

Course Title: Sports Medicine
Code Number: HPE-411
Credit Hours: 03 hrs
Pre-Requisites course Requirement/Skills: Nil

Objectives of Course

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

- 1) This course has been designed to make the students aware regarding the sports medicine subject and to give the knowledge of training and conditioning in sports.
- 2) The course of sports medicine will also help in the development of the skills/knowledge regarding the sports injuries, their prevention, treatment, and rehabilitation.
- 3) One of the main and very important objectives of this course is designed to aware the students regarding the use of doping in sports, their effects and legal position of the doping in sports.

Course Contents

Unit-I Introduction

- 1.1 Definition of Sports Medicine
- 1.2 History of Sports Medicine

Unit-II Injuries in Sports

- 2.1 Terminologies and Classification of Common Soft Tissue Sports Injuries
- 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
 - 2.3.13 Injuries of Ankle

Unit-III Prevention of Injuries

- 3.1 Role of Physical Educators and Coaches in the prevention of sports injuries
- 3.2 Pre-conditioning injury prevention exercises
- 3.3 Therapeutic exercises for prevention of Sports Injuries and their classification
- 3.4 Principles of rehabilitation of injuries

- 3.4 Therapeutic modalities in
 - 3.4.1 Cryotherapy
 - 3.4.2 Hydrotherapy
 - 3.4.3 Electrotherapy
 - 3.4.4 Laser therapy
 - 3.4.5 Massage therapy
- 3.5 Warm up and Cooling Down

Unit-IV Exercise and Fatigue

- 4.1 Definitions
- 4.2 Effects of exercise on sports performance
- 4.3 Effects of fatigue on sports performance
- 4.4 Heart role and exercise
 - 4.4.1 Threshold for training effects on heart
 - 4.4.2 Cardiac reserve capacity
 - 4.4.3 Blood pressure and exercise.
- 4.5 Lungs Role and Exercise
 - 4.5.1 Lungs ventilation during rest and exercise
 - 4.5.2 Change in lungs diffusions during muscular activities

Unit-V Rehabilitation in Sports

- 5.1 Principles of Rehabilitation
- 5.2 Local Problems (Pain, Swelling, Restricted Movement)
- 5.3 Non-Acute Cases

Unit-VI Emergency Therapeutic Medicines to Manage Sports Injuries

- 6.1 First Aid clinical management for Lung disorders due to sports activities
- 6.2 First Aid clinical management for Cardiac disorders due to sports activities
- 6.3 First Aid clinical management for gastrointestinal disorders due to sports activities
- 6.4 First Aid clinical management for Skin disorders / accidents due to sports activities
- 6.5 First Aid clinical management for Urogenital disorders due to sports activities

Unit-VII Doping in Sports

- 7.1 Definition
- 7.2 Use of Doping in Sports
- 7.3 Effect of Doping on Athletes
- 7.4 Doping Control
- 7.5 Types of Doping

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	Theory Examination based Assessment	40%	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 term paper, research proposal development, field work and report writing etc.
2	Formative Assessment	60%	It is continuous assessment. It includes classroom Participation, attendance, assignments and Presentations, homework, attitude, and behavior, hands on activities, short test, quizzes etc.

Recommended 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.