

National Curriculum and Credit Framework (NCCF)

Syllabus

for

PHYSICAL EDUCATION

w.e.f. Academic Session 2023-24



Kazi Nazrul University
Asansol, Paschim Bardhaman
West Bengal 713340

SEMESTER- I

MAJOR COURSE - 1

Course Name: Foundations and History of Physical Education and Sports Science

Course Code: BAPEDMJ101

Course Type: Major (Theoretical)	Course Details: MJC-1		L-T-P: 4 – 1 – 0		
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. Students may understand the historical development and the concept of Physical Education, Exercise, and Sports Science.
- ii. Students may learn about this subject's philosophical, biological, psychological, and sociological foundations.

Outcomes:

- i. Students may have a strong background in physical education, exercise, and sports science.
- ii. This subject may generate vibration for further development of Physical Education, Exercise, and Sports Science.

Unit 1 : Concept of Physical Education, Exercise and Sports Science

- 1.1 Meaning, Definition, and Scope of Physical Education, Exercise and Sports Science
- 1.2 Aim and Objectives of Physical Education, Exercise, and Sports Science
- 1.3 Modern Concept of Physical Education, Exercise, and Sports Science
- 1.4 Importance of Physical Education, Exercise, and Sports Science in Modern Society

Unit 2 : Historical Development of Physical Education, Exercise, and Sports Science

- 2.1 Ayurveda: Concept of human, Yoga, Vyayama (exercise) and Krida (Sports)
- 2.2 Historical development of Physical Education and Sports in India in the Pre-Independence period
- 2.3 Historical development of Physical Education and Sports in India in the Post-Independence period

- 2.4 National Sports Awards: Major Dhyan Chand Khel Ratna Award, Arjuna Award, Dronacharya Award

Unit 3 : Olympic Movement, Commonwealth, and Asian Games

- 3.1 Ancient Olympic Games
3.2 Modern Olympic Games, Objectives, Motto, Flag, Emblem, Torch, Oath and Olympic Village, Opening Ceremony and Closing Ceremony
3.3 Historical background of Commonwealth and Asian Games
3.4 Analysis of Indian Sports Performance: Olympic, Commonwealth and Asian Games

Unit 4 : Foundation & Principles of Physical Education, Exercise and Sports Science

- 4.1 Philosophical Foundation: Idealism, Realism, Pragmatism and Naturalism in Physical Education
4.2 Biological Principles: Meaning and definition of growth and development. Factors affecting growth and development. Differences of growth and development. Principles of growth and development. Age: Chronological age, anatomical age, physiological age, and mental age
4.3 Psychological Foundation- Meaning and Definition of Psychology and Sports Psychology. Importance of Psychology and Sports Psychology in Physical Education, Exercise, and Sports Science
4.4 Sociological Foundation: Meaning and Definition of Sociology, Society and Socialization. Role of games and sports in National and International Integration

Guidelines for Evaluation:

1. Physical Fitness Test through AAHPERD
2. Preparation of a record book of Indian Sports performance

Reference:

- Bucher, C. A., & Wuest, D. A. (2006). Foundations of Physical Education, Exercise Science, and Sport (15th ed.). McGraw-Hill.
- Lumpkin, A. (2008). Introduction to Physical Education, Exercise Science, and Sport Studies (7th ed.). McGraw-Hill.

- Zeigler, E. F. (2003). History and Status of American Physical Education and Educational Sport. Trafford Publishing.
- Mechikoff, R. A., & Estes, S. G. (2013). A History and Philosophy of Sport and Physical Education: From Ancient Civilizations to the Modern World (6th ed.). McGraw-Hill.
- Park, R. J. (1989). The Rise of Sport in England: A Survey of Historical Literature. University of California Press.
- Harris, J. C. (Ed.). (1994). Sport and Social Order: Contributions to the Sociology of Sport. Routledge.
- Howell, M. L., & Howell, D. L. (1986). A History of Physical Education and Sport. Charles C Thomas Pub Ltd.
- Kamlesh, M. L. (2002). Physical Education: Facts and Foundations. P.B. Publications.
- Sharma, O. P. (2007). History, Principles, and Foundation of Physical Education. Khel Sahitya Kendra.
- Bhatia, K. K. (2014). Principles and Foundations of Physical Education. Kalyani Publishers.
- Singh, A. (2008). Essential of Physical Education. Kalyani Publishers.
- Sandhu, S. S. (2010). Sports Sciences: Physiological and Medical Aspects. Sports Publication.
- Uppal, A. K. (2004). Physical Fitness and Wellness. Friends Publications India.

MINOR COURSE - 1

Course Name: Introduction to Physical Education and Sports

Course Code: BAPEDMN101

Course Type: Minor (Theoretical)	Course Details: MNC-1		L-T-P: 4 – 1 – 0		
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. To educate the students about exercise & sports and the science behind it
- ii. To improve the student's understanding of the benefits of regular exercise and sports

Outcomes:

- i. Students may be interested in participating in exercise and sports
- ii. Students may convince others for exercise and sports participation

Unit 1 : Concept of Physical Education and Sports Science

- 1.1 Meaning, Definition, and Scope of Physical Education and Sports Science
- 1.2 Concept of Play, Games and Sports
- 1.3 Aim, Objectives, and Importance of Physical Education and Sports Science
- 1.4 Modern Concept of Physical Education and Sports Science

Unit 2 : Historical Development of Physical Education and Sports Science

- 2.1 Historical development of Physical Education and Sports in India during the Pre-Independence period
- 2.2 Historical development of Physical Education and Sports in India of the Post-Independence period
- 2.3 National Sports Awards: Major Dhyan Chand Khel Ratna Award, Arjuna Award, Dronacharya Award
- 2.4 Sports Schemes in India

Unit 3 : Olympic Movement, Commonwealth, and Asian Games

- 3.1 Ancient Olympic Games
- 3.2 Modern Olympic Games: History, Objectives, Motto, Flag, Emblem, Torch, Oath, Olympic Village, Opening, Victory and Closing Ceremony
- 3.3 Historical background of Commonwealth and Asian Games

3.4 Indian Sports Performance: Olympic, Commonwealth, and Asian Games

Unit 4 : Foundation & Principles of Physical Education and Sports

- 4.1 Biological Principles: Meaning and definition of growth and development. Factors affecting growth and development. Differences of growth and development. Principles of growth and development.
- 4.2 Age: Chronological age, Anatomical age, Physiological age, and Mental age
- 4.3 Psychological Foundation- Meaning and Definition of Psychology and Sports Psychology. Importance of Psychology and Sports Psychology in Physical Education and Sports Science
- 4.4 Sociological Foundation: Meaning and Definition of Sociology, Society and Socialization. Role of games and sports in National and International Integration

Reference:

- Bucher, C. A., & Wuest, D. A. (2006). Foundations of Physical Education, Exercise Science, and Sport (15th ed.). McGraw-Hill.
- Lumpkin, A. (2008). Introduction to Physical Education, Exercise Science, and Sport Studies (7th ed.). McGraw-Hill.
- Zeigler, E. F. (2003). History and Status of American Physical Education and Educational Sport. Trafford Publishing.
- Mechikoff, R. A., & Estes, S. G. (2013). A History and Philosophy of Sport and Physical Education: From Ancient Civilizations to the Modern World (6th ed.). McGraw-Hill.
- Park, R. J. (1989). The Rise of Sport in England: A Survey of Historical Literature. University of California Press.
- Harris, J. C. (Ed.). (1994). Sport and Social Order: Contributions to the Sociology of Sport. Routledge.
- Howell, M. L., & Howell, D. L. (1986). A History of Physical Education and Sport. Charles C Thomas Pub Ltd.
- Kamlesh, M. L. (2002). Physical Education: Facts and Foundations. P.B. Publications.
- Sharma, O. P. (2007). History, Principles, and Foundation of Physical Education. Khel Sahitya Kendra.
- Bhatia, K. K. (2014). Principles and Foundations of Physical Education. Kalyani Publishers.
- Singh, A. (2008). Essential of Physical Education. Kalyani Publishers.
- Sandhu, S. S. (2010). Sports Sciences: Physiological and Medical Aspects. Sports Publication.
- Uppal, A. K. (2004). Physical Fitness and Wellness. Friends Publications India.

MULTIDISCIPLINARY COURSE - 1

Course Name: Fitness and Wellness

Course Code: MDC105

Course Type: Multidisciplinary (Theoretical)	Course Details: MDC-1		L-T-P: 2 – 1 – 0		
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			15		35

Objectives:

- i. To educate students about physical fitness, mental fitness, and wellness.
- ii. To motivate students to maintain their fitness and wellness

Outcomes:

- i. Students may accept fitness and wellness programs in daily life.
- ii. They may lead healthy lifestyles and convince others.

Unit 1 : Health-Related Physical Fitness

- 1.1 Concept of Fitness and Physical Fitness
- 1.2 Concept of Health-Related Physical Fitness
- 1.3 Components of Health-related Physical Fitness
- 1.4 Assessment Techniques of Health-related Physical Fitness

Unit 2 : Performance-Related Physical Fitness

- 2.1 Modern Concept of Physical Fitness
- 2.2 Concept of Performance-Related Physical Fitness
- 2.3 Components of Performance related Physical Fitness
- 2.4 Assessment Techniques of Performance related Physical Fitness

Unit 3 : Wellness

- 3.1 Concept of Wellness
- 3.2 Aim and Objectives of Wellness
- 3.3 Components of Wellness
- 3.4 Importance of Wellness in the Modern Society

Reference:

- Hoeger, W. W. K., & Hoeger, S. A. (2019). Principles and Labs for Fitness and Wellness (14th ed.). Cengage Learning.
- Powers, S. K., & Dodd, S. L. (2017). Total Fitness and Wellness (8th ed.). Pearson.
- Fahey, T. D., Insel, P. M., & Roth, W. T. (2017). Fit & Well: Core Concepts and Labs in Physical Fitness and Wellness (13th ed.). McGraw-Hill Education.
- Robbins, G., Powers, D., & Burgess, S. (2016). A Wellness Way of Life (10th ed.). McGraw-Hill Education.
- Anspaugh, D. J., Hamrick, M. H., & Rosato, F. D. (2011). Wellness: Concepts and Applications (8th ed.). McGraw-Hill.
- Donatelle, R. J. (2019). Health: The Basics (13th ed.). Pearson.
- Bishop, J. G. (2001). Fitness through Aerobics (6th ed.). Benjamin Cummings.
- Uppal, A. K. (2004). Physical Fitness and Wellness. Friends Publications India.
- Sharma, V. M. (2011). Health and Physical Education. Saraswati House Pvt. Ltd.
- Dharmendra, A. (2012). Fitness and Wellness. Sports Publications.
- Kansal, D. K. (2008). A Textbook of Applied Measurement, Evaluation & Sports Selection. Sports & Spiritual Science Publications.
- Gharote, M. L., & Ganguly, S. K. (2002). Physical Fitness and Wellness: A Holistic Approach. Kaivalyadhama.
- Kumar, R. (2010). Health, Fitness, and Wellness. Khel Sahitya Kendra.

SKILL ENHANCEMENT COURSE - 1

Course Name: Exercise and Sports for Elementary Students

Course Code: BAPEDSE101

Course Type: Skill Enhancement (Practical)	Course Details: MDC-1		L-T-P: 0 – 1 – 4		
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		30		20	

Objectives:

- i. Prepare the students to organize exercise & sports for elementary school children.
- ii. Students may develop self-confidence in nurturing elementary students.

Outcomes:

- i. Students may get jobs in nursery, kindergarten, play school, and elementary school
- ii. Students may start their play school in their area

Unit 1 : Exercise for Elementary Students

- 1.1 Rhymes Exercise
- 1.2 Mimicking Exercise
- 1.3 Partner Exercise

Unit 2 : Recreational Games for Elementary Students

- 2.1 Recreational Games- Individual
- 2.2 Recreational Games- Group
- 2.3 Recreational Games- with Teacher / Parents

Unit 3 : Sports for Elementary Students

- 3.1 Fundamental Movement Sports
- 3.2 Low-Level Individual Sports
- 3.3 Low-Level Group Sports

Reference:

- Pangrazi, R. P., & Beighle, A. (2019). *Dynamic Physical Education for Elementary School Children* (19th ed.). Human Kinetics.
- Graham, G., Holt/Hale, S. A., & Parker, M. (2013). *Children Moving: A Reflective Approach to Teaching Physical Education* (9th ed.). McGraw-Hill.
- Siedentop, D., & Taggart, A. (2020). *Complete Guide to Sport Education* (3rd ed.). Human Kinetics.
- Blaydes, J. (2000). *Brain Breaks for the Classroom: Quick and Fun Physical Fitness Activities for Elementary Students*. Human Kinetics.
- Pangrazi, R. P. (2003). *Physical Education for Elementary School Children* (14th ed.). Pearson Education.
- Sharma, O. P. (2007). *Physical Education for Elementary School Children*. Khel Sahitya Kendra.
- Uppal, A. K. (2014). *Health and Physical Education: Teaching Methods for Elementary School Children*. Friends Publications India.

SEMESTER- II

MAJOR COURSE - 2

Course Name: Health and Wellness Education

Course Code: BAPEDMJ201

Course Type: Major (Theoretical)	Course Details: MJC-2		L-T-P: 4 – 1 – 0		
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. To educate students about good and bad health habits.
- ii. To prepare students for a well-being and wellness culture.

Outcomes:

- i. Mental setup would be ready for maintaining good health habits.
- ii. Students may follow wellness guidelines.

Unit 1 : Health and Health Education

- 1.1 Concept, Definition, Spectrum, and Dimension of Health
- 1.2 Definition, aim, objectives, and principles of Health Education
- 1.3 Health Agencies: World Health Organization (WHO), United Nations Educational Scientific and Cultural Organization (UNESCO)
- 1.4 School Health Program: Health Service, Health Instruction, Health Supervision, Health Appraisal and Health Record

Unit 2 : Health Problems in India- Prevention and Control

- 2.1 Communicable Diseases: Malaria, Dengue and COVID-19
- 2.2 Modern life and lifestyle diseases
- 2.3 Lifestyle Diseases (Hypokinetic): Obesity and Diabetes
- 2.4 Lifestyle Diseases (Hyperkinetic): Hypertension, Psychological Disorder

Unit 3 : Nutrition

- 3.1 Concept, Meaning, definition, and role of Nutrition
- 3.2 Macronutrients and micronutrients
- 3.3 Role of macro and micronutrients for exercise
- 3.4 Factors to consider for developing the nutritional plan in sports

Unit 4 : Physical Fitness and Wellness

- 4.1 Concept of Physical Fitness
- 4.2 Components of Health and Performance related Physical Fitness
- 4.3 Concept of Wellness and Modern Lifestyle
- 4.4 Components of Wellness

Guidelines for Evaluation:

- Measurement of Health-related physical fitness.
- Measurement of performance-related physical fitness.

Reference:

- Donatelle, R. J. (2019). Health: The Basics (13th ed.). Pearson.
- Anspaugh, D. J., Hamrick, M. H., & Rosato, F. D. (2011). Wellness: Concepts and Applications (8th ed.). McGraw-Hill.
- Greenberg, J. S., Dintiman, G. B., & Oakes, B. M. (2017). Foundations of Personal Fitness and Wellness (11th ed.). Human Kinetics.
- Payne, W. A., & Hahn, D. B. (2019). Understanding Your Health (15th ed.). McGraw-Hill Education.
- Insel, P. M., & Roth, W. T. (2017). Core Concepts in Health (14th ed.). McGraw-Hill Education.
- Sharma, V. M. (2011). Health and Physical Education. Saraswati House Pvt. Ltd.
- Uppal, A. K. (2004). Physical Fitness and Wellness. Friends Publications India.
- Kansal, D. K. (2008). Textbook of Health and Physical Education. Khel Sahitya Kendra.
- Kumar, R. (2010). Health, Fitness, and Wellness. Khel Sahitya Kendra.

MINOR COURSE - 2

Course Name: Introduction to Life Style Management

Course Code: BAPEDMN201

Course Type: Minor (Theoretical)	Course Details: MNC-2		L-T-P: 4 – 1 – 0		
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. Students may understand modern life and its positive management skills.
- ii. Students will be educated about lifestyle diseases.

Outcomes:

- i. Students may repair flaws in their lifestyles and advise others.
- ii. Students may start practicing positive lifestyle skills.

Unit 1 : Introduction

- 1.1 Meaning and Definition of Health and Hygiene, Modern Lifestyle, Lifestyle Management
- 1.2 Healthy Lifestyle Management: Components (Diet, Sleep, Exercise, Emotion Controls, Relaxation, Social Health), Benefits
- 1.3 Life for Environment (LiFE) Movement
- 1.4 Sustainable, Local, Organic, Whole (SLOW) Movement

Unit 2 : Lifestyle and Metabolic Disorders

- 2.1 Obesity: Meaning, Definition, Types, Causes, Diagnosis Method
- 2.2 Obesity Management Through Lifestyle
- 2.3 Diabetes: Meaning, Definition, Types, Causes, Diagnosis Method
- 2.4 Diabetes Management Through Lifestyle

Unit 3 : Lifestyle and Cardio-respiratory Disorders

- 3.1 Hypertension: Meaning, Definition, Types, Causes, Diagnosis Method
- 3.2 Hypertension Management through Lifestyle
- 3.3 Asthma: Meaning, Definition, Types, Causes Diagnosis Method
- 3.4 Asthma Management Through Lifestyle

Unit 4 : Lifestyle and Musculoskeletal Disorder

- 4.1 Postural Disorders: Posture- Meaning, Definition, Types (Dynamic Posture and Static Posture), Normal Posture, Benefits. Postural Disorders- (Spine: Kyphosis, Lordosis, Scoliosis; Leg: Bow leg, Knock nee, Flat foot), Meaning, Definition, Causes
- 4.2 Postural Disorders Management through Lifestyle.
- 4.3 Back pain: Meaning, Definition, Types, Causes, Diagnosis Method
- 4.4 Back Pain Management Through Lifestyle

Reference:

- Fahey, T. D., Insel, P. M., & Roth, W. T. (2017). *Fit & Well: Core Concepts and Labs in Physical Fitness and Wellness* (13th ed.). McGraw-Hill Education.
- Donatelle, R. J. (2019). *Access to Health* (16th ed.). Pearson.
- Insel, P. M., & Roth, W. T. (2016). *Wellness: Enhancing the Quality of Life* (8th ed.). Jones & Bartlett Learning.
- Hales, D. (2017). *An Invitation to Health* (18th ed.). Cengage Learning.
- Hoeger, W. W. K., & Hoeger, S. A. (2019). *Lifetime Physical Fitness and Wellness: A Personalized Program* (15th ed.). Cengage Learning.
- Uppal, A. K. (2004). *Physical Fitness and Wellness*. Friends Publications India.
- Kumar, R. (2010). *Health, Fitness, and Wellness*. Khel Sahitya Kendra.
- Joshi, S. M. (2012). *Life Skills and Lifestyle Management*. Himalaya Publishing House.
- Bedi, Y. (2015). *Lifestyle Management in Health and Social Care*. Khel Sahitya Kendra.

MULTIDISCIPLINARY COURSE - 2

Course Name: Yoga-Vyayama

Course Code: MDC220

Course Type: Multidisciplinary (Theoretical)	Course Details: MDC-2		L-T-P: 2 – 1 – 0		
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			15		35

Objectives:

- i. To know the benefits of yoga in daily life.
- ii. To understand the utility of regular scheduled Vyayama.

Outcomes:

- i. After practicing Yoga-Vyayama students may feel its flavour.
- ii. They may include it in their daily routine.

Unit 1 : Vyayama

- 1.1 Suksma Vyayama: Netra-Sakthi Vikasaka (Eye), Kapola-Sakthi Vikasaka (Cheek), Karna- Sakthi Vikasaka (Ear), Griva-Sakthi Vikasaka (Neck)
- 1.2 Sthula Vyayama: Rekha-Gati, Hrd-Gati, Utkurdana, Urdhva-Gati, Sarvanga-Pusti

Unit 2 : Asanas

- 2.1 Vishramasana (Relaxative Posture): Shavasana, Makarasana
- 2.2 Dhyanasana (Meditative Posture): Sukhasana, Padmasana, Vajrasana, Sastikasana
- 2.3 Swasthyasana(Cutural Posture):
 - 2.3.1. Standing Posture: Ardha Chandrasana, Brikshasana, Padahasthasana
 - 2.3.2. Sitting Posture: Ardha Kurmasana, Paschimottanasana, Gomukhasana
 - 2.3.3. Supine Posture: Setubandhasana, Halasana, Matsyasana
 - 2.3.4. Prone Posture: Bhujangasana, Salvasana, Dhanurasana

Unit 3 : Pranayama and Meditation

- 3.1 Pranayama
 - 3.1.1. Anulom-Vilom
 - 3.1.2. Bhastrika
 - 3.1.3. Bhramari

- 3.2 Meditation
 - 3.2.1. Sakshi-Bhava
 - 3.2.2. Maitri-Bhava
 - 3.2.3. OM-Meditation

Reference:

- Iyengar, B. K. S. (2005). *Light on Yoga*. HarperCollins.
- Saraswati, S. (2008). *Asana Pranayama Mudra Bandha*. Yoga Publications Trust.
- Telles, S., & Naveen, K. V. (2011). *Yoga for Rehabilitation: An Integrative Approach*. Swami Vivekananda Yoga Prakashana.
- Feuerstein, G. (2011). *The Yoga Tradition: Its History, Literature, Philosophy, and Practice* (3rd ed.). Hohm Press.
- Gharote, M. L. (2004). *Applied Yoga*. Kaivalyadhama Ashram.
- Bhole, M. V. (2008). *Scientific Foundations of Yoga*. Bharatiya Vidya Bhavan.
- Satyananda, S. (1996). *Yoga Education for Children*. Bihar School of Yoga.
- Desai, P. D. (2008). *Yoga and Physical Education (Vyayama Yoga)*. Khel Sahitya Kendra.
- Tiwari, O. P. (2009). *Asanas: Why You Should Not Do Certain Yoga Postures*. Kaivalyadhama.
- Kuvalayananda, S. (2000). *Pranayama*. Kaivalyadhama Ashram.

SKILL ENHANCEMENT COURSE - 2

Course Name: Sports Massage

Course Code: BAPEDSE201

Course Type: Skill Enhancement (Practical)	Course Details: SEC-2		L-T-P: 0 – 1 – 4		
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		30		20	

Objectives:

- i. To prepare the students about basic and advanced massage in Indian style (Mardana) and Western style.
- ii. To educate the students about the special types of sports massage

Outcomes:

- i. Students may join the massage Parlor, Spa center, and health club.
- ii. Students may be self-employed as masseurs.

Unit 1 : Historical and Scientific Background of Massage (Record Book Preparation)

- 1.1 Massage in Ancient Times in India and Abroad
- 1.2 Relationship of Anatomy and Physiology to massage and bodywork
- 1.3 Physiological changes during massage- muscular, circulatory, lymph-vascular system
- 1.4 Roll of Therapeutic massage in stress and pain

Unit 2 : Techniques of Massage

- 2.1 Superficial Massage- Rubbing, Scrubbing, Wringing, Stoking
- 2.2 Deep Tissue Massage- Rolling, Stretching, Gripping, Kneading
- 2.3 Massage with different oils and aroma
- 2.4 Ayurvedic Massage

Unit 3 : Techniques of Sports Massage

- 3.1 Compression and Broadening
- 3.2 Friction
- 3.3 Effleurage
- 3.4 Petrissage

Reference:

- Goats, G. C. (1994). Massage—The Scientific Basis of an Ancient Art: Part 2. Physiological and Therapeutic Effects. *British Journal of Sports Medicine*, 28(3), 153–156.
- Cash, M. (2012). *Sport and Remedial Massage Therapy* (3rd ed.). Ebury Publishing.
- Smith, D. (2016). *Clinical Sports Medicine: An Introduction to the Sports Medicine Team*. Wolters Kluwer.
- Paine, T. (2015). *The Complete Guide to Sports Massage* (3rd ed.). Bloomsbury Publishing.
- Benjamin, P. J., & Lamp, S. P. (2015). *Understanding Sports Massage* (2nd ed.). Human Kinetics.
- Findley, T. W., & Schleip, R. (2015). *Fascia Research: Basic Science and Implications for Conventional and Complementary Health Care*. Elsevier.
- Chaitanya, C. R. (2010). *Sports Massage: A Complete Manual*. Khel Sahitya Kendra.
- Gupta, S. (2012). *Techniques of Massage Therapy for Sportsmen*. Friends Publications India.
- Singh, A. (2015). *Manual of Massage and Sports Injuries*. Sports Publication.
- Sinha, A. (2014). *Essentials of Therapeutic Massage and Sports Therapy*. Khel Sahitya Kendra.

SEMESTER- III

MAJOR COURSE - 3

Course Name: Anatomy, Physiology and Exercise Physiology

Course Code: BAPEDMJ301

Course Type: Major (Theoretical)	Course Details: MJC-3		L-T-P: 4 – 1 – 0		
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. To gain knowledge about Anatomy, Physiology, and Exercise Physiology.
- ii. To learn about the changes in the physiological system due to exercise and sporting activities.

Outcomes:

- i. Students will be ready to study the effects of exercise, sports, and its application.
- ii. Capable of application of system concepts behind sports performance.

Unit 1 : Introduction

- 1.1 Meaning and Definition of Anatomy, Physiology, Exercise Physiology and Sports Physiology
- 1.2 Structure and Functions of Human Cells and Tissues.
- 1.3 Structure and Functions of Organs and Systems.
- 1.4 Effect of Exercise and Sports on Human Cells and Tissues.

Unit 2 : Musculo-Skeletal System

- 2.1 Skeletal System: Structure, classification, and functions; Anatomical differences between males and females.
- 2.2 Joints: Concept, and Types. Effect of Exercise and Sports on Skeletal System
- 2.3 Muscular System: Types, Structure, and Functions
- 2.4 Effect of Exercise and Sports on the Muscular System

Unit 3 : Circulatory and Respiratory System

- 3.1 Circulatory System: Structure and Functions; Blood: Composition and Functions
- 3.2 Effect of Exercise and Sports on Circulatory System
- 3.3 Respiratory System: Structure and Functions

3.4 Effect of Exercise and Sports on Respiratory System

Unit 4 : Digestive and Nuro-endocrine System

4.1 Digestive System: Structure and Functions

4.2 Effect of Exercise and Sports on the Digestive System

4.3 Nuro-endocrine System: Structure and Functions

4.4 Effect of Exercise and Sports on Nuro-endocrine

Guidelines for Evaluation

Students are expected to prepare a Record Book based on the following data.

1. Diagrams of Cells, Tissues, Organs, Systems in the Human body.
2. Assessment of Body composition: BMI, % Fat, Lean Body Mass.
3. Measurement of Heart Rate and Respiratory Rate in rest, exercise, and after recovery.

Reference:

- Tortora, G. J., & Derrickson, B. (2017). Principles of Anatomy and Physiology (15th ed.). Wiley.
- Marieb, E. N., & Hoehn, K. (2018). Human anatomy & physiology (11th ed.). Pearson.
- Saladin, K. S. (2018). Anatomy & physiology: The unity of form and function* (8th ed.). McGraw-Hill Education.
- Kenney, W. L., Wilmore, J. H., & Costill, D. L. (2015). Physiology of sport and exercise* (6th ed.). Human Kinetics.
- Powers, S. K., & Howley, E. T. (2020). Exercise physiology: Theory and application to fitness and performance* (11th ed.). McGraw-Hill Education.
- Astrand, P. O., & Rodahl, K. (1986). Textbook of work physiology: Physiological bases of exercise* (3rd ed.). McGraw-Hill.
- Bouchard, C., & Shephard, R. J. (1994). Physical activity, fitness, and health: International proceedings and consensus statement*. Human Kinetics.
- Gordon, T., & McLean, M. (2014). Essentials of exercise physiology* (2nd ed.). Springer.
- McArdle, W. D., Katch, F. I., & Katch, V. L. (2014). Exercise physiology: Energy, nutrition, and human performance* (8th ed.). Wolters Kluwer.
- Liguori, G., & American College of Sports Medicine. (2021). ACSM's guidelines for exercise testing and prescription* (11th ed.). Wolters Kluwer.

MAJOR COURSE - 4

Course Name: Track and Field

Course Code: BAPEDMJ302

Course Type: Major (Practical)	Course Details: MJC-4		L-T-P: 0 – 1 – 8		
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		60		40	

Objectives:

- i. To get inclusive practical skills for different events in Track and Field.
- ii. Identify safety precautions to avoid injuries when practicing Track and Field.

Outcomes:

- i. The theoretical knowledge of track and field events helps the students to learn various techniques.
- ii. The practical knowledge of track and field events may help the athletes to learn various skills.

Unit 1 : Running Events

- 1.1 Starting Techniques: Standing start, Crouch start (its variations), and use of starting block.
- 1.2 Acceleration with proper running techniques.
- 1.3 Finishing Technique: Run Through, Forward Lunging and Shoulder Shrug.
- 1.4 Relay Race: Starting, Baton Holding/Carrying, Baton Exchange in-between zone, and Finishing.

Unit 2 : Jumping Events

- 2.1 Long Jump: Approach Run, Take-off
- 2.2 Flight in the air (Hang Style/Hitch Kick) and Landing.
- 2.3 High jump: Approach Run, Take-off,
- 2.4 Bar Clearance/Flight and Landing.

Unit 3 : Throwing Events

- 3.1 Shot put: Holding the Shot, Placement, Initial Stance, Delivery
- 3.2 Disco Part and Perry O'Brien Technique
- 3.3 Discus Throw: Holding the Discus, Initial Stance, Primary Swing, Turn, Release, and Recovery (Rotation in the circle).

- 3.4 Javelin throw: Grip, Carry, Release, and Recovery (3/5 Impulse stride).

Unit 4 : Track and Field Preparation

- 4.1 Layout of the Track: 400 mt. & 200 mt.
4.2 Rules, regulations, and Officiating of Track events
4.3 Layout of the Field: Long jump, High jump, Shot Put, Discus, Javelin
4.4 Rule, Regulation, and Officiating of Field Events

Guidelines for Evaluation:

Students are expected to prepare a Record Book based on the following data.

1. Drawing of 400 mt. and 200 mt. Athletic track.
2. Drawing of Long, Triple, and High jump arena.
3. Drawing of Shot Put, Discus, and Javelin throw.

Reference:

- American Sport Education Program (ASEP). (n.d.). Track and field coaching essentials. Human Kinetics.
- Magness, S. (2014). The science of running: How to find your limit and train to maximize your performance. Hachette Books.
- Tyson, P., & Hofman, D. (2012). Complete guide to track and field. Human Kinetics.
- Christensen, S. (2008). The athletics coach: Track and field training. Coaches Choice.
- Joyce, D., & Lewindon, D. (2014). High-performance training for sports. Human Kinetics.
- Anderson, O. (2012). Running science. Human Kinetics.
- Cavanagh, P. R. (2005). The biomechanics of running. University of Texas Press.
- Young, D. C. (1996). The modern Olympics: A struggle for revival. Johns Hopkins University Press.
- Johnson, M. W. (2003). The history of track and field. Greenwood Press.
- Eberle, S. G. (2014). The new power eating. Hachette Books.
- Boyle, M. (2016). Strength training for track and field. Human Kinetics.
- Mack, G., & Casstevens, D. (2001). Mind Gym: An athlete's guide to inner excellence. Hachette Books.
- Afremow, J. (2014). The champion's mind: How great athletes think, train, and thrive*. Per Capita Publishing.

MINOR COURSE - 3

Course Name: Physiology of Exercise and Sports

Course Code: BAPEDMN301

Course Type: Minor (Theoretical)	Course Details: MNC-3		L-T-P: 4 – 1 – 0		
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. To gain knowledge about Anatomy, Physiology, and Exercise Physiology.
- ii. To learn the changes in human body systems due to exercise and sporting activities in an integrated manner.

Outcomes:

- i. Students will be ready to study the effect of exercise and sports in detail and application perspective.
- ii. Capable of application of system concepts behind sports performance.

Unit 1 : Introduction

- 1.1 Concept of Human Anatomy and Physiology
- 1.2 Cell, Tissues, Organs, and Systems
- 1.3 Ayurveda and Vyayama (Exercise) in health and diseases.
- 1.4 Difference types of Vyayama (Exercise) and Krida (Sports) in Ayurveda.

Unit 2 : Musculo-Skeletal System

- 2.1 Skeletal System: Structure and functions.
- 2.2 Exercise effect on Skeletal system
- 2.3 Muscular System: Structure and functions
- 2.4 Exercise effect on the Muscular system

Unit 3 : Cardio-Respiratory System

- 3.1 Circulatory System: Structure and functions
- 3.2 Exercise effect on Circulatory system
- 3.3 Respiratory System: Structure and functions
- 3.4 Exercise effect on Respiratory system

Unit 4 : Digestive and Nuro-endocrine System

- 4.1 Digestive System: Structure and functions

- 4.2 Exercise effect on the Digestive system
- 4.3 Neuro-endocrine: Structure and functions
- 4.4 Exercise effects on the Neuro-endocrine system

Guidelines for Continuous Assessment (CA)

Students are expected to prepare a Record Book based on the following data.

1. Diagrams of Cells, Tissues, Organs, Systems in the Human body.
2. Assessment of Body composition: BMI, % Fat, Lean Body Mass.
3. Measurement of Heart Rate and Respiratory Rate in rest, exercise, and after recovery.

Reference:

- Tortora, G. J., & Derrickson, B. (2017). Principles of Anatomy and Physiology (15th ed.). Wiley.
- Marieb, E. N., & Hoehn, K. (2018). Human anatomy & physiology (11th ed.). Pearson.
- Saladin, K. S. (2018). Anatomy & physiology: The unity of form and function* (8th ed.). McGraw-Hill Education.
- Kenney, W. L., Wilmore, J. H., & Costill, D. L. (2015). Physiology of sport and exercise* (6th ed.). Human Kinetics.
- Powers, S. K., & Howley, E. T. (2020). Exercise physiology: Theory and application to fitness and performance* (11th ed.). McGraw-Hill Education.
- Astrand, P. O., & Rodahl, K. (1986). Textbook of work physiology: Physiological bases of exercise* (3rd ed.). McGraw-Hill.
- Bouchard, C., & Shephard, R. J. (1994). Physical activity, fitness, and health: International proceedings and consensus statement*. Human Kinetics.
- Gordon, T., & McLean, M. (2014). Essentials of exercise physiology* (2nd ed.). Springer.
- McArdle, W. D., Katch, F. I., & Katch, V. L. (2014). Exercise physiology: Energy, nutrition, and human performance* (8th ed.). Wolters Kluwer.
- Liguori, G., & American College of Sports Medicine. (2021). ACSM's guidelines for exercise testing and prescription* (11th ed.). Wolters Kluwer.

MULTIDISCIPLINARY COURSE - 3

Course Name: Indian Medicinal System and Yoga

Course Code: MDC310

Course Type: Multidisciplinary (Theoretical)	Course Details: MDC-3		L-T-P: 2 – 1 – 0		
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			15		35

Objectives:

- i. To give the students a thorough knowledge of Ayurveda (Indian Medicinal System).
- ii. To get an understanding of Yoga and its health benefits.

Outcomes:

- i. Provide them with a comprehensive understanding of Ayurveda and Yoga.
- ii. Application of Ayurveda and Yoga in health and diseases.

Unit 1 : Ayurveda (Indian Medicinal System) and Health

- 1.1 Ayurveda: From Indian (Bharatiya) History and Concept.
- 1.2 Concept of Human in Ayurveda: Body, Mind and Soul.
- 1.3 Concept of Pancha-mahabhuta
- 1.4 Concept of Tri-dosha and Tri-guna

Unit 2 : Wellness and Illness

- 2.1 Wellness: Components and importance in daily life
- 2.2 Methods for the development of various components of wellness
- 2.3 From Illness to Wellness Ayurvedic Ways: Application of Vyayama (Exercise)
- 2.4 From Illness to Wellness Ayurvedic Ways: Application of Anga Mardan (Massage)

Unit 3 : Yoga: Health and Diseases

- 3.1 Yoga: Indian (Bharatiya) History, Concept
- 3.2 Ashtanga Yoga and Health
- 3.3 Yogic concept of diseases: Adhi and Vyadhi
- 3.4 Panchakosha Theory and Recovery from Diseases

Reference:

- Lad, V. (2002). Ayurveda: The science of self-healing. Lotus Press.
- Sahni, V. (2015). The essential guide to Ayurveda: The most comprehensive guide to Ayurveda and its benefits*. Hachette India.
- Sharma, H., & Chandola, H. M. (2015). Fundamentals of Ayurveda. Chaukhamba Sanskrit Pratishthan.
- Joshi, S. G. (2000). Ayurvedic medicines for the treatment of common diseases. Anmol Publications.
- Frawley, D. (2014). Ayurveda and the mind: The healing of consciousness. Lotus Press.
- Iyengar, B. K. S. (2005). Light on Yoga (30th ed.). Hachette India.
- Satchidananda, S. (1990). The Yoga Sutras of Patanjali. Integral Yoga Publications.
- Tiwari, O. (2018). Yoga: The science of self-realization. Random House India.
- Desikachar, T. K. V. (1995). The heart of yoga: Developing a personal practice. Inner Traditions
- Swami Sivananda. (2010). The practice of yoga: A step-by-step guide. Sivananda Yoga Vedanta Center.
- Kumar, K. (2014). Yoga and its scientific basis. Arya Publishing House.
- Garg, N., & Reddy, A. (2016). Ayurveda and yoga: Complementary approaches to wellness*. Springer.

SEMESTER- IV

MAJOR COURSE - 5

Course Name: Sports Management and Technology

Course Code: BAPEDMJ401

Course Type: Major (Theoretical)	Course Details: MJC-5		L-T-P: 4 – 1 – 0		
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. Students may understand the future perspectives of sports management.
- ii. To educate students about the importance of modern technologies used in exercise and sports.

Outcomes:

- i. Students may be able to organize exercise and sports events efficiently.
- ii. Mental setup would be ready for accepting modern technologies in exercise and sports.

Unit 1 : Concept of Exercise and Sports Management

- 1.1 Concept of Management; Exercise and Sports Management.
- 1.2 Leadership in Exercise and Sports Management: Types, Qualities of an Effective Leader.
- 1.3 Management of Exercise and Sports in School, College, and University.
- 1.4 Management of Exercise and Sports in Clubs, Community Centres, and other Govt. and Non-Govt. Organizations.

Unit 2 : Management of Exercise and Sports Facilities

- 2.1 Indoor facilities (Exercise Hall and Gymnasium): Importance, care, and maintenance. Characteristics of standard exercise hall and gymnasium
- 2.2 Outdoor facilities (Playfields): Importance, care, and maintenance. Characteristics of standard Playfields.
- 2.3 Exercise and Sports Equipment: Care, maintenance, and safety measures.
- 2.4 Lay-out of Play-fields: Football, Volleyball, Basketball, Cricket, and Badminton

Unit 3 : Exercise and Sports Event Management

- 3.1 Competition and Cooperation: Match and Tournaments
- 3.2 Types of Tournaments: Procedure for drawing fixtures of Knock-out, League, and, Combination tournaments.
- 3.3 Organizing Competitions: Play Day, Intramural, Extramural competition, and Annual Sports Meet
- 3.4 Event Planning: Pre-event and post-event plan, Event management, and Budget Preparation

Unit 4 : Technologies in Exercise and Sports

- 4.1 Technology in Exercise and Sports: Concept, Role of Technology in Exercise and Sports
- 4.2 Technology used during Exercise and Sports Training: Smart Watches, Goggles, Sensor-enabled Shoes, Full Body Suits, Helmets, Heart Rate Monitors, Global Positioning System (GPS), Local Positioning System (LPS), Velocity Based Training (VBT), and Sleep Trackers.
- 4.3 Technology used in Live Sports: Bird's Eye View, Edge Detection, Decision Review System (DRS), Wind Gauges, Timing Equipment, Hawk Eye Technology, Goal Line Technology (GLT), Laser technology, Video Assistant Referee (VAR), and Cognitive Training Technology
- 4.4 AI and e-Sports: Concept, Application, Merits and Demerits. Data analytics and its applications in exercise and sports.

Reference:

- Kottler, J. A., & Pappas, J. L. (2020). *Sport management: Principles and applications**. Routledge.
- Masteralexis, L. P., Barr, C. A., & Hums, M. A. (2015). *Principles and practice of sport management (5th ed.)*. Jones & Bartlett Learning.
- Smith, A. C. T., & Westerbeek, H. M. (2022). *Strategic sport management**. Routledge.
- Weese, W. J. (2019). *Managing sport organizations: Responsibilities and practices (3rd ed.)*. Routledge.
- Pedersen, P. M., & Thibault, L. (2019). *Contemporary sport management (6th ed.)*. Human Kinetics.
- Krebs, M., & McLean, R. (2020). *Technology in sports: A comprehensive overview*. Springer.
- Hargreaves, T., & Borys, S. (2021). *Wearable technology in sports: From theory to practice*. Routledge.
- Hughes, M., & Bartlett, R. (2012). *Notational analysis of sport: Systems for better coaching and performance in sport (2nd ed.)*. Routledge.
- Gabbett, T. J., & Domrow, N. (2018). *Science and practice of sports training*. Human Kinetics.

- Crisp, J., & Heale, R. (2021). *The use of analytics in sports: A guide to advanced methods and technologies*. Wiley.
- Schwarz, M., & Schwartz, L. (2017). *Sports technology and the future: Innovations for enhancing performance*. Springer.
- O'Donoghue, P. (2018). *Research methods for sports studies (3rd ed.)*. Routledge.

MAJOR COURSE - 6

Course Name: Indigenous Games

Course Code: BAPEDMJ402

Course Type: Major (Practical)	Course Details: MJC-6		L-T-P: 0 – 1 – 8		
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		60		40	

Objectives:

- i. To get acquainted with indigenous games: Kho-Kho and Kabaddi.
- ii. To improve fitness levels by using low-cost Indigenous games.

Outcomes:

- i. Students may develop physical and mental strength through Kho-Kho and Kabaddi practices.
- ii. Students may prepare themselves for Pro-Kabaddi and Kho-Kho as players and officials.

Unit 1 : Kho-Kho: Ground Preparation and Rules

- 1.1 History of Kho-Kho and Controlling Authorities- national and international
- 1.2 Measurement and Layout of Kho-Kho Court- Sub-Junior and Senior, Pro-Kho-Kho
- 1.3 Kho-Kho: Playing surface and equipment
- 1.4 Rules and Officials in Kho-Kho, Pro-Kho-Kho

Unit 2 : Kho-Kho: Skills

- 2.1 Running Skills: Chain Play and Ring Play.
- 2.2 Running Skills: Chain & Ring Mixed Play
- 2.3 Chasing Skills: Sit in the box, Get up from the Box, and Release Kho
- 2.4 Chasing Skills: Pole turn, Pole dive, Tapping, Hammering, and Rectification of foul

Unit 3 : Kabaddi: Ground Preparation and Rules

- 3.1 History of Kabaddi and Controlling Authorities- national and international
- 3.2 Measurement and Layout of Kabaddi Court- Junior and Senior, Pro-Kabaddi
- 3.3 Kabaddi: Playing surface and equipment
- 3.4 Rules and Officials in Kabaddi, Pro-Kabaddi

Unit 4 : Unit-4: Kabaddi: Skills

- 4.1 Skill in Raiding: Touching with hands, Use of Leg-toe touch, Squat leg Thrust,
- 4.2 Skill in Raiding: Side kick, Mule Kick, Arrow fly kick, crossing of baulk, and bonus line
- 4.3 Skill of Holding the Raider: Various Formation and catching from positions
- 4.4 Skill of Holding the Raider: Different catches, Catching Formation, and Techniques.

Guidelines for Evaluation:

Students are expected to prepare a Record Book based on the following data.

1. Drawing of sub-junior and senior Kho-Kho court with Officials.
2. Drawing of sub-junior and senior Kabaddi court with Officials.
3. Drawing of Pro-Kho-Kho and Pro-Kabaddi court with Officials.

Reference:

- Desai, A. (2018). Kho-Kho: A traditional Indian sport. Rupa Publications.
- Gupta, R. (2015). Kho-Kho: Techniques and training. Sports Publications.
- Krishnamurthy, S. (2012). The art of Kho-Kho: Skills and drills. Sports India.
- Sharma, P. (2019). ** *Kabaddi: The sport of strength and strategy. Vikas Publishing.
- Reddy, S. (2016). Kabaddi: Techniques, tactics, and training. Prentice Hall.
- Verma, A. (2014). Understanding Kabaddi: A guide to the sport. Sage Publications.
- Kumar, V., & Singh, R. (2017). Traditional Indian games: An overview. Oxford University Press
- Raj, R. (2013). The essence of traditional Indian sports. Cambridge University Press.
- Patel, M. (2020). Indian indigenous games: History, rules, and cultural impact. Routledge.

MINOR COURSE - 4

Course Name: Technology and Management in Exercise and Sports

Course Code: BAPEDMN401

Course Type: Minor (Theoretical)	Course Details: MNC-4		L-T-P: 4 – 1 – 0		
Credit: 5	Full Marks: 100	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
			30		70

Objectives:

- i. Students may understand the application of technology in exercise and sports.
- ii. To educate students about management skills application in exercise and sports.

Outcomes:

- i. Students may be able to efficiently apply technology in exercise and sports.
- ii. Mental setup would be ready for exercise and sports management in service sectors

Unit 1 : Technologies in Exercise and Sports-1

- 1.1 Technology in Exercise and Sports: Concept, Role of Technology in Exercise and Sports
- 1.2 Technology used during Exercise and Sports Training: Smart Watch, Goggles, Sensor-enabled Shoes
- 1.3 Technology used during Exercise and Sports Training: Full Body Suits, Helmets. Heart Rate Monitors, and Sleep Trackers.
- 1.4 Tracking Technology: Global Positioning System (GPS), Local Positioning System (LPS), Velocity Based Training (VBT)

Unit 2 : Technologies in Exercise and Sports-2

- 2.1 Technology used in Live Sports: Bird's Eye View, Edge Detection, Decision Review System (DRS), Wind Gauges, Timing Equipment
- 2.2 Technology used in Live Sports: Hawk Eye Technology, Goal Line Technology (GLT), Laser technology, Video Assistant Referee (VAR), Cognitive Training Technology
- 2.3 AI: Concept, Application, Merits and Demerits. Data analytics and its applications in exercise and sports.
- 2.4 e-Sports: Concept, Application, Merits and Demerits. Data analytics and its applications in exercise and sports.

Unit 3 : Management of Exercise and Sports Facilities

- 3.1 Indoor facilities (Exercise Hall and Gymnasium): Importance, care, and maintenance. Characteristics of standard exercise hall and gymnasium.
- 3.2 Outdoor facilities (Playfields): Importance, care, and maintenance. Characteristics of standard Playfields.
- 3.3 Exercise and Sports Equipment: Care, maintenance, and safety measures.
- 3.4 Lay-out of Play-fields: Football, Volleyball, Basketball, Cricket, and Badminton

Unit 4 : Exercise and Sports Event Management

- 4.1 Competition and Cooperation: Match and Tournaments
- 4.2 Types of Tournaments: Procedure of drawing fixture Knock-out, League, and, Combination tournament.
- 4.3 Organizing Competitions: Play Day, Intramural, Extramural competition, Annual Sports Meet
- 4.4 Event Planning: Pre-event and post-event plan, Event management, Budget preparation

Reference:

- Kottler, J. A., & Pappas, J. L. (2020). Sport management: Principles and applications*. Routledge.
- Masteralexis, L. P., Barr, C. A., & Hums, M. A. (2015). Principles and practice of sport management (5th ed.). Jones & Bartlett Learning.
- Smith, A. C. T., & Westerbeek, H. M. (2022). Strategic sport management*. Routledge.
- Weese, W. J. (2019). Managing sport organizations: Responsibilities and practices (3rd ed.). Routledge.
- Pedersen, P. M., & Thibault, L. (2019). Contemporary sport management (6th ed.). Human Kinetics.
- Krebs, M., & McLean, R. (2020). Technology in sports: A comprehensive overview. Springer.
- Hargreaves, T., & Borys, S. (2021). Wearable technology in sports: From theory to practice. Routledge.
- Hughes, M., & Bartlett, R. (2012). Notational analysis of sport: Systems for better coaching and performance in sport (2nd ed.). Routledge.
- Gabbett, T. J., & Domrow, N. (2018). Science and practice of sports training. Human Kinetics.
- Crisp, J., & Heale, R. (2021). The use of analytics in sports: A guide to advanced methods and technologies. Wiley.
- Schwarz, M., & Schwartz, L. (2017). Sports technology and the future: Innovations for enhancing performance. Springer.
- O'Donoghue, P. (2018). Research methods for sports studies (3rd ed.). Routledge.

SKILL ENHANCEMENT COURSE - 3

Course Name: Gym Exercises and Gymnastics

Course Code: BAPEDSE401

Course Type: Skill Enhancement (Practical)	Course Details: SEC-3		L-T-P: 0 – 0 – 6		
Credit: 3	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		30		20	

Objectives:

- i. To get acquainted with gym exercises
- ii. To develop fitness skills with the help of basic gymnastics.

Outcomes:

- i. Students will be able to perform different floor exercises of gymnastics.
- ii. Students will be able to understand the concepts of coordination, balance, center of gravity, etc.

Unit 1 : Gym exercises- 1

- 1.1 Free-hand exercises
- 1.2 Exercise with your own body weight and partner's weight
- 1.3 Indian exercises: Don, Baithak, and Surya namaskar
- 1.4 Exercise with movable and immovable equipment

Unit 2 : Gym Exercises- 2

- 2.1 Exercise with the medicine ball
- 2.2 Exercise with Swiss ball
- 2.3 Exercise with bands and ribbons
- 2.4 Exercise with music

Unit 3 : Basic Gymnastics

- 3.1 Forward roll, Backward roll, Split Forward roll
- 3.2 T-balance and Cartwheel
- 3.3 Handstand and Forward roll- with and without support
- 3.4 Jump and landing techniques

Reference:

- Kraemer, W. J., & Ratamess, N. A. (2012). Fundamentals of resistance training: Progression and exercise prescription. In *Essentials of Strength Training and Conditioning** (4th ed., pp. 379-404). Human Kinetics.
- Thompson, W. R. (Ed.). (2019). *ACSM's guidelines for exercise testing and prescription* (11th ed.). Wolters Kluwer.
- Schoenfeld, B. J. (2016). Science and development of muscle hypertrophy. Human Kinetics.
- Morris, J., & Schultz, D. (2018). *The ultimate guide to strength training for sports*. Hachette Books.
- McGill, S. M. (2016). *Low back disorders: Evidence-based prevention and rehabilitation* (3rd ed.). Human Kinetics.
- Graham, G., Holt/Hale, S. A., & Parker, M. (2013). *Children moving: A retooled developmentally based physical education curriculum* (9th ed.). McGraw-Hill Education.
- Kathy, M. (2017). *Gymnastics: Skills, techniques, and coaching*. Sports Publishing.
- Green, T. (2014). *Fundamentals of gymnastics: An introduction*. Routledge.
- Sullivan, R. (2019). *The complete guide to gymnastics training: Tips and techniques for all levels*. Human Kinetics.
- Mitchell, R., & Brown, D. (2015). *Competitive gymnastics: Coaching and training practices*. Springer.
- Hoffman, J. R. (2021). *Norms and measures for physical fitness*. CRC Press.
- Baechle, T. R., & Earle, R. W. (Eds.). (2008). *NSCA's Essentials of Personal Training*. Human Kinetics.

VALUE-ADDED COURSE - 3

Course Name: Integrated Self Defense

Course Code: VAC408

Course Type: Value-added (Practical)	Course Details: VAC-2		L-T-P: 0 – 1 – 6		
Credit: 4	Full Marks: 50	CA Marks		ESE Marks	
		Practical	Theoretical	Practical	Theoretical
		30		20	

Objectives:

- i. To prepare students for self-protection.
- ii. Students will learn physical and mental strength endurance.

Outcomes:

- i. Students may motivate themselves for regular self-defense practice.
- ii. Students may take this knowledge and experience to the greater society.

Unit 1 : KARATE

- 1.1 Warming-up: General and Specific, Fundamental Skills: Hand and leg position
- 1.2 Player Stances: Front leaning, Balance, Walking, Side-fighting.
- 1.3 Hand Techniques: Punches (straight punch, reverse punch), Blocks (eight basic)
- 1.4 Leg Techniques: Snap kicks, stretching straight leg, thrust kick, sidekicks, roundhouse.

Unit 2 : TAEKWONDO

- 2.1 Warming-up: General and Specific
- 2.2 Fundamental Skills: Walking, extending walking, L stance, cat stance.
- 2.3 Punches: Sitting stance punch, single punch, double punch, triple punch, front-fist punch, rear-fist punch.
- 2.4 Foot techniques (Balgisul): Standing kick (soseochagi), Front kick (AP chagi), Arc kick (Bandal Chagi), Sidekick (Yeop Chagi), Turning kick (Dollyo Chagi), Back kick (Twit Chagi), Reverse turning kick (Banda Dollyo Chagi), Jump kick (Twimyo Chagi).

Unit 3 : Raibenshe

- 3.1 Hand exercise: One hand, Two hands, Combined hands
- 3.2 Leg exercise: One leg, Two legs, and Combined legs

- 3.3 Whole-body exercise: Front side, Back side, and Combined
- 3.4 Exercise with equipment: Mugur, Lathi, and Ranpa

Reference:

- Funakoshi, G. (2009). *Karate-do: My way of life*. Kodansha International.
- Nakayama, H. (1999). *Best Karate: Comprehensive illustrated guide to basic techniques*. Kodansha International.
- Clausen, D. (2017). *The complete Karate handbook: Techniques, tactics, and strategies*. Tuttle Publishing.
- Lee, H. (2016). *Taekwondo: The essential guide*. Tuttle Publishing.
- Lee, K. H., & Uhm, H. (2020). *Taekwondo: The Korean martial art*. Black Belt Books.
- Kwon, B. (2018). *Taekwondo: A step-by-step guide*. Paladin Press.
- Mohan, R. (2014). *Indian martial arts: Traditions and practices*. Arya Publishing House.
- Sharma, P. (2015). *The art of Indian martial systems: A guide to traditional practices*. Vikas Publishing.
- Srinivasan, R. (2017). *Traditional Indian martial arts: History and practice*. Wisdom Publications.
- Raj, A. (2020). *Raibenshe: Techniques and traditions of a forgotten martial art*. Lotus Press.
- Verma, S. (2019). *Martial arts of India: A comprehensive guide*. Penguin India.