



Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Institute of Home Science

Choice Based Credit System (CBCS) in Light of NEP-2020

MSc. Food and Nutrition Sem IV (2024-2026)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical		L	T	P	CREDITS
			End Sem University Exam	Two Term	Teachers Assessment	End Sem University Exam	Teachers Assessment				
MFSN 401	CC	Food Processing and Technology	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C -Credit.

***Teacher Assessment** shall be based on the following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The Students will -

CEO1: aware about the composition of milk and milk products.

CEO2: gain knowledge of principles and technical aspects of processing of milk and milk products.

CEO3: understand the processing of different types of meat and meat products.

CEO4: be aware of the nutritional value of dairy products and meat products.

Course Outcomes (COs): Student should be able to-

CO1: learn composition, types, standards, and milk processing.

CO2: familiarize with different types of milk products with its processing.

CO3: gain knowledge about meat and meat processing.

CO4: understand about composition, types, processing of poultry meat, eggs and fish.

Syllabus

Unit I

- Milk and milk products: milk, types, Indian standards, composition, factors affecting composition of milk, physio-chemical properties of milk and its constituents.
- Milk processing: platform tests, standardization, bacto-fugation, homogenization, pasteurization, cooling, packaging and storage.

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UNIT II

- Milk products (cream, butter, ice cream, curd, cheese, paneer, khoa and ghee) -introduction, definition, classification, methods of manufacture and its quality aspects.
- Adulteration of milk and milk products and its detection methods.

UNIT III

- Meat: composition, types, pre-slaughter handling, slaughtering, and related practices.
- Poultry: composition and types of poultry meat and processing plant operations.

UNIT IV

- Eggs: composition, types, structure, quality factors and storage.
- Egg products, bacterial infection, and pasteurization, freezing, candling, drying and egg substitutes.

UNIT V

- Fish: composition, types, on-board handling & preservation, drying and dehydration, curing, smoking, marinades and fish products.
- By products of fish processing and its utilization.

Suggested readings:

- Bechtel, P.J. (1986). **Muscle as Food**. Orlando Florida: Academic Press.
- De, S.K. (2001). **Outlines of Dairy Technology**. New Delhi: Oxford University Press.
- Stadelman, W.J. (1998). **Egg and Poultry Meat Processing**. New York: Wiley - VCH.

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MFSN4021	DSE	Nutrition Communication and Counseling	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit.

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will -

CEO1: acquaint with communication, its process and components and its significant role on planning of dietary counseling sessions.

CEO2: develop profound learning in using interdisciplinary approaches in the management of diseases.

Course Outcomes (COs): Student should be able to -

CO1: familiarize with communication, its methods, characteristics and related barriers.

CO2: understand different dietary patterns and food choices, concept of nutrition counseling its tools and BCC.

CO3: develop profound skills for making diet counseling sessions with specified goals and objectives.

CO4: skilled in planning dietary counseling sessions throughout the life cycle.

CO5: adapt themselves with use of interdisciplinary approaches like yoga, ayurveda and naturopathy in disease treatment.

Syllabus

UNIT I

- Basics of Communication: meaning, forms and methods of communication. Current and emerging methods/tools of communication.
- Approaches in communication and barriers to effective communication.

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MFSN4021	DSE	Nutrition Counseling and Communication	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

UNIT II

- Nutrition Counseling: concept and importance of counseling in the nutrition care process. Understanding dietary patterns and food choices and their impact on counseling.
- Counseling strategies and factors to be considered for counseling. Conventional and non-conventional tools in counseling.

UNIT III

- Processes involved in dietary counseling: managing resources of the communicator/counselor.
- Designing counseling plans: goals & objectives, evaluation instruments. Implementation: facilitating self-management of disease condition.
- Evaluation: evaluating adherence to dietary changes. Counseling approaches after evaluation.

UNIT IV

- Dietary counseling through the life span: prenatal and pregnant women, lactating women, childhood nutrition problems like SAM, weight management, vitamin and mineral deficiencies, School children, adolescents, young adults, Fitness, weight management and eating disorder.
- Managing diet related chronic diseases in adults: obesity, diabetes, dyslipidemia, hypertension, cancer risk prevention, renal disease, liver disorders and geriatric counseling.

UNIT V

- Nutritional/medicinal role of traditional foods: traditional food beliefs, role of ayurveda, naturopathy, yoga and other traditional medicines in disease management.

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MFSN 4021	DSE	Nutrition Counseling and Communication	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Suggested readings:

- Devito, J.A. (2015). *Human Communication: The Basic Course*. New York: Pearson.
- Gable J. (2016). *Counseling Skills for dietitians*. USA: Wiley Blackwell.
- Holli, B.B., & Beto, A.J. (2014). *Nutrition Counseling and Education Skills for Dietetics Professionals*. Illinois USA: Jones and Bartlett learning.
- King, K., & Klawitter, B. (2007). *Nutrition Therapy: Advanced Counseling Skills*. Philadelphia: Jones and Bartlett learning.
- Mahan, L.K., & Escott, S.S. (2016). *Krause's Food & Nutrition Therapy*. Saunders/Elsevier.
- Midwinter. R., & Dickson J. (2015). *Embedding Counseling and Communication Skills*. New York: Hove, East Sussex.
- Snetselaar, L. (2009). *Nutrition Counseling Skills for the Nutrition Care Process*. Sudbury, Massachusetts: Jones Bartlett Publishers.

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MFS4022	DSE	Sports Nutrition	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C – Credit.

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will -

CEO1: understand sports nutrition and how nutritional requirements change as sports and sports person change.

CEO2: gain knowledge about sports nutrition challenges for people with special need and nutritional supplements

Course Outcomes (COs): Student should be able to -

CO1: acquire knowledge about components and guidelines for physical fitness and their role in weight management.

CO2: understand the fundamentals of sports nutrition and required changes as per the sports and sports person.

CO3: learn skills to plan diet for high performance athletes required at different stages of competition.

CO4: comprehend in dealing with nutritional challenges like – athlete with diabetes, with special needs and with eating disorders etc.

CO5: acquire knowledge about supplements and ergogenic aids.

Syllabus

UNIT I

- Health and fitness and its components. Methods of assessing physical fitness. Approaches to achieving physical fitness through the life cycle.
- Significance of physical fitness and nutrition in prevention and management of weight control regimes.
- Nutrition guidelines for maintenance of health and fitness.

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MFSN 4022	DSE	Sports Nutrition	60	20	20	0	0	3	0	0	3

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C – Credit.

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

UNIT II

- Fundamentals of Sports Nutrition: integrated approach to care for athletes. Assessment of Sports performance. Bioenergetics and body metabolism of physical activity and sports, Macro and micronutrients for sport performance, Temperature regulation, fluid balance, fluid requirements of athletes and rehydration strategies for sports.
- Specific requirements: importance of carbohydrate loading, pre-game and post-game meals. Diets for persons with high energy requirements, stress, fracture and injury.

UNIT III

- Nutrition for high performance athletes: recommended allowances and nutritional guidelines for different categories of high-**performance** sports.
- Nutritional care during Training, weight management and day-to-day recovery. Nutrition for the Pre-competition, competition and post competition recovery phase.

UNIT IV

- Challenges in Sports Nutrition: nutritional care for children and adolescent athletes.
- Athletes with special needs- Paralympics & special Olympics, vegetarian athletes, Red S. Athletes with eating disorders, athletes with diabetes and other medical conditions.

UNIT V

- Supplements and Ergogenic aids: definitions, use of different nutrigenic/ergogenic aids and commercial supplements, herbs, sports drinks, sports bars etc.
- Drugs and pharmaceutical compounds: natural and synthetic, use of excipients. Pharmacodynamics, pharmacokinetics, route and form of excretion. Drug abuse and drug resistance. Nutrigenomics: definition, concepts and theories. Nutrient effects on drug therapy: effects of dietary composition, interactions between medication and milk, iron, fruit juices, antacids.

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MFS4022	DSE	Sports Nutrition	60	20	20	0	0	3	0	0	3

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***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Suggested readings:

- Burke, L.M., & Deakin, V. (2002). *Clinical Sports Nutrition*. New York. McGraw Hill.
- Dan, B. (2011). *Advanced Sports Nutrition*. Georgia: Human Kinetics.
- Fink. H.H., & Mikesky, A.E. (2017). *Practical Applications in Sports Nutrition*. USA: Jones & Bartlett Publishers.
- ILSI, NIN, & SAI. (2017). *Nutritional recommendations for high performance athletes*. New Delhi: Elite Publishers.
- Mahan, L.K., & Escott, S.S. (2016). *Krause's Food & Nutrition Therapy*. USA. Elsevier.

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MFNP403	IV	Dissertation II	0	0	0	30	20	0	0	0	10

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C -Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs): The students will -

CEO1: learn to conceptualize the identified problem and develop attribute to find solutions of the problem.,

CEO2: develop skills to conduct a research study and to learn the process of writing a dissertation/ project report.

CEO3: learn skills to present the learnings learnt during the project work.

Course Outcomes (COs): Student should be able to -

CO1: know the practical aspects of collecting data/ project work.

CO2: evaluate, select and use appropriate strategies for reduction, analysis and presentation of data collected during research process/ project work.

CO3: prepare a dissertation document/ project report based on research process/ project work done.

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MFNV404	IV	Comprehensive Viva	0	0	0	60	40	0	0	0	2

Legends: L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C -Credit;

***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class,given that no component shall exceed more than 10 marks.

Note: Comprehensive Viva of the candidates in presence of subject expert and faculty members.

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