

**DISCIPLINE SPECIFIC ELECTIVE – DSE-4-FT:  
FOOD VALUE CHAIN MANAGEMENT**

**CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE**

Course Title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Food Value Chain Management	4	3	0	1	Class XII Pass	NIL

**LEARNING OBJECTIVES:**

6. To understand the basic concepts related to food value chain management.
7. To know the principles, process and components of value chain management with special reference to the food industry.
8. To learn the scope and challenges associated with sustainable food value chain management.

**LEARNING OUTCOMES:**

After completion of the course, the students will be able to:

9. Appreciate the significance of managing food value chains
10. Develop strategic plan of action which can support the concept of sustainability in food value-addition
11. Manage unit operations/assembly lines in food processing units

**SYLLABUS OF DSE-4-FT**

**THEORY  
(Credits 3: 45 Hours)**

**UNIT I: Introduction: Concept and Framework (8 Hours)**

- *Unit Description:* This unit will discuss about the concept of food value chain and the basic framework necessary for its application. It will help students understand the difference and association of value chain vis-à-vis food value chain.
- *Subtopics:*
  - Basic Concepts: value chain, food value chain, sustainable food value chain, supply food chain management, sustainable food value chain development.
  - Concept of “value added” in food chains.
  - Sustainable food value chain framework.

**UNIT II: Principles and Components of Sustainable Food Value Chain Development (12 Hours)**

- *Unit Description:* This unit will discuss about the basic principles and components which help in the planning and implementation of food value chain.
- *Subtopics:*
  - Principles of sustainable food value chain development: measuring, understanding and improving
  - Components of sustainable food value chain development

### **UNIT III: Food Supply Chain Management (15 Hours)**

- *Unit Description:* Food supply chain is an important for successful food value chain management. This unit will discuss the basic aspects of supply chain management.
- *Subtopics:*
  - Types of food supply chains
  - Management of operations: manufacturing and processing of food
  - Operational Challenges: food logistics in procurement, distribution, transportation and retailing (case study)

### **Unit IV: Challenges and Potential in Food Value Chain Management (10 Hours)**

- *Unit Description:* This chapter will discuss the future challenges and potential or scope of successful and sustainable food value chain management.
- *Subtopics:*
  - Social and economic aspects
  - Food insecurity (Conserving and enhancing nutrients: food fortification)
  - Carbon footprint, water footprint, toxicity and waste, soil health
  - Food losses and food waste
  - Food innovation
  - Green Technological Approaches in food industry
  - Catering sector as a sustainable value chain (case study)

### **PRACTICAL (Credits 1: 30 Hours)**

*No. of Students per Practical Class Group: 10-15*

19. Critical evaluation on the following case studies:

- Potato value chain management (Link: <https://www.fao.org/3/i3953e/i3953e.pdf>, Pg. 28 of Neven (2014))
- Dairy value chain management (Link: <https://averdishome.files.wordpress.com/2017/01/sustainable-value-chains-for-sustainable-food-systems.pdf>, Pg. 25 of Maybeck and Redfern (2016).)
- Coffee value chain management (Link: <https://www.fao.org/3/i3953e/i3953e.pdf>, Pg. 49 of Neven (2014))
- Pineapple value chain management (Link: [http://sfacindia.com/PDFs/SFAC\\_Value-Chain-Analysis.pdf](http://sfacindia.com/PDFs/SFAC_Value-Chain-Analysis.pdf))

20. Develop a food value chain flow chart or framework for any farm to plate product such as wheat to bread or tomato to tomato puree.
21. Develop a business proposal for supply chain management of milk or any perishable food.
22. SWOT Analysis of a given food value chain management through a case study (Link: <https://averdishome.files.wordpress.com/2017/01/sustainable-value-chains-for-sustainable-food-systems.pdf>, Pg. 263 of Maybeck and Redfern (2016)).
23. Methodology for determining food waste in college or school canteen.

### ESSENTIAL READINGS (Theory and Practical):

- Neven, D. (2014). *Developing Sustainable Food Value Chains: Guiding Principles*. Food and Agricultural Organization (FAO). Link: <https://www.fao.org/3/i3953e/i3953e.pdf>
- Dani, S. (2021). *Food Supply Chain Management and Logistics*. Second Edition. Kogan Page.
- Meybeck, A. and Redfern, S. (2016). *Sustainable value chains for sustainable food systems*. Food and Agricultural Organization (FAO). Link: <https://averdishome.files.wordpress.com/2017/01/sustainable-value-chains-for-sustainable-food-systems.pdf>
- Stead, V. and Hinkson, M. (2022). *Beyond Global Food Supply Chains: Crisis, Disruption and Regeneration*. First Edition. Palgrave Macmillan Press.
- Pullman, M. and Wu, Z. (2021). *Food Supply Chain Management: Building a Sustainable Future*. Second Edition. Routledge Press.
- Ikavou, E., Bochtis, D., Vlachos, D. and Aidonis, D. (2016). *Supply Chain Management: For Sustainable Food Networks*. First Edition. Wiley Publishers.
- Mena, C. and Stevens, G. (2010). *Delivering Performance in Food Supply Chains*. First Edition. CRC Press.
- Small Farmers Agrobusiness Consortium (SFAC). (2022). *Value Chain Analysis of Select Crops in Northeastern States*. SFAC. Link: [http://sfacindia.com/PDFs/SFAC\\_Value-Chain-Analysis.pdf](http://sfacindia.com/PDFs/SFAC_Value-Chain-Analysis.pdf)

### SUGGESTED READINGS:

- Mor, R.S., Kamble, S.S. and Sangwan, K.S. (2022). *Operations and Supply Chain Management in Food Industry: Farm to Fork*. Springer.
- Lianos, I., Ivanov, A. and Davis, D. (2022). *Global Food Value Chains and Competitive Laws*. First Edition. Cambridge University Press.
- Bourlakis, M.A. and Weightman, P.W.H. (2003). *Food Supply Chain Management*. First Edition. Blackwell Publishing.
- Mukherjee, A., Goyal, T.M., Pal, P. and Deb, S. (2014). *Food Supply Chain in India: Analysing the Situation for International Business*. Academic Foundation.
- Hill, V. (2016). *A Kaizen Approach to Food Safety: Quality Management in the Value Chain from Wheat to Bread*. Springer.

**Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.**