



**Savitribai Phule Pune University**  
(Formerly University of Pune)

**Department of Physical Education**  
under the  
**Faculty of Inter-disciplinary Studies**

**Syllabus for**  
**Certificate Course in**  
**Fitness and Sports Nutrition**  
**(C. C. F. & S. N.)**

**Credit System**  
(Academic Year 2021-2022)

# **CERTIFICATE COURSE IN FITNESS AND SPORTS NUTRITION**

## **OBJECTIVES :-**

- To provide the concept and relationship among fitness, sports and nutrition.
- To enable student to understand the basic physiology of human body and the energy systems of the human body.
- To provide detail understanding of macro and micro nutrients; their role, requirement, classification, digestion and absorption.
- To provide knowledge on food selection, macronutrient ratios, micronutrients and human physiology related to digestion and metabolism of food.
- To provide scientific understanding of Ergogenic Aids, Supplements, Fad Diets and Eating Disorders.
- To make student Learn about obtaining essential nutrients from food and supplements and dietary guidelines to support athletic health and performance
- To acquaint student with the guidelines required to prepare diet chart for general fitness , specific sports and therapeutic diets and to provide them hands on experience of preparing basic diet charts.

## **DURATION:-**

- The duration of the course shall be of three months. (180 hours).
- Each working Day shall consist of three hours.

### ELIGIBILITY FOR ADMISSION :-

- Minimum XII Std. or equivalent examination passed from Govt. Board
- **Age Limit :-** 18 to 60 Years (Both inclusive)
- **Intake Capacity :-** 50 Students

### COURSE FEE :-

Category		Sub - Category	Fees to be paid
A	Students who have been admitted in Savitribai Phule Pune University or Its affiliated Colleges	<b>A-1 : Indian Students</b>	Rs. 7,500/- (Rupees Seven Thousand Five hundred only)
		<b>A-2 : International Students</b>	Rs. 22,500/- (Rupees Twenty-Two thousand Five hundred only) *International Students should apply through International Centre, SPPU.
B	Others (Indian Nationals : Not included in above A-1 & A-2 Category)	<b>B-1 : Indian Nationals</b>	Rs. 15,000/- (Rupees Fifteen Thousand Only)
		<b>B-2 : International Candidates</b>	Rs. 45,000/- (Rupees Forty-Five thousand only)

### MEDIUM OF INSTRUCTION AND EXAMINATION :-

Medium of instruction will be in Marathi and /or English and question papers shall be set in Marathi and English.

### ELIGIBILITY FOR APPEARING AT CERTIFICATE COURSE IN FITNESS AND SPORTS NUTRITION EXAMINATION:-

Student should have at least 75% Attendance during the Course. He / She should complete all the practical and other related work expected in all parts of the syllabus. A student who misses more than 25% of the scheduled classes will not be allowed to appear for the exam.

## **GENERAL INSTRUCTIONS :-**

- The **Certificate Course in Fitness and Sports Nutrition (C. C. F. & S. N.)** consists of **12 credits**.
- One credit will be equivalent to 15 clock hours of student-teacher contact.
- Details of the theoretical and practical components are given in the structure of the program.
- Internal evaluation will follow Continuous Comprehensive Evaluation procedures. Internal evaluation should be done on every credit of each course or minimum two per course as decided by the teacher concerned.

## **RULES & REGULATIONS :-**

The **Certificate Course in Fitness and Sports Nutrition (C. C. F. & S. N.)** will be awarded to a student who completes a total of 12 credits.

### **Each course will have**

- 50 % of marks for Final Examination
- 50 % marks for Internal Assessment

Each core unit will have an Internal (continues) assessment of 50 % of marks and a teacher may select a minimum of two of the following procedures:

- Written Test
  - Lecture / Library Notes
  - Seminar Presentation
  - Short Quizzes
  - Assignments
  - Field Work
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- To pass a student shall have to get minimum aggregate 30% marks in each head of passing (i.e. internal assessment and final examination) and minimum aggregate 40% marks in each course.
  - Internal assessment answer book may be shown to the students concerned but not the final examination answer scripts.
  - While marks will be given for all examinations, they will be converted into grades. The final grade sheets and transcripts will have only grades and grade-points average.
  - To pass a student shall have to get minimum aggregate 40% marks (E and above on grade point scale) in each course.
  - The system of evaluation will be as follows: Each assignment/ test will be evaluated in terms of marks. The marks for separate assignment and the final examination will be

added together and converted into a grade and later grade point average. Results will be declared after the final examination which will give grades, grade point average and the Final Grade.

**EVALUATION SCALE FOR INDIVIDUAL SUBJECT :-**

<u>Percent</u>	<u>Grade</u>	<u>Grade Points</u>
80 to 100	O : Outstanding	10
70 to 79	A + : Excellent	09
60 to 69	A : Very Good	08
55 to 59	B+ : Good	07
50 to 54	B : Above Average	06
45 to 49	C : Average	05
40 to 44	P : Pass	04
00 to 39	F : Fail	00
--	Ab : Absent	00

**The formula for conversion of Grade point average (GPA) into the final grade**

09.00	-	10.00	-	O
08.50	-	08.99	-	A+
07.50	-	08.49	-	A
06.50	-	07.49	-	B+
05.50	-	06.49	-	B
04.25	-	05.49	-	C
04.00	-	04.24	-	P
00.00	-	03..99	-	F

$$CGPA = \frac{\sum (\text{Grade Points X Credits})}{\sum (\text{Earned Credits})}$$

**STRUCTURE OF THE COURSE :-**

<b>Part</b>	<b>Subject Code</b>	<b>Subject Name</b>	<b>Hours</b>	<b>Credits</b>
I Theory	FSN-1	Fundamentals of Fitness, Sports and Nutrition	30	02
	FSN-2	Introduction to Human Physiology & Energy Metabolism	30	02
	FSN-3	Macronutrients , Micronutrients and Hydration	30	02
	FSN-4	Ergogenic Aids, Supplements, Fad Diets and Eating disorders	30	02
	<b>Total Part-I</b>		<b>120</b>	<b>08</b>
II Practical	FSN-5	Meal Planning and preparing Diet Chart (Practical)	60	04
	<b>Total Part-II</b>		<b>60</b>	<b>04</b>
<b>Total Course</b>			<b>180</b>	<b>12</b>

# SYLLABUS

## FSN-1 : Fundamentals of Fitness, Sports and Nutrition

### CREDIT 1

- Introduction to HRPF and SRPF
- Body composition and its assessment
- Morphological Classification of Body Type

### CREDIT 2

- Nature and Classification of sports :Aerobic & Anaerobic, Strength & Endurance, Recreational & Competitive
- Concept of Nutrition
- Understanding fitness and Sports specific nutritional requirements

## FSN 2 : Introduction to Human Physiology & Energy Metabolism

### CREDIT 1

- Physiology of digestive system
- Parts of the digestive system
- Process of Digestion
- Digestion and Absorption of Nutrients

### CREDIT 2

- Introduction to Excretory System
- Energy metabolism :
  - Aerobic energy metabolism
  - Anaerobic energy metabolism
- Assessment of Energy requirements
- Recommended Dietary Allowance

## **FSN 3 : Macronutrients , Micronutrients and Hydration**

### **CREDIT 1**

- Concept of Balanced diet and Food Pyramid
- Classification of Nutrients
- Macronutrients : Classification, Function, Digestion and Absorption, Metabolism, Requirement, Source and Role in Human body Health and Exercise
  - Carbohydrates
  - Fats
  - Proteins

### **CREDIT 2**

- Micronutrients : Classification, Requirement, Source and Role in Human body
  - Vitamins
  - Minerals
- Role of Water and Fluids during and after activity
- Maintenance of Electrolyte balance

## **FSN 4 : Ergogenic Aids, Supplements, Fad Diets and Eating Disorders**

### **CREDIT 1**

- Ergogenic Aids: concept, Need and Importance , Ethical considerations
- Supplements : Need and Importance for maintaining general and specific fitness

### **CREDIT 2**

- Fad Diets: History, Concept and Research based interpretations
- Validification of Fad Diets
- Eating Disorders : Symptoms, Causes and Management
- Lesson presentation

## **FSN 5 : Meal Planning and preparing Diet Chart (Practical)**

### **CREDIT 1**

- Introduction to food and nutrients.
- Meal Planning Principles of meal planning through the life cycle.
- Preparation of basic and general Diet Charts

### **CREDIT 2**



- Concept of exchange list
- Balanced diet
- Diet Planning for various sports – Endurance, Strength, Team sport etc

### **CREDIT 3**

Diet Planning for :-

- Pre-competition, during competition and post-competition meals
- Weight management

### **CREDIT 4**

Diet Planning for therapeutic/ special conditions

- Nutritional Guidelines to Therapeutic Conditions
- Diabetes Mellitus
- CVDs etc.

## **BOOKS FOR REFERENCE:-**

- Carolyn D. Berdanier, CRC Desk Reference for Nutrition, CRC Press 1998
- Fink, H., Burgoon, L., & Mikesky, A. (2006). Practical Applications in Sports Nutrition.
- James Groff, Advanced Nutrition and Human metabolism, Wadsworth 2000.
- Jones and Bartlett. USA Williams (2005). Nutrition for Health, Fitness, & Sport (7edn)  
Mc Graw Hill Publication. Newyork
- Judy A. Driskell & Ira Wolinsky, Sports Nutrition, friends Pub. 2006
- Manore M and Thompson J. 2000. Sport Nutrition for Health and Performance. Human Kinetics, Windsor, ON. ISBN: 9780873229395.
- Mark Kern, Sports Nutrition, Tayloy & Francis Group 2005
- Meltzer, S., & Fuller, C. (2005). The Complete Book of Sports Nutrition: A Practical Guide to Eating for Sport. New Holland Publishers. London
- Pande P.K. (2010). Outline of Sports Medicine, New Delhi Jaypee Bros 36
- Pande, P. (2005). Sports Medicine – curious queries. KSK. New Delhi
- Wilmore, J H and Costill, D L (2004) Physiology of Sport and Exercise. Champaign, Illinois: Human Kinetics
- McArdle, W.D., Katch, F.I. and Katch, V.L. (2007). Exercise Physiology, Energy, Nutrition and Human Performance. Baltimore: Lippincott, Williams & Wilkins