

DIPLOMA IN FITNESS MANAGEMENT

Syllabus

Program Code: **BU-DL-FM-02**



2025 – 2026 Onwards

BHARATHIAR UNIVERSITY

(A State University, Accredited with “A++” Grade by NAAC,

46 Ranked among Indian Universities by MHRD-NIRF,

Coimbatore - 641 046, Tamil Nadu, India

BHARATHIAR UNIVERSITY: COIMBATORE 641046
DEPARTMENT OF PHYSICAL EDUCATION

VISION

Bestow globally comparable quality education on youth, embodied with character building, to invoke the University's motto "Educate to Elevate" and uphold the secular ideals of the nation as envisioned by Mahakavi Subramania Bharathiar.

MISSION

- To be innovative and inclusive, committed to excelling in teaching, research and knowledge transfer and to serving the social, cultural and economic needs of the nation.
- To innovate and offer educational programmes in various disciplines through synergistic interaction with the industry and society.
- To impart knowledge and skills and to provide a learning environment to acquire attitudes to students and equip them to face the emerging challenges of the knowledge era.
- To provide equal opportunity to women students, differently abled, and minorities and prepare them to be equal partners in accomplishing the scientific and technological demands of the nation.
- To contribute to the advancement of knowledge through applied research leading to newer products and processes.
- To prepare the students to work for societal transformation with a commitment to justice and equality and emerge as job providers.
- To inculcate in students a global vision with skills of international competence.

TITLE OF THE PROGRAM

Diploma in Fitness Management

DURATION

- **Minimum Duration:** One year
- **Maximum Duration:** Two year (with provision for Re-registration if required)

CREDIT DISTRIBUTION

- **Total Credits:** 40 credits (as per UGC credit framework)

ELIGIBILITY

10 +2 (Higher Secondary) without 10, +12 but age should be 20 years or above.

MEDIUM OF INSTRUCTION

Medium of Instruction is English. However the learners are permitted to write the Continuous Internal Assessment and End Semester Examination in English.

MODE OF LEARNING

Open and Distance Learning (ODL)

The programme shall be conducted through remote learning using a blend of print and digital learning materials, supplemented by occasional Personal Contact Program (PCP) sessions to facilitate learner interaction and academic support.

FEES STRUCTURE

Fee structure as approved by the Centre for Distance and Online Education, Bharathiar University, Coimbatore.

ATTENDANCE (ODL)

Particulars	Requirement for Diploma Programme
Number of Personal Contact Programs (PCPs)	20 PCPs
Duration	6 hours per PCP
Total Contact Hours	12 hours per course (120 hours)
Total study hours of learners	1200 hours
Mandatory Participation	75% in each course

REQUIREMENT TO APPEAR FOR THE EXAMINATIONS

A candidate enrolled for the programme must have the minimum period of attendance in theory and practical classes prescribed to appear for the examinations with the fees prescribed and fulfills all other conditions stipulated from time to time.

CONDITIONS TO APPEAR FOR THE EXAMINATIONS

The learner appearing for the examination for the first time should register for all the course by remitting the fee

ODL

- **First Appearance:** Learners appearing for the examination for the first time shall register for all the prescribed courses of that semester by remitting the requisite examination fee.
- **Examination Centre:** Learners must specify their preferred examination centre in the examination application form. Once selected, the examination centre cannot be changed under any circumstances.

- **E-Hall Ticket:** Learners shall download their E-Hall Tickets from the University website and obtain the signature of the Chief Superintendent of the opted examination centre upon submission of their valid identity card. This process must be completed during the three working days preceding the commencement of the examinations.

EVALUATION PATTERN

a. Distribution of Marks in Continuous Internal Assessments (CIA): 25% weightage

The following procedure shall be followed for awarding internal marks for theory courses.

• Continuous Internal Assessment (CIA) Test	- 10 marks
• Assignment	- 5 marks
• Seminar	- 5 marks
• Participation	- 5 marks
Total	- 25 marks

1. CIA Test and question pattern :

Two Continuous Internal Assessments (CIA-I & CIA II) must be conducted. Better of the TWO will be counted for Test Marks (10 Marks)

- Section A – Objective Question $5 \times 1 = 5$ marks
- Section B – Short Essay (2 out of 3) $2 \times 5 = 10$ marks
- Section C – Essay Type (Either or type) $1 \times 10 = 10$ marks

2. **Assignments – I and II.** Better of the TWO will be counted for Assignment Marks (5 Marks)

3. **Seminar** will be conducted for 5 Marks.

4. **Participation** (which includes attendance) – 5 Marks

b. **Practicals (4 Credits)** – At the end of Second Semester

- Practical (100 marks) - **Internal – 50 marks & External – 50 Marks**

c. **End-Semester Examination (ESE): 75% weightage**

ODL Mode and Duration of Examinations

1. **Mode of Examination:** All examinations shall be conducted offline at designated physical locations such as the University campus or approved Learner Support Centres (LSCs), under the supervision of duly appointed invigilators and as per the fixed examination schedule notified by the University.
2. **Duration:** Each examination shall be of three (3) hours' duration, covering both theoretical concepts and their practical applications.

Distribution of marks in the End-Semester Examination - Question Paper Pattern:

Section	Type of question	No. of questions	Marks	Total
A	Objective Question	10 (Compulsory)	1	10
B	Short Essay (300 words each)	3 out of 5	5	15
C	Essay Type (1000 words each)	5 Questions (Either or Type)	10	50
Total				75

d. Passing Criteria:

- Minimum 40% passing marks (Internal + External) in each course.
- Minimum 40% passing marks in practical / project component
- Aggregate of 40% marks required for successful completion of the diploma programme.

e. Grading System : (As per 10-point UGC Credit Framework)

The following table gives the marks, grade points, letter, grades and classification to indicate the performance of the candidate.

For the entire programme:

- $CGPA = \frac{\text{Sum of the multiplication of grade points by the credits of the entire programme}}{\text{Sum of the credits of the courses for the entire programme.}}$

$$\text{Cumulative Grade Point Average [CGPA]} = \frac{\sum n \sum i C_{ni} G_{ni}}{\sum n \sum i C_{ni}}$$

RANGE	CGPA	Grade	Classification of Result
95-100	9.5-10.0	O+	First Class- Exemplary*
90-94	9.0 and above but below 9.5	O	
85-89	8.5 and above but below 9.0	D++	First Class with Distinction*
80-84	8.0 and above but below 8.5	D+	
75-79	7.5 and above but below 8.0	D	
70-74	7.0 and above but below 7.5	A++	First Class
65-69	6.5 and above but below 7.0	A+	
60-64	6.0 and above but below 6.5	A	
55-59	5.5 and above but below 6.0	B+	Second Class
50-54	5.0 and above but below 5.5	B	
45-49	4.5 and above but below 5.0	C+	Third Class
40-44	4.0 and above but below 4.5	C	
0-39	0.0 and above but below 4.0	U	Re-appear

- a. A candidate who has passed all the courses in the first appearance within the prescribed duration of the diploma programmes and secured a CGPA of 9 to 10 and equivalent grades “O” or “O+” in Core and Project courses shall be placed in the category of “**First Class – Exemplary**”.
- b. A candidate who has passed all the courses in the first appearance within the prescribed duration of the Diploma programmes and secured a CGPA of 7.5 to 9 and equivalent grades “D” or “D+” or “D++” in Core and Project courses shall be placed in the category of “**First Class with Distinction**”.
- c. A candidate who has passed all the courses of the Diploma programmes and secured a CGPA of 6 to 7.4 and equivalent grades “A” or “A+” or “A++” in Core and Project courses shall be declared to have passed in “**First Class**”.
- d. A candidate who has passed all the courses examination of the Diploma programmes and secured a CGPA of 5.0 to 5.9 and equivalent grades “B” or “B+” in Core and Project courses shall be declared to have passed in “**Second Class**”.
- e. A candidate who has passed all the courses examination of the Diploma programmes and secured a CGPA of 4.0 to 4.9 and equivalent grades “C” or “C+” in Core and Project courses shall be declared to have passed in “**Third Class**”.

BHARATHIAR UNIVERSITY: COIMBATORE 641 046**Department of Education – University Department***(For the students admitted during the academic year 2025-2026 onwards)***PROGRAMME STRUCTURE**

Course Code	Title of the Course	Credits	Hours		Maximum Marks		
			Theory	Practical	CIA	ESE	Total
FIRST SEMESTER							
25DFM101	Basic concepts of fitness	4	12	--	25	75	100
25DFM102	Introduction to the human body functions	4	12	--	25	75	100
25DFM103	Kinesiology and injury management	4	12	--	25	75	100
25DFM104	Health and fitness management	4	12	--	25	75	100
25DFMP101	Practical	4	--	12	50	50	100
Total for first semester		20	48	--	150	350	500
SECOND SEMESTER							
25DFM201	Measurement and evaluation in fitness	4	12	--	25	75	100
25DFM202	Methodology of fitness training	4	12	--	25	75	100
25DFM203	Fitness equipments management	4	12	--	25	75	100
25DFM204	Nutrition and weight management	4	12	--	25	75	100
25DFMP201	Practical	4	--	12	50	50	100
Total for second semester		20	48	--	150	350	500
Grand Total		40	108	12	275	725	1000

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

These are broader goals describing what graduates are expected to achieve a few years after completing the diploma — typically in their professional careers, community roles, and lifelong learning. The graduates will	
PEO1	Become professionally qualified and skilled fitness trainers, coaches, and managers capable of designing and conducting safe, effective, and science-based fitness programs.
PEO2	Engage in continuous professional development, research, and lifelong learning to stay updated with evolving fitness science and management practices.
PEO3	Promote inclusion, equity, and wellness by creating accessible fitness opportunities for individuals of all ages, abilities, and backgrounds.
PEO4	Demonstrate ethical conduct, professionalism, and commitment to health, safety, and well-being in fitness and wellness settings.
PEO5	Actively contribute to community health promotion and awareness through outreach and fitness education programs.
PEO6	Support national health and fitness initiatives by encouraging physical activity, disease prevention, and lifestyle modification.
PEO7	Adapt to emerging trends, technologies, and methodologies in the fitness, wellness, and sports industry.
PEO8	Apply appropriate tools and techniques of assessment and evaluation to monitor progress and effectiveness of fitness programs.
PEO9	Understand the interrelationship between home, fitness centers, and community in promoting sustainable health and physical activity habits.
PEO10	Recognize the role of fitness education in a changing society and contribute to holistic physical, mental, and social development.
PEO11	Understand the principles and approaches of curriculum and program development in physical fitness and wellness training.
PEO12	Undertake field-based projects, research, and action-oriented studies to improve fitness and wellness practices in various settings.

PROGRAMME OUTCOMES (POs)

Program outcomes reflect the expected knowledge, skills, and attitudes of graduates.	
PO1	Demonstrate understanding of individual physical development and adapt fitness programs to diverse client needs.
PO2	Apply appropriate training methods and techniques for various fitness levels and populations.
PO3	Design, plan, and implement evidence-based fitness programs using exercise science knowledge.
PO4	Use fitness assessment tools to evaluate client progress and provide constructive feedback.
PO5	Integrate technology (wearables, apps) to enhance client engagement and training outcomes.
PO6	Promote inclusive fitness for clients with diverse backgrounds and special health conditions.
PO7	Maintain safe, motivating fitness environments supporting physical and wellness development.
PO8	Exhibit ethical practices, professional conduct, and client safety responsibility.
PO9	Communicate effectively with clients, staff, and community for collaborative fitness programs.
PO10	Engage in continuous professional development to address fitness industry trends.
PO11	Participate in community wellness initiatives contributing to public health.
PO12	Adopt innovative fitness practices through inquiry and experimentation.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PROGRAM SPECIFIC OUTCOMES (PSOs)	
The Specific teaching and classroom-related outcomes tied to the D.P.Ed curriculum are	
PSO1	Design and deliver client-friendly fitness programs covering core components such as strength training, cardio, flexibility, and functional fitness.
PSO2	Facilitate the development of foundational fitness competencies aligned with national health guidelines (Fit India, POSHAN Abhiyaan).
PSO3	Employ play-based, activity-based, and experiential training approaches to make fitness enjoyable and sustainable.
PSO4	Develop and use low-cost, locally relevant fitness equipment and training materials to enhance accessibility and engagement.
PSO5	Identify and address the fitness needs of clients with diverse abilities, ages, and health conditions, including special populations.
PSO6	Use fitness assessments for continuous monitoring of client progress and provide constructive feedback for improvement.
PSO7	Implement training protocols to develop fundamental movement skills and fitness components (strength, endurance, flexibility, balance).
PSO8	Engage with clients' families and communities to support sustainable fitness habits and lifestyle changes.

PSO9	Promote health awareness, injury prevention, and respect for individual fitness diversity among clients.
PSO10	Demonstrate leadership qualities and teamwork in fitness centers, gym management, and community wellness programs.
PSO11	Understand concepts and approaches of fitness curriculum and program development for various training settings.
PSO12	Conduct practical fitness research projects and case studies to improve training effectiveness and client outcomes.

FIRST SEMESTER

Course code	25DFM101	TITLE OF THE COURSE	Credits	PCP Hours	Study hours of Learners
Core paper		BASIC CONCEPTS OF FITNESS	4	12	120
Pre-requisite		The Students must have Knowledge in basic concepts of fitness	Syllabus Version	1	
Course Objectives					
The main objectives of this course are : • CO1: To understand the definition, dimensions, and significance of physical fitness, wellness, and health. • CO2: To identify various components and categories of fitness and their application through training technologies. • CO3: To analyze the factors influencing fitness and apply suitable exercise types for different conditioning goals. • CO4: To design safe and effective fitness programs considering environmental and individual factors. • CO5: To develop self-management skills and adopt healthy lifestyle behaviors for lifelong wellness					
Expected Course Outcomes:					
On the successful completion of the course, student will be able to					
1	Describe the meaning, dimensions, and benefits of fitness and wellness.			K4	
2	Explain the categories and components of health- and performance-related fitness.			K2	
3	Apply knowledge of exercise types and influencing factors to improve physical fitness.			K3	
4	Explain principles for developing and managing individualized fitness programs.			K2	
5	Demonstrate understanding of self-management and behavioral strategies for a healthy lifestyle.			K2	
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create					
BLOCK 1	FITNESS FUNDAMENTALS				
Definition and meaning of fitness- Dimensions of fitness–Relationship between fitness / Wellness and Health - Benefits of Fitness – Role of Fitness among various populations and age groups – Misconceptions about fitness- National solutions for fitness problems					
BLOCK 2	FITNESS CATEGORIES				
Categories of fitness :health Related fitness – Components of Health Related Fitness –Muscular strength and Endurance- Flexibility –Cardio-respiratory endurance-Body competitions. Motor Related –Performance related fitness components-Speed, strength –Endurance-Agility – Power –co-ordination – reaction time. Eight Technology of Training :- Weight training –resistance training psychological techniques –therapeutic modalities –medical support – Skill Training- Dietary manipulation Technique – Nutrition supplementation					

BLOCK 3	INFLUENCING FACTORS
Factors influencing fitness –(Age - Sex – Climate – Diet – Exercise and training-Types of exercises used up in fitness -Aerobic -Anaerobic -Isometric – Isotonic- Isokinetic- Stretching - Agility - Balancing - Types of exercise programming for -Aerobic Conditioning - Strength - Resistance Training –Suppleness and Speed Conditioning .	
BLOCK 4	PROGRAM PREPARATION
Preparing for fitness programme – General Guideline of Fitness programme. Facts to consider before beginning physical activity - During physical activity – Physical activity in the heat , cold and other environments	
BLOCK 5	SELF-MANAGEMENT SKILLS
Using self management skills to adhere to Healthy life style behaviors changing - Life style to promote healthy life- Record keeping –planning meals and snacks –Establish support system-Behavior as well as out come oriented goals - Avoiding self –Defecting behaviors –Designing a Record system changing unhealthy eating Pattern – committing to life large maintenance. – Theories and models Associated with Healthy lifestyle Adaptation.	
Text Book(s)	
1	Study Material Prepared by Centre for Distance and Online Education, Bharathiar University, Coimbatore
Reference Books	
1. Havley E. T. and Franks B . D. (1997) Health Fitness instructions handbook . Third edition . Human kinetics Champaign Illinois . 2. Carry Egger , Nigel champion and Allan Bolton compiled buy the fitnessheader’s handbook A& C black London . 3. Thompson C.W. and R.T. Floyd (1994) manual of structural Kinesiology . Twelfth edition . Human kinetics, Champaign Illinois 4. Uppal . A.K. (2004) Physical Fitness and Wellness Friends publications India. 5. Kumar . R., Meenal Kumar. Dr (2004) Guide to total Fitness or body andmind. 6. Gordon Edlin, Eric Golanty ., Kelli McCormack Brown(1997) Essentials for Health and Wellness. 7. De Vries Herbert (1962) : “Evaluation of static stretching procedures for improvement of flexibility” : Research Quarterly , May . 1962 8. Fukuchima Sho (1980) : “ Physical Conditioning “, International Gymnast, May. 9. Fox E : Physical Training methods and effects , 1971 , Orthop, Clin. N.Am . 8(3), 545. 10. Chopra , R.L. (1983) : “ Socio – Economic aspects of physical fitness,” Report and papers on orientation course inscientific aspects of physical fitness. 11. Gordon Edlin, Eric Golanty ., Kelli McCormack Brown(1997) Essentials for Health and Wellness.	
Course Designed By:	
1. Dr.M. Rajkumar Professor & Head , Department of Physical Education, Bharathiar University, CBE 2. Dr.G. Kumaresan Professor, Department of Physical Education, Bharathiar University, CBE	
Web link:	
https://acsm.org/wp-content/uploads/2025/01/acsms-complete-guide-fitness-health-sample-download.pdf https://www.topendsports.com/fitness/components.htm https://wellness.osu.edu/sites/default/files/documents/2021/05/9%20Dimensions%20of%20Wellness%20Digital.pdf	

MAPPING WITH PROGRAMME OUTCOMES										
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	S	S	S	S	S	S	M
CO2	S	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	M	S	S	S	S	S
CO4	S	M	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	M	S	M

***S-Strong; M-Medium; L-Low**

Course code	25DFM102	TITLE OF THE COURSE	Credits	PCP Hours	Study hours of Learners
Core paper		INTRODUCTION TO THE HUMAN BODY FUNCTIONS	4	12	120
Pre-requisite		The students must have Knowledge about introduction to the human body functions	Syllabus Version	1	
Course Objectives: By the end of this course, the students will be able to:					
• CO1: To understand the structural organization of the human body and its functional units. • CO2: To explain the structure and function of major body systems such as circulatory and respiratory systems. • CO3: To identify the processes involved in digestion, absorption, excretion, and temperature regulation. • CO4: To gain knowledge of endocrine glands and their hormonal functions. • CO5: To understand the structure and functions of the nervous system and mechanisms of neural control.					
Expected Course Outcomes:					
On the successful completion of the course, student will be able to					
1	Describe the structural levels of organization in the human body.			K4	
2	Explain the structure and functions of circulatory and respiratory systems.			K3	
3	Apply knowledge of digestive and excretory processes in maintaining body functions.			K3	
4	Explain the location and hormonal roles of major endocrine glands.			K5	
5	Describe the functional divisions and control mechanisms of the nervous system.			K2	
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create					
BLO CK 1	CONSTRUCTIONAL UNITS OF THE HUMAN BODY				
Constructional Units: Structure and properties of cell-Tissues –Organs- Systems. Frame work of human body-classification of bones-Axial skeleton –Appendicular skeleton and their function-Classification of Joints: Ball and socketjoint–Hinge joint–Gliding joint –Pivot joint – Saddle joint – Condylloid joint.					
BLO K 2	OPERATIONAL LINES OF THE BODY				
Operational Lines: Circulatory system – Structure and function of the Heart circulation of Blood- Systemic circulation – Pulmonary circulation- portal circulation–Coronary circulation –Blood pressure – pulse.Respiratory system: Respiratory Passage-Structure and function of the lungs –Exchange of Gases –Mechanism of respiration.					
BLO CK 3	DIGESTION AND EXCRETION				
Digestion and Excretion: structure and functions of digestive system –Juices secreted in the digestive system - Process of digestion and absorption. Excretory system – Skin - Structure and function of skin - Heat and water formation – Role of skin in water and hear removal .structure and function of kidneys.					

BLO CK 4	ENDOCRINE SYSTEM
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Endocrine system –Location and function of the endocrine glands-Pituitary – structure and function of pituitary gland – Thyroid and function of Thyroid gland – Para thyroid and Function of parathyroid gland-Adrenal gland-Sex Glands Islands of Langerhons.

BLO CK 5	COMMUNICATION LINES (NERVOUS SYSTEM)
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Communication line : Nervous system –Structure and function control nervous system –Brain structure – Functions of the various parts of the brain-cerebrum-cerebellum, medulla oblongata – Autonomic Nerve system –para sympathetic and sympathetic Nerve system –Reflex arc –Reflex action.

Text Book(s)

1	Study Material Prepared by Centre for Distance and Online Education, Bharathiar University, Coimbatore
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Reference Books

1. Pearce Ecelyn C. Anatomy and physiology for Nurses, Oxford University press, Kolkatta 1978.
2. Donnelly, Joseph.E. 1990 Living Anatomy, Champaign, Illinois; Kumaran Kinetic books.
3. William Peter. L. Gray's Anatomy. Edinburgh; Churchill livingstone 1980.
4. Charles M. Tipton, ACSM'S Advanced Exercise Physiology, www.acsm.org, Lippincoh williams & Wilkins
5. Lany G. shower(1981) Essentials or Exercise physiology, subject publication
6. Costill, D.L ., Coyle , E.G . Fink , W.F., Lesmese, G.R and Witzmann, F.A(1979) : “ Adaptations in skeletal muscle following strength training ,” J.Appl.Physiol. 46 – 96 .
7. Clarke David, H. (1975) ; Exercise physiology , Prentice Hall inc., Engle wood cliffs , New Jersy.
8. Bass, A.L.: Treatment of muscle , tendon and minor joint injuries in sport, Proc, Roy,Soc .Med., 62,920,1969.
9. Stanley P, Brown, Wayne K. Miller. Jane M. Eason (1978) Exercise physiology basic of Human movement in health and disease.
10. Scott .K. (1976) Powers Edward T. Howley Exercise Physiology theory and- 2007-08

Course Designed By:

1. Dr.M. Rajkumar Professor & Head , Department of Physical Education, Bharathiar University, CBE
2. Dr.G. Kumaresan Professor, Department of Physical Education, Bharathiar University, CBE

Web link:

<https://openstax.org/books/anatomy-and-physiology-2e/pages/1-2-structural-organization-of-the-human-body> ,
[https://bio.libretexts.org/Bookshelves/Introductory_and_General_Biology/General_Biology_\(Boundless\)/38:_The_Musculoskeletal_System/38.12:_Joints_and_Skeletal_Movement_-_Types_of_Synovial_Joints](https://bio.libretexts.org/Bookshelves/Introductory_and_General_Biology/General_Biology_(Boundless)/38:_The_Musculoskeletal_System/38.12:_Joints_and_Skeletal_Movement_-_Types_of_Synovial_Joints)
<https://courses.lumenlearning.com/suny-ap2/chapter/digestive-system-processes-and-regulation/>
<https://www.pmfias.com/endocrine-glands-hormones-hypothalamus-pituitary-gland-thyroid-gland-adrenal-gland-pancreas/>

MAPPING WITH PROGRAMME OUTCOMES										
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	S	S	S	S	S	S	M
CO2	S	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	M	S	S	S	S	S
CO4	S	M	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	M	S	M

***S-Strong; M-Medium; L-Low**

Course code	25DFM103	TITLE OF THE COURSE	Credits	PC P Hossu rs	Study hours of Learner s
Core paper		KINESIOLOGY AND INJURY MANAGEMENT	4	12	120
Pre-requisite		The Students must have Knowledge about kinesiology and injury management	Syllabus Version	1	
Course Objectives: By the end of this course, the students will be able to:					
CO1: To understand the fundamental principles, positions, planes, and movements in kinesiology. CO2: To identify major skeletal muscles and their roles in human movement. CO3: To apply knowledge of exercise types and techniques in developing fitness programs. CO4: To acquire knowledge about prevention, diagnosis, and management of common fitness-related injuries. CO5: To understand exercise adaptations and injury management strategies for special populations.					
Expected Course Outcomes:					
On the successful completion of the course, student will be able to					
1	Describe the basic concepts, body articulations, and movement mechanics in kinesiology.			K2	
2	Explain the structure, location, and function of major skeletal muscles of the body			K3	
3	Apply principles of different exercise types in practical fitness settings.			K2	
4	Explain causes, prevention, and management of common exercise-related injuries.			K4	
5	Demonstrate understanding of safe exercise and injury management for special populations.			K2	
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create					
BLOCsK 1		INTRODUCTION TO KINESIOLOGY			
Definitions, objectives and need and importance of knowledge of Kinesiology for fitness instructor - major body articulations – structure and functions of articulations- terminology of various types of Fundamental body movement in human- Fundamental position and Kinesiology position – Plains and axis of the body.					
BLOC K 2		MUSCULAR SYSTEM AND MOVEMENT			
Muscles of the head and neck-Muscles of mastication – Muscles of the shoulder Griddle – Muscles of the Arm : upper arm – Fore arm muscles - Muscles of Hand – Muscles of the thorax - muscles of the abdomen - Muscle of the back-Muscles of the Gluteus region - Muscle of the thigh – Muscles of lower case – muscle of ankle and foot.					
BLOCK 3		TYPES AND TECHNIQUES OF EXERCISE			
Types of exercise : Calisthenics exercise – Mobility exercise – Stretching exercise – Static –Dynamic – PNF stretching – strengthening Exercise : - Isotonic – isometric - Isokinetic – Aerobics Exercise – Walking – jogging - Running – Skipping- cycling –swimming - Tread Mill running - Agility exercise co-ordination Exercise-Balancing Exercise –Plyometric exercises..					

BLOCK 4	INJURY PREVENTION AND MANAGEMENT
Need and importance of the study of injuries in the field of fitness. Prevention of injuries during fitness exercise programme. Common Injuries: Diagnosis and management of skin injuries – Abrasion, laceration, blisters -puncher, Muscle injuries : Strain – contusion - muscle cramp. Joint injuries: Sprain – Dislocation (Sub luxation – Luxation) Joint contusion. Bones: - Fracture –Type of fracture –single fracture-compound fracture - complicated fracture – Green stick – Communicated fracture and Impacted fracture. Inflammations and infections.	
BLOCK 5	INJURY MANAGEMENT IN SPECIAL POPULATIONS
Management of injury to the special population - exercise and children – Exercise and older Adults - Exercise and coronary Heart Disease-Exercise and obesity - Exercise and Diabetes - Exercise, Asthma and pulmonary diseases Exercise for pregnancy women – Exercise for back pain.	
Text Book(s)	
1	Study Material Prepared by Centre for Distance and Online Education, Bharathiar University, Coimbatore
Reference Books	
1. Neumann, D. A. (2016). Kinesiology of the Musculoskeletal System-E-Book: Kinesiology of the musculoskeletal 2. Luttgens, Kathryn, Hlega Deutsch and Nncy Hamilton; Kinesiology; Scientific badid of human Dmotion,Dunbuque; IA; W.M.C . Brown communication Inc. 1992. 3. Thimpson, Elern. W. and R.T. Floyd; Manual of structural Kinesiology, St, Louis Morby1994. 4. Prentice, William E. therapeutic Modalities sports medicine , St. Louispublishing 1990. 5. Dr. R.G. Venkara Reddy (2005) Sports injuries Prevention and control 6. Jeffrey K. Riffer(1985) Sports and Recreational injuries. 7. Vivian Grisogono, John Murray (1984) sports injuries A self –help guide. 8. Corrigan, A.B.: Sports injuries , Hosp. Med., 2,1328, 1968. 9. Crompton B.A and Tubes N. (1977) A survey of sports injuries in 10. Brimingham, Br .J.Sports Med.11, 12. 11. Devas , M.B. (1969) TSress fractures in athletes . Proc. R.Soc .Med .62,933. 12. Durbin, F.C.(1957) Fracture dislocation of the cervical spine . J.Bone Joint 13. Surg. 39B, 23	
Course Designed By:	
1.Dr.M. Rajkumar Professor & Head , Department of Physical Education, Bharathiar University, CBE. 2.Dr.G. Kumaresan Professor, Department of Physical Education, Bharathiar University, CBE.	
Web link:	
https://www.google.co.in/books/edition/Kinesiology_of_the_Musculoskeletal_Syste/4GRgDwAAQBAJ?hl=en&gbpv=0 https://link.springer.com/book/10.1007/978-981-16-4991-2 https://www.physio-pedia.com/Cardinal_Planes_and_Axes_of_Movement https://occ-ortho.com/sports-injuries-prevention-treatment-and-recovery-tips/	

MAPPING WITH PROGRAMME OUTCOMES										
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	S	S	S	S	S	S	M
CO2	S	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	M	S	S	S	S	S
CO4	S	M	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	M	S	M

S-Strong; M-Medium; L-Low

Course code	25DFM104	TITLE OF THE COURSE	Credits	PCP Hours	Study hours of Learners
Core paper		HEALTH AND FITNESS MANAGEMENT	4	12	120
Pre-requisite		The students must have Knowledge about health and fitness management	Syllabus Version	1	
Course Objectives:					
CO1: To understand the principles, processes, and importance of management in fitness and sports settings. CO2: To acquire knowledge of programme, facility, equipment, and financial management in fitness organizations. CO3: To apply principles of exercise prescription for aerobic, anaerobic, and endurance training. CO4: To explain the techniques and principles of flexibility and mobility exercise programming. CO5: To understand safety measures, injury prevention, and identification of hazardous exercises in fitness practice.					
Expected Course Outcomes:					
On the successful completion of the course, student will be able					
1	Describe the basic concepts, functions, and principles of fitness management			K4	
2	Explain the organization and financial management of fitness programs and facilities.			K3	
3	Apply exercise prescription principles for aerobic and anaerobic fitness improvement.			K2	
4	Explain flexibility and mobility training methods for various muscle groups and joints.			K2	
5	Demonstrate understanding of safety practices and identification of hazardous exercises.			K2	
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create					
BLOCK 1		INTRODUCTION TO MANAGEMENT AND FITNESS ADMINISTRATION			
The management process: Definition, need .importance and functions of management - principles of management – sports management – categories of sports management- competencies of fitness management – management of fitness centers.					
BLOCK 2		PROGRAMME, FACILITY, AND FINANCIAL MANAGEMENT			
Management of programme, facilities, equipment and supplies. Programme management – instructional management – selection and purchase of equipments – maintenance of equipments and supplies. Financial management – budget organization. Source and methods of fund raising –budget accounting and audits.					
BLOCK 3		EXERCISE PRESCRIPTION AND FITNESS PROGRAMMING			
General guidelines for personal exercise prescription - Personal physical fitness programme – general principle of training – home based fitness programme - Aerobic fitness - Prescription for aerobic exercise – modes of aerobic exercise Aerobic fitness – Increasing your Aerobic endurance- Anaerobic fitness : meaning – Aerobic exercise – Testing your anaerobic fitness - increasing your Anaerobic fitness – combining aerobic and anaerobic					

energy system - Intensity – Duration-frequency – increasing intensity, Duration and frequency – exercise prescription endurance exercises and equipment : Aerobics – agility exercise - Arm ergometry –Aqua aerobics – Aqua Jogging – Bicycling - Rope Jumping – Running machine-Stairs - Stepping machine(Stair master) - Treadmill – versa climber.	
BLOCK 4	FLEXIBILITY AND MOBILITY TRAINING
Prescription for flexibility; principles of flexibility exercise – types of flexibility - Mobility exercise. Mobility exercise of Head and neck - Shoulder griddle - shoulder joint - Elbow joint - wrist joint - Hip joint - knee joint - Ankle joint. Prescription for flexibility: Principles of flexibility exercise Types of flexibility – Flexibility exercise for Head and neck – Shoulder griddle – upper arm muscles – Fore arm muscle – wrist muscle-upper back muscles – lower back muscle – chest muscle - Abdomen - front and Back Thigh muscle –lower leg muscle.	
BLOCK 5	SAFETY AND EXERCISE GUIDELINES
Safe physical activity and exercise – Individual prescription – mas prescription – Guidelines for exercising safely – common Hazardous exercises that can be availed –The Swan – back extension – back arching – donkey kick – Double leg lift – Reverse curl – knee – to – nose – windmill – Neck circling – straight – leg and bent knee- Sit – Ups leg Hag .	
Text Book(s)	
1	Study Material Prepared by Centre for Distance and Online Education, Bharathiar University, Coimbatore
Reference Books	
1. Siedentop Daryl, 1994 Introduction to physical education fitness, and sport,Mayfield publishing company; Mountain, view, California. 2. Williams H. Melvin 1995 Life time fitness and wellness . Brown publications Dubugue. 3. Roy.S.S. 1991, 2002,. Sports Management. Friends Publications (India). 4. Uppal. A.K. (2004) Physical Fitness and Wellness Friends publications India. 5. Jeanette winter son (1986) fit for the future. British Library cataloguing in publication. 6. Mary Baker Eddy (1994) Science and Health with key to the scriptures. 7. Walker, slotlar (1997) Sports Facility Management Jones and Bahled publishers. 8. Edward T. Howley B. Dov Franks (1986) Health Fitness instructor’s Handbook second edition. 9. Gordon Edlin, Eric Golanty,. Kelli McCormack Brown (1997) Essentials for Health and Wellness. Jones and Bartlett Publishers. 10. Anita Bean (1998) Food for Fitness.	
Course Designed By:	
1. Dr.M. Rajkumar Professor & Head , Department of Physical Education, Bharathiar University, CBE. 2. Dr.G. Kumaresan Professor, Department of Physical Education, Bharathiar University, CBE.	
Web link:	
https://mba-esg.in/what-are-the-basic-principles-of-sports-management/ https://www.etsu.edu/exercise-is-medicine/guidelines.php https://sportmedbc.com/article/potentially-harmful-exercises/	

MAPPING WITH PROGRAMME OUTCOMES										
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	S	S	S	S	S	S	M
CO2	S	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	M	S	S	S	S	S
CO4	S	M	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	M	S	M

S-Strong; M-Medium; L-Low

Course code	25DFMP101	TITLE OF THE COURSE	Credits	PCP Hours	Study hours of Learners
Core paper		Practical	4	12	120
Pre-requisite		Learners must have basic knowledge and interest about Fitness	Syllabus Version	1	
BLOCK 1	CALISTHENICS / FREE EXERCISES				
Arm swinging: forward, downward, sideward, circling backward; trunk bending: forward and backward; hopping with leg swinging sideways (hands on hips); arm circles with hops; alternate toe touch; jumping jack; prone alternating arm and leg raises; prone alternating arm raises; pelvic raises; squat thrusts; running in place; push-ups / dips; knee push-ups; bench dips; pull-ups; sit-ups; leg raises; trunk curl-ups; trunk twists; trunk side bends; trunk raises; half squats; squat jumps; inner thigh lift; knee hug					
BLOCK 2	STRETCHING EXERCISES				
Heel cord stretch; adductor stretch; hamstring stretch; quadriceps stretch; chest stretch; trunk rotation and lower back stretch; upper and lower back stretch; triceps stretch; deltoid stretch; internal rotation stretch (shoulder); external rotation stretch (shoulder); piriformis stretch; iliopsoas stretch; upper calf stretch; lower calf stretch; upper back stretch; lower back stretch; forearm and wrist stretch; groin stretch; legs-apart seated hamstring stretch.					
BLOCK 3	FREE WEIGHT EXERCISES				
Barbell exercises: shoulder press, bench press, arm curl, reverse curl, wrist curl, wrist roll, upright rowing, bent-over rowing, bent-arm pullover, straight-arm pullover, triceps extension, good morning, trunk twist, half squat, heel raise, deadlift, hack squat, side bends; Dumbbell exercises: shoulder press, one-arm row, dumbbell fly, dumbbell lunges, squats with dumbbells, dumbbell curl, triceps extension, standing calf raise with dumbbell, dumbbell lateral raise, wrist curl, supination, pronation, inward rotation of the shoulder, outward rotation of the shoulder, shoulder shrug.					
BLOCK 4	WEIGHT MACHINE EXERCISES				
Lat pull-down; low pulley row; pec deck; lateral raise machine; bench press machine; shoulder press machine; leg curl; leg extension; leg press; abdominal crunch machine; hyperextension bench; hip adductor machine; hip abductor machine; hack squat machine; half squat machine; Roman bench; abdominal conditioner; dipping station; chinning (pull-up) station; leg raise station.					
BLOCK 5	AEROBIC TRAINING METHODS – AEROBIC TRAINING EQUIPMENT				
Motorized treadmill, stationary bicycle, stepper, rowing machine, exercycle, double burner, manual treadmill; Aerobic exercises: walking, jogging, running, swimming, bench stepping, skipping, spot running, side stepping.					
Text Book(s)					
1	Study Material Prepared by Centre for Distance and Online Education, Bharathiar University, Coimbatore				
Reference Books					
1. Batman P. and Van Capelle M.(1995) The Exercise Guide to Resistance training . FITAU publications. Australia. 2. Fleck S.J.and Kraemer W.J. (1997) Designing Eesistsnce Training Programs. Second Edition. Human Kinetics, 3. Dick, Frank W. (1980) sports Training Principles. London Lepus Books					
Course Designed By:					
1. Dr.M. Rajkumar Professor & Head , Department of Physical Education, Bharathiar University, CBE. 2. Dr.G. Kumaresan Professor, Department of Physical Education, Bharathiar University, CBE.					

SEMESTER - II

Course code	25DFM201	TITLE OF THE COURSE	Credits	PCP Hours	Study hours of Learners
Core paper		MEASUREMENT AND EVALUATION IN FITNESS	4	12	120
Pre-requisite		The students must have Knowledge about measurement and evaluation in fitness	Syllabus Version		1
Course Objectives: After successful completion of this course, the students will be able to:					
CO1: To understand the concepts, purposes, and significance of tests, measurement, and evaluation in fitness.					
CO2: To acquire knowledge of standardized test batteries for assessing health-related and motor fitness components.					
CO3: To apply appropriate field tests for assessing cardiovascular endurance, muscular strength, endurance, flexibility, and body composition.					
CO4: To interpret fitness test results for effective evaluation and programme planning.					
CO5: To understand procedures, techniques, and precautions in administering fitness assessments.					
Expected Course Outcomes:					
On the successful completion of the course, student will be able to					
1	Describe the meaning, need, and importance of tests, measurement, and evaluation in fitness.				K4
2	Explain major standardized fitness test batteries and their components.				K2
3	Apply suitable test protocols to measure key health- and performance-related fitness parameters.				K3
4	Explain basic methods of scoring and interpreting fitness test results.				K2
5	Describe correct procedures and safety considerations in fitness testing and evaluation.				K5
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create					
BLOCK 1		INTRODUCTION TO MEASUREMENT AND EVALUATION			
Meaning of the terms – tests, measurement and evaluation – need and importance of measurement in the field of fitness – The measurement of fitness – measurement of health fitness (AAHPERD Youth fitness test) Motor – performance fitness (AAHPERD health related physical fitness test - JCR test.					
BLOCK 2		CARDIOVASCULAR FITNESS ASSESSMENT			
Measurement of cardio vascular fitness – cardio vascular Cardio vascular Endurance –meaning and definition – Collagher and Browne Harvard step test – Turtle Pulse ratio test – Cooper’s 12 minutes run and walk test- 1.5 mile run test , 3 minutes step test 1 mile run test PACER Test – 3 Mile walk test Interpretation of Cardio vascular Endurance test.					

BLOCK 3	MUSCULAR STRENGTH AND ENDURANCE TESTS
Measurement of muscular strength and endurance –Strength test – Rogers Strength and physical fitness test – Iso tonic test – pull ups test – Dip strength test –Bench Press test – Sit ups test Bench Squat test – Cross Weber minimum muscular test –Iso Metric Strength test – Tensiometer - Grip dynamometer – Back Leg lift dynamometer. Interpretation of strength test	
BLOCK 4	FLEXIBILITY MEASUREMENT
Measurement of flexibility - factors affecting flexibility – the value of muscular flexibility – flexibility assessment techniques – modified Sit and Reach test Trunk extension test – Shoulder flexibility test – Hip extension test – Angle flexibility test – Knee joint flexibility test and Goniometer – interpretation of the flexibility tests.	
BLOCK 5	BODY COMPOSITION AND POSTURE ASSESSMENT
Body composition assessment – techniques for assessing body composition –Skin fold thickness technique – Body mass index test – Under water weighing machine test – Girth measurement technique – Lean body mass and Ideal body weight determination – New York State posture rating tests, Wood Roof body alignment Test .	
Text Book(s)	
1	Study Material Prepared by Centre for Distance and Online Education, Bharathiar University, Coimbatore
Reference Books	
1. Bosco, James S. & Wolliam F Gustagor,(1983) measurement and evaluation in physical education fitness and sports, Engliwood Cliffe, N J Prentice Hall, Inc., 2. Barrow Harold Mc Rosemary Megce and Kathleen, A. (1989) Tritschler practical measurements in physical education and sports (4 ed) Philadelphia, Lea Febiger. 3. Douglas N. Hastad Alan G. Lacy (1989) Measurement and Evaluation in physical education and exercise science. 4. Gupta. A.K. (2003) Tests Measurement in physical education. Zokeshthani Sports. 5. Edward T. Howley B. Dov Franks(1986) Health Fitness instructor's Handbook second edition. 6. Ted A. Baumgartner, Andrew S. Jackson (1982) Measurement for Evaluation in Physical Education and Exercise Science. 7. Barrow, Harold M. Rosomany (1964) “ A Physical approach to measurement in physical Education”, Philadelphia, Lea and Febiger . 8. Myers Carlton R. and Blesh, Erwon T, (1962) “Measurement in Physical Education”, New York, the Ronald Press Company 9. Hunsicker, Paul A. and Monteyer, Hendry J(1953) ”Applied to test measurement in physical education” New York, prentice Hall. 10. Kay man, Cassidy & Jackson (1968) Methods in physical education, B. Sauders Co.,	
Course Designed By:	
1. Dr.M. Rajkumar Professor & Head , Department of Physical Education, Bharathiar University, CBE. 2. Dr.G. Kumaresan Professor, Department of Physical Education, Bharathiar University, CBE.	

Web link:<https://www.sportzyogi.com/aahper-youth-fitness-test/><https://drbgrpublishations.in/wp-content/uploads/books/Dr.-BGR-ISBN-42.pdf><https://srinathkamineni.com/flexibility-testing/>

MAPPING WITH PROGRAMME OUTCOMES										
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	S	S	S	S	S	S	M
CO2	S	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	M	S	S	S	S	S
CO4	S	M	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	M	S	M

S

S-Strong; M-Medium; L-Low

Course code	25DFM202	TITLE OF THE COURSE	Credits	PCP Hours	Study hours of Learners
Core paper		METHODOLOGY OF FITNESS TRAINING	4	12	120
Pre-requisite		The students must have Knowledge about methodology of fitness training	Syllabus Version		1
Course Objectives:					
CO1: To understand fundamental training principles and their application in fitness programming.					
CO2: To identify various training methods and their specific applications for fitness development.					
CO3: To apply periodisation concepts and planning strategies for effective training cycles.					
CO4: To explain theories and methods of strength development and program design.					
CO5: To demonstrate knowledge of modern resistance training systems and advanced overload techniques.					
Expected Course Outcomes:					
On the successful completion of the course, student will be able to					
1	Describe basic training principles including FITT and 5 Rs for fitness programming.				K3
2	Explain different training methods and their applications for aerobic/anaerobic fitness.				K2
3	Apply periodisation and cycle planning concepts for training program development.				K3
4	Explain strength development methods and weight training program design principles.				K2
5	Describe modern resistance systems and advanced overload techniques in training.				K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create					
BLOC K 1		FUNDAMENTALS OF TRAINING			
Training : Meaning of Training – Basic Principles of training – The FITT principles –Frequency –Intensity –time –type. The five Rs. Principles : - Ranges of motion –Resistance –Repetitions –Rest-Recovery. Basic principles in training – Specificity –overload principal (load Precession —Reversibility. Points on Fitness and Training : Medical chick up, selection of equipment. Breathing regulation selection of right exercise –over training –muscle bounders diet habits.					
BLOC K 2		TYPES OF TRAINING METHODS			
Type of Training Methods : Weight training – Circuit training – Generaltraining –specific circuit internal training-Anaerobic and aerobics sped trainingintensity –Frequency –Density. Fertlek training-polymeric training- cross trainingconcurrent training of various combinations- single bout and multiple bout exercise training – Aerobic training – Intensity –Duration-frequency type of exercise					
BLOC K 3		FITNESS DEVELOPMENT AND PERIODIZATION			
General Fitness and specific fitness –warming up-conditioning exercise-Health habits-Rest –Recreational Needs - Periodisation in training: - Single Periodisation –Double Periodisation and multiple Periodisation. Pre-season, completion season-off season-Factors Determining season-preparation of schedules –planning : Long Term plan-short term plan- macro cycle-meso cycle and micro cycle.					
BLOC K 4		STRENGTH DEVELOPMENT THEORY AND PRACTICE			
Theory and practice of strength development : - Structure –Maximum strength –Elastic strength –Strength endurance – Absolute strength-relative strength –Isotonic- Isometric-Isokinetic training. Designing weight training Programme : Development of strength for static muscle activity –Development of strength for Dynamic muscular activity – Development of strength by eccentric activity –Development of strength by					

Ballistic activities- Development of maximum strength –Development of Elastic strength – Development of strength endurance-Unit construction for strength – Development – Micro cycle construction.

BLOCK 5	MODERN RESISTANCE TRAINING SYSTEMS
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Modern Resistance Training systems :- Constant resistance – Variable resistance –Accommodating resistance – Isotonic Training-Isometric training. Isometric training :- Modern Techniques of over load: Blitting –forced repetitions – cheating-Negative repetition –pre exhaustion –Pyramid training -Superset-Compound repetition-Triple drop.

Text Book(s)

- 1 Study Material Prepared by Centre for Distance and Online Education, Bharathiar University, Coimbatore

Reference Books

1. Batman P. and Van Capelle M.(1995) The Exercise Guide to Resistance training . FITAU publications. Australia.
2. Fleck S.J.and Kraemer W.J. (1997) Designing Resistance Training Programs. Second Edition. Human Kinetics,
3. Dick, Frank W. (1980) sports Training Principles. London Lepus Books
4. Stephen I. Bull (1999) Adherence issues in sports and exercise.
5. Bergstorm, J. Hermansen, L.,Hultmar, E.,and Saltin, B.(1967) “ Diet, Muscle Glycogen and physical Performance”: Acta Physio. Scand. 71, 140.
6. Buskirk, E.R.and H.L Taylor: “maximal Oxygenintake and its relationship to body composition”, J.Applied Physiology, 11: 72-78, 1957.
7. Buskirk, E.R.P.F Lampietro and D.E. Base, “Work Performance after Dehydration: Effects of Physical conditioning and Heat Acclimatization”. J. Appl. Physiology. 12: 189-194, 1958.
8. Bezi, G.Penceri, P., debernadi, M.Villa, R.Arcelli, E.,d’ angelo, L., Arrigoni,E.and Berke ,F (1973) : “Mitochondrial Enzymatic adaptation of skeletal muscle to endurance training “ J.Appl. Physiol. 34.107

Course Designed By:

1. Dr.M. Rajkumar Professor & Head , Department of Physical Education, Bharathiar University, CBE.
2. Dr.G. Kumaresan Professor, Department of Physical Education, Bharathiar University, CBE.

Web link:

https://www.physio-pedia.com/Principles_of_Exercise
<https://www.trainerroad.com/blog/training-periodization-macro-meso-microcycles-of-training/>
<https://www.teachpe.com/training-fitness/training-methods>
<https://hevycoach.com/glossary/strength-conditioning/>

MAPPING WITH PROGRAMME OUTCOMES										
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	S	S	S	S	S	S	M
CO2	S	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	M	S	S	S	S	S
CO4	S	M	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	M	S	M

S-Strong; M-Medium; L-Low

Course code	25DFM203	TITLE OF THE COURSE	Credits	PCP Hours	Study hours of Learners
Core paper		FITNESS EQUIPMENTS MANAGEMENT	4	12	120
Pre-requisite		The students must have Knowledge about fitness equipment’s management	Syllabus Version		1
Course Objectives:					
CO1: To understand fundamental training principles and their application in fitness programming. CO2: To identify various training methods and their specific applications for fitness development. CO3: To apply periodisation concepts and planning strategies for effective training cycles. CO4: To explain theories and methods of strength development and program design. CO5: To demonstrate knowledge of modern resistance training systems and advanced overload techniques.					
Expected Course Outcomes:					
On the successful completion of the course, student will be able to					
1	Describe basic training principles including FITT and 5 Rs for fitness programming.				K3
2	Explain different training methods and their applications for aerobic/anaerobic fitness.				K2
3	Apply periodisation and cycle planning concepts for training program development.				K3
4	Explain strength development methods and weight training program design principles.				K2
5	Describe modern resistance systems and advanced overload techniques in training.				K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create					
BLOCK 1		FUNDAMENTALS OF TRAINING			
Intrastructure facilities of the fitness center:- Construction of fitness centersize- measurements - facilities of floor exercise- facilities of aerobics -facilities for free weight exercise - facilities for Cardiac exercise .- facilities for fitness evaluation facilities for Diet therapy - facilities for medical-aid. Audio-visual facilities – Reception room-Dressing room – facilities showers and toilet					
BLOCK 2		TYPES OF TRAINING METHODS			
Weight Training equipment. Weight plates Barbells – dumbbells –Exercise bikes, treadmills, rowing machines. Skipping ropes, Elastic strap. Weight machines – Advantages of free weights – advantages of machine systems. Weight liftingbarbells and weights power lifting equipments. abdominal board. Push-up plus – steppers – wall – pulley – floor mats, weighted belts.					
BLOCK 3		FITNESS DEVELOPMENT AND PERIODIZATION			
Weight Machines, Bench press, shoulder press, seated bench press. Lat pulldown, leg press, leg extension Heel raise, low pulley - peck duck- Lateral raise- Leg extension- Leg curl- hip adductor- hip abductor- roman bench- preacher curl- Half squat – smith machine – wrist curl -abdominal conditioner – Multi- gym: equipments: Two station Multi gym (with single weight) lat – pull down and low pulley – leg extension and leg curl.					
BLOCK 4		STRENGTH DEVELOPMENT THEORY AND PRACTICE			
Aerobic exercise equipment management: selection, safe setup, operation, intensity monitoring, cleaning, maintenance, troubleshooting, user instruction and safety,-record keeping, and basic budgeting for fitness Centers					

MODERN RESISTANCE TRAINING SYSTEMS

Criteria to be followed in the selection of equipment: - facts about quacks – facts about passive exercise and passive devices – weight belts – nonporous garments – body wraps – Elastic tights – vibrating tables and pillows.

Text Book(s)

- 1 Study Material Prepared by Centre for Distance and Online Education, Bharathiar University, Coimbatore

Reference Books

1. Howley .E.T and Franks B.D. (1997) Health Fitness Instructor's handbook. Third Edition. Human Kinetics, Champaign Illinois.
2. Lindle J. (1995) Aquatic Fitness Professional Mannual. Aquatic Exercise Association, Florida.,
3. Pyke F.S. (1991) Better Coaching – Advanced Coach's Mannual. AustralianCoaching Council.
4. Thomas D. Fathey Gayle Hutchinson, (1992) weight training for women. Mayfield publishing company mountain view, California London.
5. Steven Roy and Richard Irvin, Sports medicine prevention, evaluation management and rehabilitation; New Jersey. Prentice Hlal inc. 1983.
6. Edward T. Howley B. Dov Franks(1986) Health Fitness instructor's Handbook second edition.

Course Designed By:

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4. Dr.G. Kumaresan Professor, Department of Physical Education, Bharathiar University, CBE.

Web link:

https://www.researchgate.net/publication/372951821_Pedagogy_of_Mathematics_Part_I
<https://ncert.nic.in/pdf/focus-group/math.pdf>
https://itpd.ncert.gov.in/mss/course_content/Module%209%20-%20Pedagogy%20of%20Mathematics.pdf

MAPPING WITH PROGRAMME OUTCOMES										
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	S	S	S	S	S	S	M
CO2	S	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	M	S	S	S	S	S
CO4	S	M	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	M	S	M

S-Strong; M-Medium; L-Low

Course code	25DFM204	TITLE OF THE COURSE	Cre dits	PCP Hours	Study hours of Learners
Core paper		NUTRITION AND WEIGHT MANAGEMENT	4	12	120
Pre-requisite		The students must have Knowledge about nutrition and weight management	Syllabus Version		1
Course Objectives:					
CO1: To understand the basic concepts of nutrition, food components, and their role in health and performance.					
CO2: To acquire knowledge of diet planning, supplementation, and nutrition-related problems in fitness and sports.					
CO3: To apply principles of body composition assessment and weight control in fitness management.					
CO4: To explain methods and strategies for safe and effective weight and fat management.					
CO5: To understand the relationship between stress, health, exercise, and the effects of drug use and abuse.					
Expected Course Outcomes:					
On the successful completion of the course, student will be able to					
1	Describe functions of food, major nutrients, and the concept of balanced diet and nutritive value.				K3
2	Explain diet supplementation, modification, and nutrition issues related to training and performance.				K2
3	Apply body composition and weight control concepts using appropriate assessment methods				K3
4	Explain principles and methods of healthy weight and fat management through diet and physical activity.				K2
5	Describe stress management through exercise and the health consequences of drug use and abuse.				K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create					
BLOCK 1		FUNDAMENTALS OF NUTRITION			
Food guide pyramid : Functions of food – composition of food : Carbohydrate, proteins - fats - Vitamins- Minerals-Water-Fast food-Vegetarian Diet-Balance diet - Nutritive values of food stuffs. Nutrition During Training-Recommended: Dietary allowance and daily values. Nutrient analysis.					
BLOCK 2		DIET SUPPLEMENTATION AND DISORDERS			
Diet supplementation, diet modification. Eating disorders – diet and metabolism – High fat Diet – Carbohydrate or Glycogen loading – Weight control for weight matched competitions – abuses of starvation, growth arrest and dehydration.					
BLOCK 3		BODY COMPOSITION ASSESSMENT			
Body Composition and Weight Control : Over weight – Over fat - Obese- Physiological effects of being over weight - methods of determining estimated percent body fat: Skin fold test - Body mass index - waist to Hip ratio –Hydrostatic weighting – Grith measurement technique Electrical Impedance method – Weight control fads and fallacies - body warps - Diet pills and Aids –Diet programming- Fasting.					

BLOCK 4	WEIGHT MANAGEMENT STRATEGIES
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Methods of weight management : Principles of weight management and fat control: Diet and fat control – physical activities - Combination of physical activity and diet control. Keeping records of caloric expenditure of various physical activities.

BLOCK 5	STRESS MANAGEMENT AND SUBSTANCE ABUSE
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Stress and Tension : Meaning - sources and appraisal of Stress and Tension – Stress management Techniques –Exercise and stress -Physical activity for stress reduction-relationship between stress and Health –Aging stress and health - Maintaining Health stress levels –Teaching people to Relax. Use and abuse of drugs : Effectiveness of drugs –over use of drugs – consequences of drug abuse- stimulants – Amphetamines – Depressions – Cocaine - Caffeine-Tobacco and Alcohol.

Text Book(s)

- | | |
|---|--|
| 1 | Study Material Prepared by Centre for Distance and Online Education, Bharathiar University, Coimbatore |
|---|--|

Reference Books

1. Howley .E.T and Franks B.D. (1997) Health Fitness Instructor's handbook. Third Edition. Human Kinetics, Champaign Illinois.
2. Lindle J. (1995) Aquatic Fitness Professional Manual. Aquatic Exercise Association, Florida.,
3. Pyke F.S. (1991) Better Coaching – Advanced Coach's Manual. Australian Coaching Council.
4. Thomas D. Fathey Gayle Hutchinson, (1992) weight training for women. Mayfield publishing company mountain view, California London.
5. Steven Roy and Richard Irvin, Sports medicine prevention, evaluation management and rehabilitation; New Jersey. Prentice Hall inc. 1983.
6. Edward T. Howley B. Dov Franks(1986) Health Fitness instructor's Handbook second edition.

Course Designed By:

5. Dr.M. Rajkumar Professor & Head , Department of Physical Education, Bharathiar University, CBE.
6. Dr.G. Kumaresan Professor, Department of Physical Education, Bharathiar University, CBE.

Web link:

<https://www.who.int/news-room/fact-sheets/detail/healthy-diet>
<https://www.nasca.com/education/articles/kinetic-select/carbohydrate-loading/>
<https://www.niddk.nih.gov/health-information/weight-management>

MAPPING WITH PROGRAMME OUTCOMES										
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	S	S	S	S	S	S	M
CO2	S	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	M	S	S	S	S	S
CO4	S	M	S	S	S	S	S	S	S	S
CO5	S	S	S	S	S	S	S	M	S	M

S-Strong; M-Medium; L-Low

Course code	25DFNP201	TITLE OF THE COURSE	Credits	PCP Hours	Study hours of Learners
Core paper		Practical	4	12	120
Pre-requisite		Learners must have basic knowledge and interest about Fitness	Syllabus Version	1	
BLOC K 1	FITNESS EVALUATION AND ASSESSMENT				
Fitness Evaluation: physical activity attitude assessment – assessing Health – disease Risk factors – calories expended in life style physical activities – nutritional analysis of various diet.					
BLOC K 2	CARDIOVASCULAR FITNESS EVALUATION				
Calculating Target Heart rates for moderate Physical activities using percentage of Heart Rate Reserve Method – Evaluating Cardiovascular fitness.					
BLOC K 3	COMPREHENSIVE PHYSICAL FITNESS COMPONENTS				
Evaluating Flexibility – planning and lodging stretching exercises. Evaluating muscle strength – Evaluating muscular endurance – planning and logging muscle fitness exercises free weights or resistance machines and calisthenics care of the back and neck Evaluating body fatness – skin fold measurements – Height / weight and circumference measures.					
BLOC K 4	PRACTICE TEACHING METHODOLOGY				
Basic principles and methods relevant to practice teaching of fitness activities.					
BLOC K 5	SUPERVISED TEACHING PRACTICE AND DOCUMENTATION				
Preparation by the students systematic lesson plans for the physical activities/exercises taught during taught during the course and daily maintenance of a journal with plans for lesson. Actual conduct of five fitness lessons in the class and another five lessons in fitness centers under proper supervision and competent evaluation.					
Text Book(s)					
1	Study Material Prepared by Centre for Distance and Online Education, Bharathiar University, Coimbatore				
Reference Books					
1. Batman P. and Van Capelle M.(1995) The Exercise Guide to Resistance training . FITAU publicationss. Australia. 2. Fleck S.J.and Kraemer W.J. (1997) Designing Eesistsnce Training Programs. Second Edition. Human Kinetics, 3. Dick, Frank W. (1980) sports Training Principles. London Lepus Books					
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