.2 Cyber Gaming
7.3 Multidimensional control of Sports through Media
7.4 Future Sports through electronic and digital media
7.5 Information Communication systems and Sports

Assessment and Examination

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Reference Books

1. Adams, S., & Lee-Potter, E. (2017). *Interviewing for journalists*. Taylor & Francis.
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5. Harcup, T. (2015). *Journalism: principles and practice*. Sage.
6. Ferrand, A., Chappelet, J. L., & Séguin, B. (2012). *Olympic marketing*. Routledge.
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9. Jensen, C. (1996). *Censored 1996: The News That Didn't Make the News*. Seven Stories Press.
10. Newman, T., Peck, J., & Wilhide, B. (2017). *Social media in sports marketing*. Routledge.
11. Farrington, N., Hall, L., Kilvington, D., Price, J., & Saeed, A. (2017). *Sport, racism and social media*. Routledge.
12. Houlihan, B., & Malcolm, D. (Eds.). (2015). *Sport and society: a student introduction*. Sage.
13. Van Den Berg, L., & Braun, E. (2017). *Sports and city marketing in European cities*. Routledge.
14. Donders, K., Pauwels, C., & Loisen, J. (Eds.). (2014). *The Palgrave handbook of European media policy*. Springer.