Food Technology Course Content

Engineered for skill enhancement.

PROGRAM HIGHLIGHTS

- **Accredited Certificates**: ISO-recognized course completion
- **Internships**: Industry-focused roles in food labs and manufacturing units
- **Placement Assistance**: Mentorship from food technologists and R&D experts
- **Basic to Advanced Level Training**: Core science to modern innovations
- **Live & Recorded Lectures**: Learn anytime, anywhere
- **Hands-On Projects**: Real-world formulation, testing, and product development

ABOUT US

OUR MISSION: NxtSync is committed to building next-generation food technologists who balance nutrition, sustainability, and food safety.

OUR VISION:

- **UPSKILL**: Gain deep insights into food systems
- **INNOVATE**: Develop safe, sustainable, and nutritious solutions
- **EXCEL**: Prepare for impactful careers in food industries and R&D

WHY FOOD TECHNOLOGY?

- High demand in FMCG, R&D, and regulatory sectors
- Critical for ensuring food safety and global nutrition
- Involves innovation in product development, shelf-life enhancement, and packaging
- Rapid growth in functional foods, nutraceuticals, and alternative proteins

LEARNING PATH

- Fundamentals of Food Science
- Food Microbiology & Safety
- Food Chemistry & Nutrition
- Food Processing Techniques
- Packaging, Preservation & Storage
- Quality Assurance & HACCP
- Sensory Evaluation & Product Development
- Emerging Technologies & Trends
- Industrial Case Studies & Capstone Project

DETAILED MODULE BREAKDOWN

Module 1: Introduction to Food Technology
•Overview of the Food Industry
•Key Disciplines: Chemistry, Microbiology, Engineering
•Global Food Trends & Career Opportunities

Module 2: Food Microbiology & Safety
•Microorganisms in Food
•Spoilage, Fermentation, and Pathogens
•Foodborne Illnesses & Sanitation

Module 3: Food Chemistry & Nutrition

- Macronutrients & Micronutrients
- Food Additives, Enzymes, and Preservatives
- Nutritional Labelling and Fortification

Module 4: Food Processing Techniques

- Thermal & Non-Thermal Processing
- Drying, Freezing, Pasteurization, Extrusion
- Innovations in Minimal Processing

Module 5: Packaging, Storage & Preservation

- Food Packaging Materials & Methods
- Shelf-Life Testing
- Storage Conditions and Logistics

Module 6: Quality Assurance & HACCP

- Food Quality Standards (FSSAI, ISO, Codex)
- HACCP Principles and GMP
- Audits and Certification Processes

Module 7: Sensory Evaluation & Product Development

- Sensory Science Basics
- Designing and Testing New Food Products
- Consumer Preference Studies

Module 8: Emerging Trends & Technologies

- Functional Foods & Nutraceuticals
- Plant-Based and Alternative Proteins
- Food Waste Reduction & Sustainability

Module 9: Research & Capstone Project

- Formulation or Process Design Project
- Lab Simulation or Industry-Based Case Study
- Final Report, Presentation & Peer Feedback

ASSIGNMENT'S &ASSESSMENTS

- Weekly lab or case-based assignments
- Mid-term mini food formulation projects
- Final Capstone Project with real-world application
- Interactive tastings, sensory tests, and presentations

TOOLS & FRAMEWORKS USED

- Food Lab Equipment (pH meters, viscometers, etc.)
- Nutrition Analysis Tools (FoodData Central, NutriCalc)
- Sensory Evaluation Kits
- MS Excel, SPSS or R for Data Analysis
- HACCP Software Tools (Safefood 360, etc.)

RECOMMENDED READING

- **“Food Science” by Norman N. Potter**
- **FSSAI Training Manuals & Resources**
- **Institute of Food Technologists (IFT) Journals**
- **Coursera, NPTEL, and EdX Food Tech Courses**
- **YouTube Channels: SciShow, FoodUnfolded, Food Tech Talks**

WHY CHOOSE NXTSYNC?

- Curriculum aligned with global food safety and innovation standards
- Hands-on experience in labs and industry simulations
- Expert mentorship and R&D case studies
- Career opportunities in food production, quality control, and product development

Start Your Journey with NxtSync Today!!!!

THANK YOU