

# Professional Master's Degree

## Integrated Food Business Management



## Professional Master's Degree

### Integrated Food Business Management

Course Modality: Online

Duration: 12 months

Certificate: TECH Technological University

Teaching Hours: 1,500 h.

Website: [www.techtute.com/pk/nutrition/professional-master-degree/master-integrated-food-business-management](http://www.techtute.com/pk/nutrition/professional-master-degree/master-integrated-food-business-management)

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# 01

# Introduction

The food industry is constantly growing, although in recent years, it has undergone a readjustment and transformation in order to maintain annual profits. A sector that is always changing thanks to technological advances and that must adapt more and more to the strict food control and safety regulations. A powerful and growing industry with a guaranteed future for professionals in this field. It is in this fruitful scenario that this 100% online program is designed, which offers the nutritionist the most updated knowledge about the management of the food company, marketing strategies and hygiene measures. The multimedia content and the Relearning method will make it possible to delve much more dynamically into the integrated management of companies in this sector.







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*Thanks to this 100% online Professional Master's Degree, you will be able to keep up to date with the advances in Integrated Food Business Management and apply this knowledge in your professional field”*

The large companies that are part of the Food Industry such as Nestlé, Pepsico, Kraft, Danone Group, ConAgra Food, Unilever or Sigma have in common their capacity for innovation through research in the development of new products, a careful manufacturing process and attention to safety and hygiene measures in order to offer quality products. However, to achieve such success there is an integrated management and the implementation of effective marketing strategies.

In a market in constant growth and development, the Nutrition professional must be aware of the latest developments in the sector, where their knowledge provides great value for both companies and end consumers. For this reason, TECH has designed a Professional Master's Degree, where, over the course of 12 months, the specialist will be able to keep up to date with the most recent developments in the field of food business management and all the necessary components to obtain optimal results.

Therefore, this program will delve into the economy of the industry, the operation of the industry itself, the relevance of safety, hygiene and product control measures, as well as the study of consumer behavior to take marketing decisions related to food as commercial products.

All this, in an exclusively online format that can be accessed by the student from any electronic device with an Internet connection. An academic option designed for the professional who seeks to be up to date in Integrated Food Business Management with a high-quality, flexible program, compatible with the most demanding responsibilities.

This **Professional Master's Degree in Integrated Food Business Management** contains the most complete and up-to-date scientific program on the market. The most important features include:

- The development of practical cases presented by experts in Food Technology
- The graphic, schematic, and practical contents with which they are created, provide scientific and practical information on the disciplines that are essential for professional practice
- Practical exercises where self-assessment can be used to improve learning
- Its special emphasis on innovative methodologies
- Theoretical lessons, questions to the expert, debate forums on controversial topics, and individual reflection assignments
- Content that is accessible from any fixed or portable device with an Internet connection



*You are looking at a program that will show you the most effective marketing strategies used in the Food Industry sector”*



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*The multimedia resource library is available 24 hours a day so you can easily consult the latest information on food and public health”*

The program's teaching team includes professionals from the sector who contribute their work experience to this educational program, as well as renowned specialists from leading societies and prestigious universities.

The multimedia content, developed with the latest educational technology, will provide the professional with situated and contextual learning, i.e., a simulated environment that will provide immersive education programmed to learn in real situations.

This program is designed around Problem-Based Learning, whereby the professional must try to solve the different professional practice situations that arise throughout the program. For this purpose, the student will be assisted by an innovative interactive video system created by renowned and experienced experts.

*Delve into the basics of food business economics and the implementation of new processes and products.*

*Access 24 hours a day to the most up-to-date knowledge on Food Safety and Quality Management.*



# 02 Objectives

Given the relevance of the Food Industry, it is important to know how it works, as well as the trends of this sector. That is why this Professional Master's Degree allows the nutrition professional to obtain the most up-to-date knowledge on the scientific-technical advances of food together with technological progress, the factors that are having an influence on their choice and acceptability, as well as the regulations in force. The case studies presented in this degree will serve to bring the student even closer to the real situation of the sector.





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*TECH adapts to you. Therefore, it offers you an online Professional Master's Degree, without fixed schedules and which you can easily access from your computer or tablet”*



## General Objectives

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- Control the mathematical, statistical and economic aspects involved in food companies
- Analyze trends in food production and consumption
- Appreciate and recognize the sanitary and preventive importance of cleaning, disinfection, disinsecting and pest control programs in the food chain
- Scientific and technical advice on food products and food product development



*You will obtain the most up-to-date knowledge about the different techniques and tests used in the industry to predict consumer behavior”*





## Specific Objectives

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### Module 1. Mathematics

- ♦ Get to know the basic elements that make up business mathematics
- ♦ Proficiency in linear and matrix algebra, matrices, transpose of a matrix, calculus, matrix inversion, systems of equations
- ♦ Understand the different techniques and mathematical methods used within the financial framework of a company
- ♦ Apply mathematical techniques and methods to the financial framework of the company

### Module 2. Statistics

- ♦ Master statistical information
- ♦ Know the classification of data recording
- ♦ Apply the ICT and practical systems in food businesses
- ♦ Understand probability models

### Module 3. Food, Technology and Culture

- ♦ Analyze the historical-cultural evolution of the processing and consumption of foods or specific food groups
- ♦ Relate advances in scientific and technical food knowledge with cultural and technological progress
- ♦ Identify factors that influence the choice and acceptability of foods
- ♦ Differentiate the essential characteristics of foods and the branches of the food industry in the context of today's food consumption



#### **Module 4. Food Business and Economics**

- ♦ Understand the concept of a company, its institutional and legal framework, as well as the economic balance sheet of a company
- ♦ Acquire knowledge to evaluate the hygienic-sanitary and toxicological risk of a process, food, ingredient and packaging, as well as to identify the possible causes of food spoilage and establish traceability mechanisms
- ♦ Know the sources of financing, financial statements and the different functional areas of a company
- ♦ Calculate and interpret the values obtained from the Gross Domestic Product and Farm Income for economic and business management applications

#### **Module 5. Food and Public Health**

- ♦ Get to know the distinguishing fact of human nutrition, interrelationships between nature and culture
- ♦ Identify the concepts of Public Health and risk prevention related to food consumption habits and food safety
- ♦ Understand the fundamentals and general systems of disease prevention, health promotion and protection, as well as the etiologies and epidemiological factors affecting food-borne diseases
- ♦ Identify and classify the main social and economic implications of zoonoses

#### **Module 6. Food Industries**

- ♦ Controlling and optimizing processes and products in the food industry: manufacturing and preserving foodstuffs
- ♦ Develop new processes and products
- ♦ Know the industrial processes of food transformation and preservation, as well as packaging and storage technologies
- ♦ Analyze the process and product control and optimization systems
- ♦ Apply knowledge of transformation and conservation processes to the development of new processes and products

#### **Module 7. Food Hygiene and Safety**

- ♦ Develop, implement, evaluate and maintain appropriate hygiene practices, food safety and risk control systems, applying current legislation
- ♦ Contribute to consumer protection within the framework of food safety
- ♦ Elaborate and implement for a food and catering company, food quality control systems (Hazard Analysis and Critical Control Point and General Hygiene Plans)

#### **Module 8. Food Quality and Management**

- ♦ Design and evaluate tools that allow Food Safety management throughout the food chain in order to protect Public Health
- ♦ Identify and interpret the requirements of the food safety management standard (UNE EN ISO 22000) for its subsequent application and evaluation in food chain operators
- ♦ Develop, implement, evaluate and maintain appropriate hygiene practices, food safety and risk control systems
- ♦ Participate in the design, organization and management of different food services
- ♦ Collaborate in the implementation of quality systems
- ♦ Evaluate, control and manage aspects of traceability in the food supply chain



### **Module 9. Safety Assessment in the Food Industry**

- ♦ Validate, verify and audit Food Safety control systems
- ♦ Know and describe the basic principles of the Hazard Analysis and Critical Control Point (HACCP) system
- ♦ Know and understand the functioning of the HACCP plan and its application in different food industries
- ♦ Identify and know the hygienic characteristics of food groups of animal-based, plant-based and processed foods

### **Module 10. Marketing and Consumer Behavior**

- ♦ Know and understand the concepts, tools and logic of Marketing as a business activity inherent to food production
- ♦ Learn to make decisions related to the commercialization of products such as the search for marketing opportunities, the design of strategies and the necessary actions to successfully commercialize food products
- ♦ Know the procedures for market analysis and consumer behavior to advise companies in the development of new foods
- ♦ Design and application of different product tests applied to foods to predict the behavior of the target population

# 03 Skills

The syllabus of this Professional Master's Degree will allow the specialist to further enhance their skills in the field of Integrated Food Business Management, as well as their skills for the implementation of strategies based on solid knowledge of the market economy, the latest trends in Marketing, and all this while respecting the current Food Safety standards These goals will be easier to achieve thanks to the pedagogical resources provided by TECH in this degree.





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*This Professional Master's Degree will allow you to expand your competencies and skills in the application of the latest business techniques in the Food Industry”*



## General Skills

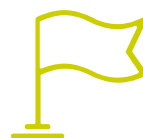
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- Know and apply the appropriate market techniques in the Food Industry field
- Provide preventive and corrective measures to solve hazards that arise periodically at any stage of the food chain
- Identify the different types of markets, such as monopolistic, oligopolistic and monopolistic competition markets
- Recognize the role of cultural norms in food practices and regulations, as well as in the role of food in society

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*It delves into the organization and management of the various food services through content available 24 hours a day”*





## Specific Skills

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- ◆ Identify health problems associated with the use of food additives
- ◆ Contribute towards consumer protection within the framework of food safety and quality
- ◆ Participate in the design, organization and management of different food services
- ◆ Identify the mechanisms and parameters for the control of processes and equipment in the food industry
- ◆ Good understanding of individual and social eating behaviors
- ◆ Master the transformation and preservation processes characteristic of the main types of food industries



# 04

# Structure and Content

TECH has developed a curriculum whose main objective is to provide the latest information on Integrated Food Business Management. Therefore, it has developed a syllabus that starts from the most advanced knowledge on business economics, and then delves into the latest technological advances, culture and the process of food processing itself. Video summaries, interactive diagrams and specialized readings will also allow the graduate to be up to date in food hygiene, marketing and quality management.



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*Doing a Professional Master's Degree will bring you up to date on the latest hygienic measures applied to meat, dairy and fish products”*

## Module 1. Mathematics

- 1.1. Basic Elements of Linear and Matrix Algebra
  - 1.1.1. The Vector Space of  $\mathbb{R}^n$ , Functions and Variables
    - 1.1.1.1. Graphical Representation of Sets in  $\mathbb{R}$
    - 1.1.1.2. Basic Concepts of Functions of Several Real Variables. Operations with Functions
    - 1.1.1.3. Function Types
    - 1.1.1.4. Weierstrass' Theorem
  - 1.1.2. Optimization with Inequality Constraints
    - 1.1.2.1. Two-Variable Graphical Method
  - 1.1.3. Function Types
    - 1.1.3.1. Separate Variables
    - 1.1.3.2. Polynomial Variables
    - 1.1.3.3. Rational Variables
    - 1.1.3.4. Quadratic Forms
- 1.2. Matrices: Types, Concepts and Operations
  - 1.2.1. Basic Definitions
    - 1.2.1.1. Matrix of Order  $m \times n$
    - 1.2.1.2. Square Matrices
    - 1.2.1.3. Identity Matrix
  - 1.2.2. Matrix Operations
    - 1.2.2.1. Matrix Addition
    - 1.2.2.2. Scalar Multiplication
    - 1.2.2.3. Matrix Multiplication
- 1.3. Transpose
  - 1.3.1. Diagonalizable Matrix
  - 1.3.2. Transpose Properties
  - 1.3.3. Involution
- 1.4. Determinants: Calculation and Definition
  - 1.4.1. The Concept of Determinants
    - 1.4.1.1. Determinant Definition
    - 1.4.1.2. Square Matrix of Order 2, 3, and Greater Than 3
  - 1.4.2. Triangular Matrices
    - 1.4.2.1. Determinant of Triangular Matrices
    - 1.4.2.2. Determinant of Non-Triangular Square Matrices
  - 1.4.3. Properties of Determinants
    - 1.4.3.1. Simplifying Calculations
    - 1.4.3.2. Calculation in any Case
- 1.5. Invertible Matrices
  - 1.5.1. Properties of Invertible Matrices
    - 1.5.1.1. The Concept of Inversion
    - 1.5.1.2. Definitions and Basic Concepts
  - 1.5.2. Invertible Matrix Calculation
    - 1.5.2.1. Methods and Calculation
    - 1.5.2.2. Exceptions and Examples
  - 1.5.3. Expression Matrices and Matrix Equations
    - 1.5.3.1. Expression Matrices
    - 1.5.3.2. Matrix Equations
- 1.6. Solving Systems of Equations
  - 1.6.1. Linear Equations
  - 1.6.2. Discussion of the System. Rouché–Capelli Theorem
  - 1.6.3. Cramer's Rule: Solving the System
  - 1.6.4. Homogeneous Systems
  - 1.6.5. Vector Spaces
    - 1.6.5.1. Properties of Vector Spaces
    - 1.6.5.2. Linear Combination of Vectors
    - 1.6.5.3. Linear Dependence and Independence
    - 1.6.5.4. Coordinate Vectors
    - 1.6.5.5. The Basis Theorem
- 1.7. Quadratic Forms
  - 1.7.1. Concept and Definition of Quadratic Forms
  - 1.7.2. Quadratic Matrices
    - 1.7.2.1. Law of Inertia for Quadratic Forms
    - 1.7.2.2. Study of the Sign by Eigenvalues
    - 1.7.2.3. Study of the Sign by Minors




- 1.8. Functions of One Variable
  - 1.8.1. Analysis of the Behavior of a Magnitude
    - 1.8.1.1. Local Analysis
    - 1.8.1.2. Continuity
    - 1.8.1.3. Restricted Continuity
- 1.9. Limits of Functions, Domain and Image in Real Functions
  - 1.9.1. Multi-Variable Functions
    - 1.9.1.1. Vector of Several Variables
  - 1.9.2. The Domain of a Function
    - 1.9.2.1. Concept and Applications
  - 1.9.3. Function Limits
    - 1.9.3.1. Limits of a Function at a Point
    - 1.9.3.2. Lateral Limits of a Function
    - 1.9.3.3. Limits of Rational Functions
  - 1.9.4. Indeterminacy
    - 1.9.4.1. Indeterminacy in Functions with Roots
    - 1.9.4.2. Indetermination  $0/0$
  - 1.9.5. The Domain and Image of a Function
    - 1.9.5.1. Concept and Characteristics
    - 1.9.5.2. Domain and Image Calculation
- 1.10. Derivatives: Behavior Analysis
  - 1.10.1. Derivatives of a Function at a Point
    - 1.10.1.1. Concept and Characteristics
    - 1.10.1.2. Geometric Interpretation
  - 1.10.2. Differentiation Rules
    - 1.10.2.1. Derivative of a Constant
    - 1.10.2.2. Derivative of a Sum or Differentiation
    - 1.10.2.3. Derivative of a Product
    - 1.10.2.4. Derivative of an Opposite Function
    - 1.10.2.5. Derivative of a Compound's Function
- 1.11. Application of Derivatives to Study Functions
  - 1.11.1. Properties of Differentiable Functions
    - 1.11.1.1. Maximum Theorem
    - 1.11.1.2. Minimum Theorem
    - 1.11.1.3. Rolle's Theorem
    - 1.11.1.4. Mean Value Theorem
    - 1.11.1.5. L'Hôpital's Rule
  - 1.11.2. Valuation of Economic Quantities
    - 1.11.2.1. Differentiable Functions
- 1.12. Function Optimization for Several Variables
  - 1.12.1. Function Optimization
    - 1.12.1.1. Optimization with Equality Constraint
    - 1.12.1.2. Critical Points
    - 1.12.1.3. Relative Extremes
  - 1.12.2. Convex and Concave Functions
    - 1.12.2.1. Properties of Convex and Concave Functions
    - 1.12.2.2. Inflection Points
    - 1.12.2.3. Growth and Decay
- 1.13. Antiderivatives
  - 1.13.1. Antiderivatives
    - 1.13.1.1. Basic Concepts
    - 1.13.1.2. Calculation Methods
  - 1.13.2. Immediate Integrals
    - 1.13.2.1. Properties of Immediate Integrals
  - 1.13.3. Integration Methods
    - 1.13.3.1. Rational Integrals
- 1.14. Definite Integrals
  - 1.14.1. Barrow's Fundamental Theorem
    - 1.14.1.1. Definition of the Theorem
    - 1.14.1.2. Calculation Basis
    - 1.14.1.3. Applications of the Theorem

- 1.14.2. Curve Cutoff in Definite Integrals
  - 1.14.2.1. Concept of Curve Cutoff
  - 1.14.2.2. Calculation Basis and Operations Study
  - 1.14.2.3. Applications of Curve Cutoff Calculation
- 1.14.3. Mean Value Theorem
  - 1.14.3.1. Concept and Closed Interval Theorem
  - 1.14.3.2. Calculation Basis and Operations Study
  - 1.14.3.3. Applications of the Theorem

## Module 2. Statistics

- 2.1. Introduction to Statistics
  - 2.1.1. Basic Concepts
  - 2.1.2. Types of Variables
  - 2.1.3. Statistical Information
- 2.2. Data Record Sorting and Classifying
  - 2.2.1. Description of Variables
  - 2.2.2. Frequency Distribution Table
  - 2.2.3. Quantitative and Qualitative Frequency Distribution Tables
- 2.3. Information and Communication Technology (ICT) Applications and Practical Systems
  - 2.3.1. Basic Concepts
  - 2.3.2. Data Science
  - 2.3.3. Data Representation
- 2.4. Summary Measures of Data I
  - 2.4.1. Descriptive Statistics
  - 2.4.2. Centralization Measurements
  - 2.4.3. Measures of Dispersion
  - 2.4.4. Measures of Shape and Position
- 2.5. Summary Measures of Data II
  - 2.5.1. Box Plots
  - 2.5.2. Identifying Outliers
  - 2.5.3. Transformation



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- 2.6. Statistical Analysis of the Relationship between the Two Variables
    - 2.6.1. Tabulation
    - 2.6.2. Contingency Tables and Graphical Representations
    - 2.6.3. Linear Relationship between Quantitative Variables
  - 2.7. Time Series and Index Numbers
    - 2.7.1. Time Series
    - 2.7.2. Rates of Change
    - 2.7.3. Index Numbers
    - 2.7.4. Consumer Price Index (CPI) and Deflated Time Series
  - 2.8. Introduction to Probability: Calculation and Basic Concepts
    - 2.8.1. Basic Concepts
    - 2.8.2. Set Theory
    - 2.8.3. Probability Calculation
  - 2.9. Random Variables and Probability Distributions
    - 2.9.1. Random Variables
    - 2.9.2. Variable Measurements
    - 2.9.3. Function of Probability
  - 2.10. Probability Models for Random Variables
    - 2.10.1. Probability Calculation
    - 2.10.2. Discrete Random Variables
    - 2.10.3. Continuous Random Variables
    - 2.10.4. Models Derived from Normal Distribution

### **Module 3. Food, Technology and Culture**

- 3.1. Introduction to Food Culture
  - 3.1.1. Feeding and Nutrition: Man as an Omnivorous Animal
  - 3.1.2. Concept of Culture and Eating Behavior
  - 3.1.3. Human Diet in Different Types of Societies
  - 3.1.4. Concept of Feeding Adaptation: Examples of Feeding Adaptation
- 3.2. Factors that Influence Feeding
  - 3.2.1. Ideological Significance of Food
  - 3.2.2. Diet and Gender
  - 3.2.3. Patterns of Commensality in Different Cultures: Production, Consumption and Behavior



- 3.3. Religion and Food
  - 3.3.1. Permissible and Prohibited Foods
  - 3.3.2. Relationship Between Food and Religious Rituals
  - 3.3.3. Religion-Related Eating Behavior and Practices
- 3.4. Historical Basis of Feeding
  - 3.4.1. Major Changes in Human Diet at Different Stages in History
  - 3.4.2. Prehistory
  - 3.4.3. The Ancient Age
  - 3.4.4. The Middle Ages
  - 3.4.5. Impact of the Discovery of America on European Food and the New World
  - 3.4.6. The Modern Age
- 3.5. Scientific Advances and Feeding
  - 3.5.1. The Industrial Revolution
  - 3.5.2. Impact of Scientific Discoveries and Technological Developments in Food
- 3.6. Contemporary Feeding I
  - 3.6.1. Socioeconomic and Demographic Factors that Influence Current Feeding
  - 3.6.2. Immigration and Food
  - 3.6.3. Man and Abundance in the World, Myths and Realities
- 3.7. Contemporary Feeding II
  - 3.7.1. New Diet Trends
  - 3.7.2. The Booming of Mass Catering and Fast Food
  - 3.7.3. Interest in Diet and Health
- 3.8. Food Acceptability
  - 3.8.1. Physiological and Psychological Conditionings
  - 3.8.2. Concept of Food Quality
  - 3.8.3. Food Acceptability Assessment
- 3.9. Communication Techniques
  - 3.9.1. Food Marketing
  - 3.9.2. Marketing Elements
  - 3.9.3. Advertising Resources in the Food Industry
  - 3.9.4. Influence of Advertising on Eating Behavior

- 3.10. Sociocultural Factors of Nutrition
  - 3.10.1. Social Relations
  - 3.10.2. Expression of Feelings, Prestige and Power
  - 3.10.3. Neolithic and Paleolithic Social Groups

## Module 4. Food Business and Economics

- 4.1. Basic Concepts of Economy
  - 4.1.1. Economics and the Need for Choice
  - 4.1.2. The Production Possibility Frontier and its Applications in Production
  - 4.1.3. The Function of a Market Economy
  - 4.1.4. The Limitations of the Market Economy System and Mixed Economies
- 4.2. Demand and Supply Curves
  - 4.2.1. Agents Participating in the Market. Demand and Supply
  - 4.2.2. Market Balance
  - 4.2.3. Shift in Supply and Demand Curves
- 4.3. Applications of Demand and Supply Analysis
  - 4.3.1. The Fall in Agricultural Prices
  - 4.3.2. Price Ceilings and Floors
  - 4.3.3. Establishment of Price Subsidies or Price Support
  - 4.3.4. Main Systems Used to Support Farmers
- 4.4. The Demand for Goods
  - 4.4.1. Consumer Demand and Utility
  - 4.4.2. Market Demand
  - 4.4.3. Demand and the Concept of Elasticity
  - 4.4.4. Elasticity of Demand and Total Revenue
  - 4.4.5. Other Elasticities
- 4.5. Production in the Company and Production Costs
  - 4.5.1. Short-Run Production
  - 4.5.2. Production and the Long-Run
  - 4.5.3. The Short-Run Costs of the Company
  - 4.5.4. Long-Run Costs and Returns to Scale
  - 4.5.5. The Production Decisions of the Company and Profit Maximization

- 4.6. Market Typology
  - 4.6.1. Forms of Competition
  - 4.6.2. Perfect Competition Markets
  - 4.6.3. The Competitive Firm and the Production Decision
  - 4.6.4. Basic Characteristics of Imperfect Competition
  - 4.6.5. Monopoly, Oligopoly and Monopolistic Competition
- 4.7. Economic Macromagnitudes
  - 4.7.1. Gross Domestic Product and Consumer Price Index
  - 4.7.2. Public Investment and Income
  - 4.7.3. Agricultural Macromagnitudes
- 4.8. Organizational Structure of the Company. Types of Businesses
  - 4.8.1. Individual Entrepreneur
  - 4.8.2. Unincorporated Company
  - 4.8.3. Incorporated Company
  - 4.8.4. Corporate Social Responsibility
  - 4.8.5. Legal and Tax Environment
- 4.9. Functional Areas of the Company
  - 4.9.1. Financing in the Company: Borrowed Funds and Own Funds
  - 4.9.2. Production in the Company
  - 4.9.3. Procurement Area and Inventory Management Methods
  - 4.9.4. Human Resources
- 4.10. Analysis of the Company's Financial Statements
  - 4.10.1. Equity Analysis
  - 4.10.2. Financial Analysis
  - 4.10.3. Economic Analysis

## Module 5. Food and Public Health

- 5.1. Human Nutrition and Historical Evolution
  - 5.1.1. The Natural Element and the Cultural Element. Biological Evolution, Tool Handling and Tool Making
  - 5.1.2. The Use of Fire, Hunter-Gatherer Profiles. Butcher or Vegetarian
  - 5.1.3. Biological, Genetic, Chemical and Mechanical Technologies Involved in Food Processing and Preservation
  - 5.1.4. Food in Roman Times
  - 5.1.5. Influence of the Discovery of America
  - 5.1.6. Food in Developed Countries
    - 5.1.6.1. Food Distribution Chains and Networks
    - 5.1.6.2. The Global Trade "Network" and Small Businesses
- 5.2. Socio-Cultural Significance of Food
  - 5.2.1. Food and Social Communication. Social Relationships and Individual Relationships
  - 5.2.2. Emotional Influence of Foods. Parties and Celebrations
  - 5.2.3. Relationships Between Diets and Religious Precepts. Food and Christianity, Hinduism, Buddhism, Judaism, Islam
  - 5.2.4. Natural Foods, Ecological Foods, and Organic Foods
  - 5.2.5. Typology of Diets: The Standard Diet, Slimming Diets, Curative Diets, Magical Diets and Absurd Diets
  - 5.2.6. Food Reality and Food Perception. Protocol for Family and Institutional Meals
- 5.3. Communication and Eating Behavior
  - 5.3.1. Written Media: Specialist Magazines. Informative Magazines and Professional Journals
  - 5.3.2. Audiovisual Media: Radio, Television, Internet. Packaging. Advertising
  - 5.3.3. Eating Behavior. Motivation and Intake
  - 5.3.4. Food Labeling and Consumption. Development of Likes and Dislikes
  - 5.3.5. Sources of Variation in Food Preferences and Attitudes
- 5.4. Concept of Health and Diseases and Epidemiology
  - 5.4.1. Health Promotion and Disease Prevention
  - 5.4.2. Levels of Prevention. Public Health Law
  - 5.4.3. Characteristics of Foods. Food as a Vehicle for Disease
  - 5.4.4. Epidemiological Methods: Descriptive, Analytical, Experimental, Predictive

- 5.5. Sanitary, Social and Economic Significance of Zoonoses
  - 5.5.1. Zoonosis Classification
  - 5.5.2. Factors
  - 5.5.3. Assessment Criteria
  - 5.5.4. Action Plans
- 5.6. Epidemiology and Prevention of Diseases Transmitted by Meat and Meat By-Products as well as Fish and Fish By-Products
  - 5.6.1. Introduction. Epidemiological Factors of Meat-Borne Diseases
  - 5.6.2. Consumption-Based Diseases
  - 5.6.3. Preventive Measures for Diseases Transmitted by Meat Products
  - 5.6.4. Introduction. Epidemiological Factors of Fish Borne Diseases
  - 5.6.5. Consumption-Based Diseases
  - 5.6.6. Prevention
- 5.7. Epidemiology and Prevention of Diseases Transmitted by Milk and Milk By-Products
  - 5.7.1. Introduction. Epidemiological Factors of Meat-Borne Diseases
  - 5.7.2. Consumption-Based Diseases
  - 5.7.3. Preventive Measures for Diseases Transmitted by Dairy Products
- 5.8. Epidemiology and Prevention of Diseases Transmitted by Bread, Pastries, Confectionery and Cakes
  - 5.8.1. Introduction. Epidemiological Factors
  - 5.8.2. Consumption-Based Diseases
  - 5.8.3. Prevention
- 5.9. Epidemiology and Prevention of Diseases Transmitted by Preserved and Semi-Preserved Foods, and by Edible Vegetables and Mushrooms
  - 5.9.1. Introduction. Epidemiological Aspects of Preserved and Semi-Preserved Foods
  - 5.9.2. Diseases caused by Consumption of Preserved and Semi-Preserved Foods
  - 5.9.3. Sanitary Prevention of Diseases Transmitted by Preserved and Semi-Preserved Foods
  - 5.9.4. Introduction. Epidemiological Aspects of Vegetables and Mushrooms
  - 5.9.5. Diseases Caused by Consumption of Vegetables, and Mushrooms
  - 5.9.6. Sanitary Prevention of Diseases Transmitted by Vegetables and Mushrooms

- 5.10. Health Problems Arising from the Use of Additives, Source of Food Poisoning
  - 5.10.1. Naturally Occurring Toxins in Food
  - 5.10.2. Toxins Due to Incorrect Handling
  - 5.10.3. Use of Food Additives

## Module 6. Food Industries

- 6.1. Cereals and Derivative Products I
  - 6.1.1. Cereals: Production and Consumption
    - 6.1.1.1. Classification of Cereals
    - 6.1.1.2. Current State of Research and Industrial Situation
  - 6.1.2. Basic Concepts of Cereal Grains
    - 6.1.2.1. Methods and Equipment for the Characterization of Flour and Bread Doughs
    - 6.1.2.2. Rheological Properties During Kneading, Proving and Baking
  - 6.1.3. Cereal Products: Ingredients, Additives and Coadjuvants. Classification and Effects
- 6.2. Cereals and Derivative Products II
  - 6.2.1. Baking Process: Stages, Changes Produced and Equipment Used
  - 6.2.2. Instrumental, Sensory and Nutritional Characterization of Cereal Derived Products
  - 6.2.3. Application of Cold in Bakery. Frozen Pre-Baked Breads. Process and Product Quality
  - 6.2.4. Gluten-Free Products Derived From Cereals. Formulation, Process and Quality Characteristics
  - 6.2.5. Pasta products. Ingredients and Process. Types of Pasta
  - 6.2.6. Innovation in Bakery Products. Trends in Product Design
- 6.3. Milk and Dairy Products. Eggs and Egg Products I
  - 6.3.1. Hygienic-Sanitary Quality of Milk
    - 6.3.1.1. Origin and Levels of Contamination. Initial and Contaminating Microbiota
    - 6.3.1.2. Presence of Chemical Contaminants: Residues and Contaminants
    - 6.3.1.3. Influence of Hygiene in the Milk Production and Commercialization Chain
  - 6.3.2. Dairy Production. Milk Synthesis
    - 6.3.2.1. Factors Influencing the Composition of Milk: Extrinsic and Intrinsic
    - 6.3.2.2. Milking: Good Process Practices
  - 6.3.3. On-Farm Milk Pretreatment: Filtration, Refrigeration and Alternative Preservation Methods



- 6.3.4. Treatments in the Dairy Industry: Clarification and Bactofugation, Skimming, Standardization, Homogenization, Deaeration, Pasteurization, Definition, Procedures, Treatment Temperatures and Limiting Factors
  - 6.3.4.1. Types of Pasteurizers. Packaging. Quality Control. Sterilization. Definition
  - 6.3.4.2. Methods: Conventional, UHT, Other Systems. Packaging. Quality Control Manufacturing Defects
  - 6.3.4.3. Types of Pasteurized and Sterilized Milk. Milk Selection. Milkshakes and Flavored Milks. Mixing Process. Fortified Milks. Fortification Process
  - 6.3.4.4. Evaporated Milk. Condensed Milk
- 6.3.5. Preservation and Packaging Systems
- 6.3.6. Quality Control of Powdered Milk
- 6.3.7. Milk Packaging and Quality Control Systems
- 6.4. Milk and Dairy Products. Eggs and Egg Products I
  - 6.4.1. Dairy Products. Creams and Butters
  - 6.4.2. Process of Elaboration. Continuous Manufacturing Methods. Packaging and Preservation. Manufacturing Defects and Alterations
  - 6.4.3. Fermented Milk: Yogurt. Milk Preparative Treatments. Production Processes and Systems
    - 6.4.3.1. Types of Yogurt. Problems in Production. Quality Control
    - 6.4.3.2. BIO Products and Other Acidophilic Milks
  - 6.4.4. Cheese Production Technology: Milk Preparative Treatments
    - 6.4.4.1. Obtaining Curd: Syneresis. Pressing. Salty
    - 6.4.4.2. Water Activity in Cheese. Brine Control and Preservation
    - 6.4.4.3. Cheese Ripening: Agents Involved. Determining Factors of Ripening. Effects of Contaminating Biota
    - 6.4.4.4. Toxicological Problems of Cheese
  - 6.4.5. Additives and Antifungal Treatments
  - 6.4.6. Ice Cream. Features. Types of Ice Cream. Production Process
  - 6.4.7. Eggs and Egg Products
    - 6.4.7.1. Fresh Egg: Processing of Fresh Egg as a Raw Material for the Production of Derivatives
    - 6.4.7.2. Egg Products: Liquid, Frozen, and Dehydrated
- 6.5. Plant Products I
  - 6.5.1. Post-Harvest Physiology and Technology. Introduction
  - 6.5.2. Fruit and Vegetable Production, the Need for Post-Harvest Preservation
  - 6.5.3. Respiration: Respiratory Metabolism and its Influence on Post-Harvest Storage and Deterioration of Vegetables
  - 6.5.4. Ethylene: Synthesis and Metabolism. Implication of Ethylene in the Regulation of Fruit Ripening
  - 6.5.5. Fruit Ripening: The Ripening Process, Generalities and its Control
    - 6.5.5.1. Climacteric and Non-Climacteric Ripening
    - 6.5.5.2. Compositional Changes: Physiological and Biochemical Changes During Ripening and Preservation of Fruits and Vegetables
- 6.6. Plant Products II
  - 6.6.1. Principle of Fruit and Vegetable Preservation by the Control of Greenhouse Gases. Method of Action and its Applications in the Conservation of Fruits and Vegetables
  - 6.6.2. Refrigerated Preservation. Temperature Control in the Preservation of Fruits and Vegetables
    - 6.6.2.1. Technological Methods and Applications
    - 6.6.2.2. Cold Damage and its Control
  - 6.6.3. Transpiration: Control of Water Loss in the Preservation of Fruit and Vegetables
    - 6.6.3.1. Physical Principles. Control Systems
  - 6.6.4. Post-Harvest Pathology: Main Deteriorations and Rots During Fruit and Vegetable Preservation. Control System and Method
  - 6.6.5. Fresh-Cut Products
    - 6.6.5.1. Physiology of Plant Products: Manipulation and Preservation Technologies
- 6.7. Plant Products III
  - 6.7.1. Vegetable Canning: General Description of a Characteristic Vegetable Canning Line
    - 6.7.1.1. Examples of the Main Types of Canned Vegetables and Legumes
    - 6.7.1.2. New Products of Plant Origin: Cold Soups
    - 6.7.1.3. General Description of a Characteristic Fruit Packaging Line

- 6.7.2. Juice and Nectar Production: Juice Extraction and Juice Processing
  - 6.7.2.1. Aseptic Processing, Storage and Packaging Systems
  - 6.7.2.2. Examples of Procurement Lines of Main Types of Juices
  - 6.7.2.3. Procurement and Preservation of Semi-Processed Products: Cremogenated
- 6.7.3. Production of Marmalades, Jams and Jellies: Production and Packaging Process
  - 6.7.3.1. Examples of Processing Lines; Characteristics
  - 6.7.3.2. Additives Used for the Manufacture of Jams and Marmalades
- 6.8. Alcoholic Beverages and Oils
  - 6.8.1. Alcoholic Beverages: Wine. Manufacturing Process
    - 6.8.1.1. Beer: Brewing Process. Types
    - 6.8.1.2. Spirits and Liqueurs: Manufacturing Processes and Types
  - 6.8.2. Oils and Fats: Introduction
    - 6.8.2.1. Olive Oil: Olive Oil Extraction System
    - 6.8.2.2. Oilseed Oils Extraction
  - 6.8.3. Animal Fats: Refining of Fats and Oils
- 6.9. Meat and Meat By-Products
  - 6.9.1. Meat Industry: Production and Consumption
  - 6.9.2. Classification and Functional Properties of Muscle Proteins: Myofibrillar, Sarcoplasmic, and Stromal Proteins
    - 6.9.2.1. Conversion of Muscle to Meat: Porcine Stress Syndrome
  - 6.9.3. Beef Aging. Factors Affecting Meat Quality for Direct Consumption and Industrialization
  - 6.9.4. Curing (Chemistry): Ingredients, Additives and Curing Coadjuvants
    - 6.9.4.1. Industrial Curing Processes: Dry and Wet Curing Processes
    - 6.9.4.2. Nitrite Alternatives
  - 6.9.5. Raw and Raw Marinated Meat Products: Fundamentals and Problems of Preservation. Characteristics of Raw Materials
    - 6.9.5.1. Types of Products. Manufacturing Operations
    - 6.9.5.2. Alterations and Defects
  - 6.9.6. Cooked Sausages and Hams: Basic Principles of the Preparation of Meat Emulsions. Characteristics and Selection of Raw Materials
    - 6.9.6.1. Technological Manufacturing Operations. Industrial Systems
    - 6.9.6.2. Alterations and Defects

- 6.10. Fish and Seafood
  - 6.10.1. Fish and Seafood. Features of Technological Interest
  - 6.10.2. Main Industrial Fishing and Seafood Gears
    - 6.10.2.1. Unit Operations of Fish Technology
    - 6.10.2.2. Cold Preservation of Fish
  - 6.10.3. Salting, Pickling, Drying and Smoking: Technological Aspects of Manufacture
    - 6.10.3.1. Features of the Final Product. Performance
  - 6.10.4. Marketing

## Module 7. Food Hygiene and Safety

- 7.1. Introduction to Food Safety
  - 7.1.1. Concept of Food Hygiene and Safety
    - 7.1.1.1. Historical Development. Current Importance
    - 7.1.1.2. Objectives and Strategies in Global Food Security Policy
  - 7.1.2. Specific Food Quality Assurance Programs
  - 7.1.3. Food Safety at the Consumer Level
  - 7.1.4. Traceability Concept and Application in the Food Industry
- 7.2. Self-Control Systems in the Food Sector
  - 7.2.1. General Hygiene Plan (GHP)
    - 7.2.1.1. Objectives and Current Importance
    - 7.2.1.2. Basic Principles and Basis for their Implementation in Food Businesses
  - 7.2.2. Food Handling
  - 7.2.3. Preventive Measures and Process Hygiene in the Food Industry and Catering Industry
- 7.3. Hazard Analysis and Critical Control Point System (HACCP)
  - 7.3.1. General Principles of the HACCP System
  - 7.3.2. Design and Verification of the Flow Chart
  - 7.3.3. Risk Assessment Systems and Hazard Assessment Systems
  - 7.3.4. Implementation of Control Systems, Critical Limits, Corrective Measures and Verification Systems
  - 7.3.5. Development of a Management Chart and its Application in the Food Industry

- 7.4. Specific Plans in the Food Industry
  - 7.4.1. Food Handler Training Plan
    - 7.4.1.1. Execution of the Training Plan. Types of Training Activities
    - 7.4.1.2. Training Methodology
    - 7.4.1.3. Follow-Up, Surveillance and Corrective Actions
    - 7.4.1.4. Plan Verification
  - 7.4.2. Supplier Approval Plan
    - 7.4.2.1. Control, Verification and Corrective Actions Procedures of an Approval Plan
    - 7.4.2.2. Hygiene in Freight Transport
    - 7.4.2.3. Hygiene Standards in the Reception of Fresh, Manufactured, Non-Perishable, Packaged and Other Kinds of Foods
  - 7.4.3. Cleaning and Disinfection Plan (L+D)
    - 7.4.3.1. Biofilms and their Impact on Food Safety
    - 7.4.3.2. Cleaning and Disinfection Methods
    - 7.4.3.3. Types of Detergents and Disinfection
    - 7.4.3.4. Cleaning and Disinfection Plan Control and Verification Systems
- 7.5. Traceability in Food Industry
  - 7.5.1. Introduction to Traceability
    - 7.5.1.1. Background to the Traceability System
    - 7.5.1.2. Traceability Concept
    - 7.5.1.3. Types of Traceability
    - 7.5.1.4. Advantages of Traceability
  - 7.5.2. Implementation of the Traceability Plan
    - 7.5.2.1. Introduction
    - 7.5.2.2. Previous Stages
    - 7.5.2.3. Traceability Plan
    - 7.5.2.4. Product Identification System
    - 7.5.2.5. System Test Methods
  - 7.5.3. Product Identification Tools
    - 7.5.3.1. Hand Tools
    - 7.5.3.2. Automated Tools
      - 7.5.3.2.1. EAN Bar Code
      - 7.5.3.2.2. RFID/// EPC
  - 7.5.4. Records
    - 7.5.4.1. Registration of Identification of Raw Materials and other Materials
    - 7.5.4.2. Registration of Food Processing
    - 7.5.4.3. Final Product Identification Record
    - 7.5.4.4. Recording of the Results of Checks Performed
    - 7.5.4.5. Record Keeping Period
  - 7.5.5. Incident Management, Product Recall and Reclamation and Customer Complaints
- 7.6. Storage of Goods and Control of Packaged Product
  - 7.6.1. Hygiene Standards for Dry Storage of Products
  - 7.6.2. Hot Holding: Cooking and Reheating Policies and Hygiene Standards
  - 7.6.3. Storage System Validation Records and Thermometer Calibration
  - 7.6.4. Food Packaging and its Application in Food Safety
    - 7.6.4.1. Sanitary Guarantees and Durability of Food Under Optimum Conditions According to Packaging Technology
    - 7.6.4.2. Food Packaging and Environmental Contamination
- 7.7. Analytical and Instrumental Techniques in Process and Product Quality Control
  - 7.7.1. Food Laboratory
  - 7.7.2. Official Control of the Agri-Food Chain
    - 7.7.2.1. PNCPA of the Agri-Food Chain
    - 7.7.2.2. Competent Authorities
  - 7.7.3. Methods of Food Analysis
    - 7.7.3.1. Methods of Analysis in Cereals
    - 7.7.3.2. Methods of Analysis of Fertilizers, Residues of Phytosanitary and Veterinary Products
    - 7.7.3.3. Methods of Analysis of Food Products
    - 7.7.3.4. Methods of Analysis of Meat Products
    - 7.7.3.5. Fat Analysis Methods
    - 7.7.3.6. Methods of Analysis of Dairy Products
    - 7.7.3.7. Methods of Analysis of Wines, Juices and Musts
    - 7.7.3.8. Methods of Analysis of Fishery Products



- 7.7.4. Nutritional Analysis Techniques
  - 7.7.4.1. Protein Determination
  - 7.7.4.2. Determination of Carbohydrates
  - 7.7.4.3. Determination of Fats
  - 7.7.4.4. Determination of Ash
- 7.8. Food Safety Management
  - 7.8.1. Food Safety Principles and Management
    - 7.8.1.1. The Concept of Danger
    - 7.8.1.2. The Concept of Risk
    - 7.8.1.3. Risk Evaluation
  - 7.8.2. Physical Hazards
    - 7.8.2.1. Concepts and Considerations on Physical Hazards in Foods
    - 7.8.2.2. Physical Hazard Control Methods
  - 7.8.3. Chemical Hazards
    - 7.8.3.1. Concepts and Considerations on Chemical Hazards in Foods
    - 7.8.3.2. Chemical Hazards Naturally Occurring in Food
    - 7.8.3.3. Hazards Associated with Chemicals Intentionally Added to Foods
    - 7.8.3.4. Incidentally or Unintentionally Added Chemical Hazards
    - 7.8.3.5. Chemical Hazard Control Methods
    - 7.8.3.6. Allergens in Food
  - 7.8.4. Concepts and Considerations of Biological Hazards in Foods
    - 7.8.4.1. Microbial Hazards
    - 7.8.4.2. Non-Microbial Biological Hazards
    - 7.8.4.3. Biological Hazard Control Methods
  - 7.8.5. Good Manufacturing Practices (GMP)
    - 7.8.5.1. Background
    - 7.8.5.2. Scope
    - 7.8.5.3. GMPs in a Safety Management System



- 7.9. Validation of New Methods and Technology
  - 7.9.1. Validation of Processes and Methods
    - 7.9.1.1. Documentary Support
    - 7.9.1.2. Validation of Analytical Techniques
    - 7.9.1.3. Validation Sampling Plan
    - 7.9.1.4. Method Bias and Accuracy
    - 7.9.1.5. Determining Uncertainty
  - 7.9.2. Validation Methods
    - 7.9.2.1. Method Validation Stages
    - 7.9.2.2. Types of Validation Processes, Approaches
    - 7.9.2.3. Validation Reports, Summary of Data Obtained
  - 7.9.3. Cause Analysis
    - 7.9.3.1. Qualitative Methods: Cause-Effect and Root-Cause Tree
    - 7.9.3.2. Quantitative Methods: Pareto Diagram and Scatter Plots
  - 7.9.4. Internal Audits of the Self-Control System
    - 7.9.4.1. Competent Auditors
    - 7.9.4.2. Audit Program and Plan
    - 7.9.4.3. Scope of the Audit
    - 7.9.4.4. Reference Documents
- 7.10. Cold Chain Maintenance
  - 7.10.1. The Cold Line and its Impact on Food Safety
  - 7.10.2. Guidelines in a Catering Service for the Design, Implementation and Maintenance of a HACCP System in the Complete Cold Line
  - 7.10.3. Identification of Hazards Associated with the Cold Line

## Module 8. Food Quality and Management

- 8.1. Food Safety and Consumer Protection
  - 8.1.1. Definition and Basic Concepts
  - 8.1.2. Quality and Food Safety Evolution
  - 8.1.3. Situation in Developing and Developed Countries
  - 8.1.4. Key Food Safety Agencies and Authorities: Structures and Functions
  - 8.1.5. Food Fraud and Food Hoaxes: The Role of the Media
- 8.2. Facilities, Premises and Equipment
  - 8.2.1. Site Selection: Design and Construction and Materials
  - 8.2.2. Premises, Facilities and Equipment Maintenance Plan
  - 8.2.3. Applicable Regulations
- 8.3. Cleaning and Disinfection Plan (L+D)
  - 8.3.1. Dirt Components
  - 8.3.2. Detergents and Disinfectants: Composition and Functions
  - 8.3.3. Cleaning and Disinfection Stages
  - 8.3.4. Cleaning and Disinfection Program
  - 8.3.5. Current Regulations
- 8.4. Pest Control
  - 8.4.1. Pest Control and Disinfestation (Plan D+D)
  - 8.4.2. Pests Associated with the Food Chain
  - 8.4.3. Preventive Measures for Pest Control
    - 8.4.3.1. Traps and Snares for Mammals and Ground Insects
    - 8.4.3.2. Traps and Snares for Flying Insects
- 8.5. Traceability Plan and Good Manipulation Practices (GMP)
  - 8.5.1. Structure of a Traceability Plan
  - 8.5.2. Current Regulations Associated with Traceability
  - 8.5.3. GMP Associated with Food Processing
    - 8.5.3.1. Food Handling
    - 8.5.3.2. Requirements to be Met
    - 8.5.3.3. Hygiene Training Plans

- 8.6. Components of Food Safety Management
  - 8.6.1. Water as an Essential Element in the Food Chain
  - 8.6.2. Biological and Chemical Agents Associated with Water
  - 8.6.3. Quantifiable Elements of Water Quality, Safety and Use
  - 8.6.4. Supplier Certification
    - 8.6.4.1. Supplier Monitoring Plan
    - 8.6.4.2. Current Regulations Associated
  - 8.6.5. Food Labeling
    - 8.6.5.1. Consumer Information and Allergen Labeling
    - 8.6.5.2. Labeling of Genetically Modified Organisms
- 8.7. Food Crisis and Associated Policies
  - 8.7.1. Food Crisis Causes
  - 8.7.2. Food Security Crisis Scope, Management, and Response
  - 8.7.3. Alert Communication Systems
  - 8.7.4. Policies and Strategies for Improving Food Quality and Safety
- 8.8. Design of the Hazard Analysis Critical Control Point (HACCP) Plan
  - 8.8.1. General Guidelines to be Followed for its Implementation: Principles on which it is Based and Prerequisite Program
  - 8.8.2. Management Commitment
  - 8.8.3. Configuration of HACCP Resources
  - 8.8.4. Description of the Product and Identification of its Intended Use
  - 8.8.5. Flow Diagrams
- 8.9. Development of the Hazard Analysis Critical Control Point (HACCP) Plan
  - 8.9.1. Defining Critical Control Points (CCPs)
  - 8.9.2. The Seven Basic Principles of the HACCP Plan
    - 8.9.2.1. Hazard Identification and Analysis
    - 8.9.2.2. Establishment of Control Measures for Identified Hazards
    - 8.9.2.3. Determining Critical Control Points (CCPs)
    - 8.9.2.4. Defining Critical Control Points (CCPs)
    - 8.9.2.5. Establishment of Critical Limits
    - 8.9.2.6. Determination of Corrective Actions
    - 8.9.2.7. HACCP System Checks







- 8.10. ISO 22000
  - 8.10.1. ISO 22000 Principles
  - 8.10.2. Purpose and Field of Application
  - 8.10.3. Market Situation and Position in Relation to Other Applicable Standards in the Food Chain
  - 8.10.4. Application Requirements
  - 8.10.5. Food Safety Management Policy

### Module 9. Safety Assessment in the Food Industry

- 9.1. Safety Assessment in the Food Industry
  - 9.1.1. Definition of Terms. Main Related Concepts
  - 9.1.2. Historical Background of Food Safety
  - 9.1.3. Agencies in Charge of Managing Food Safety
- 9.2. HACCP Plan
  - 9.2.1. Requirements Prior to its Implementation
  - 9.2.2. HACCP System Components
    - 9.2.2.1. Hazard Analysis
    - 9.2.2.2. Identification of Critical Points
    - 9.2.2.3. Specification of Control Criteria. Monitoring
    - 9.2.2.4. Corrective Actions
    - 9.2.2.5. Plan Verification
    - 9.2.2.6. Data Logging
- 9.3. Meat and Meat Product Hygiene
  - 9.3.1. Fresh Meat Products
  - 9.3.2. Raw Cured Meat Products
  - 9.3.3. Heat-Treated Meat Products
  - 9.3.4. Application of HACCP Systems



- 9.4. Hygiene of Fish and Fish Products
  - 9.4.1. Fish, Mollusks and Crustaceans
  - 9.4.2. Processed Fish Products
  - 9.4.3. Application of HACCP Systems
- 9.5. Hygienic Characteristics of Milk and Dairy Derivatives
  - 9.5.1. Hygienic Characteristics of Raw and Heat-Treated Milk
  - 9.5.2. Hygienic Characteristics of Concentrated and Dehydrated Milk
  - 9.5.3. Hygienic Characteristics of Dairy Derivatives
  - 9.5.4. Application of HACCP Systems
- 9.6. Hygienic Characteristics of Other Products of Animal Origin
  - 9.6.1. Eggs and Egg Products
  - 9.6.2. Honey
  - 9.6.3. Fats and Oils
  - 9.6.4. Application of HACCP System
- 9.7. Hygienic Features of Fruits and Vegetables
  - 9.7.1. Fresh Fruits and Vegetables, Fruit and Vegetable Derivatives
  - 9.7.2. Dried Fruit
  - 9.7.3. Vegetable Oils
  - 9.7.4. Application of HACCP Systems
- 9.8. Hygienic Features of Legumes and Cereals
  - 9.8.1. Legumes and Cereals
  - 9.8.2. Products Derived from Legumes: Flour, Bread, Pasta
  - 9.8.3. Application of HACCP Systems
- 9.9. Hygienic Features of Water and Beverages
  - 9.9.1. Drinking Water and Soft Drinks
  - 9.9.2. Stimulant Beverages
  - 9.9.3. Alcoholic Beverages
  - 9.9.4. Application of HACCP Systems
- 9.10. Hygienic Characteristics of Other Food Products
  - 9.10.1. Nougat
  - 9.10.2. Prepared Dishes
  - 9.10.3. Food for Children
  - 9.10.4. Application of HACCP Systems

## Module 10. Marketing and Consumer Behavior

- 10.1. Concept and Function of Marketing in the Company
  - 10.1.1. Concept and Nature of Marketing
  - 10.1.2. The Marketing Process
  - 10.1.3. The Company's Market
  - 10.1.4. Evolution of Business Approaches to the Market
  - 10.1.5. Evolution and Current Trends in Marketing
- 10.2. Consumer Behavior in Relation to Food
  - 10.2.1. Nature and Scope of the Study of Consumer Behavior
  - 10.2.2. Factors Influencing Consumer Behavior
  - 10.2.3. The Process in Purchasing Decisions
  - 10.2.4. The Organizational Purchasing Process
- 10.3. Food Market Research
  - 10.3.1. Concept, Objectives and Types of Marketing Research
  - 10.3.2. Marketing Information Sources
  - 10.3.3. The Commercial Research Process
  - 10.3.4. Commercial Research Instruments
  - 10.3.5. Markets and Customers: Segmentation
- 10.4. Marketing Decisions Related to Food as a Commercial Product
  - 10.4.1. Food as Products, Characteristics, and Classification
  - 10.4.2. Decisions on Food Products
  - 10.4.3. Trademark Decisions
- 10.5. Development and Commercialization of New Foods
  - 10.5.1. New Product Strategy Development
  - 10.5.2. Stages in Development of New Products
  - 10.5.3. New Product Management
  - 10.5.4. Marketing Policies in the Product Life Cycle
- 10.6. Management and Pricing Policies
  - 10.6.1. Prices, Approach to the Concept
  - 10.6.2. Pricing Methods
  - 10.6.3. Pricing Strategies for New Products
  - 10.6.4. Pricing a Product Mix/Portfolio of Products
  - 10.6.5. Pricing Adjustment Strategies

- 10.7. Communication with the Market
  - 10.7.1. The Role of Marketing Communications
  - 10.7.2. Communication Tools
  - 10.7.3. Development of an Effective Communication
  - 10.7.4. Factors in Establishing the Communication Mix
- 10.8. Food Distribution
  - 10.8.1. Introduction
  - 10.8.2. Decisions Regarding Channel Design
  - 10.8.3. Decisions Regarding Channel Management
  - 10.8.4. Integration and Channel Systems
  - 10.8.5. Changes in Channel Organization
- 10.9. Consumer Decision Process
  - 10.9.1. Incentive and Market Characteristics and their Relationship to the Consumer Decision
    - 10.9.1.1. Extensive, Limited and Routine Purchase Decision
    - 10.9.1.2. High-Involvement and Low-Involvement Purchasing Decisions
    - 10.9.1.3. Buyer Typology
  - 10.9.2. Problem Recognition: Concept and Influencing Factors
  - 10.9.3. The Search for Information: Concept, Types, Dimensions and Determining Factors of the Search Process
  - 10.9.4. The Evaluation of the Information: The Evaluation Criteria and the Strategies or Decision Rules
  - 10.9.5. General Aspects of Branding Choice
    - 10.9.5.1. The Choice of the Establishment
    - 10.9.5.2. Post-Purchase Processes
- 10.10. The Social Dimension in the Consumer Purchasing Process
  - 10.10.1. Culture and its Influence on Consumers: Dimensions, Concept and Characteristic Aspects of Culture
  - 10.10.2. The Value of Consumption in Western Cultures
    - 10.10.2.1. Social Strata and Consumer Behavior: Concept, Characteristics and Measurement Procedures
    - 10.10.2.2. Lifestyles

- 10.10.3. Groups: Concept, Characteristics, and Types of Groups
  - 10.10.3.1. The Influence of the Family on Purchasing Decisions
  - 10.10.3.2. Types of Family Purchasing Decisions and Factors Influencing the Family Decision Process
  - 10.10.3.3. Family Life Cycle

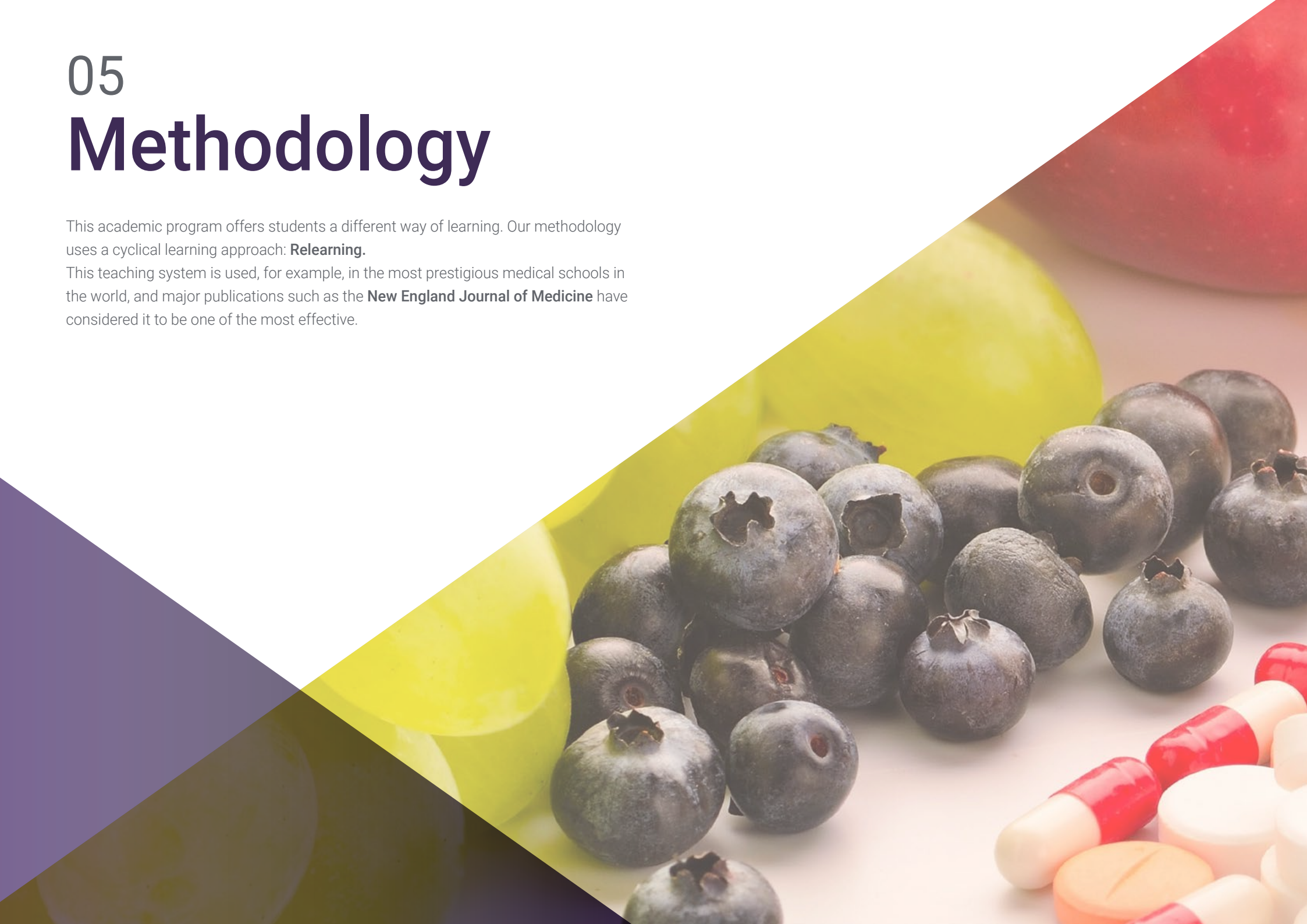


*A 100% online program that will show you what techniques to use to understand household purchasing decisions”*

# 05 Methodology

This academic program offers students a different way of learning. Our methodology uses a cyclical learning approach: **Relearning**.

This teaching system is used, for example, in the most prestigious medical schools in the world, and major publications such as the **New England Journal of Medicine** have considered it to be one of the most effective.





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*Discover Relearning, a system that abandons conventional linear learning, to take you through cyclical teaching systems: a way of learning that has proven to be extremely effective, especially in subjects that require memorization"*



## At TECH we use the Case Method

In a given situation, what should a professional do? Throughout the program, students will face multiple simulated clinical cases, based on real patients, in which they will have to do research, establish hypotheses, and ultimately resolve the situation. There is an abundance of scientific evidence on the effectiveness of the method. Specialists learn better, faster, and more sustainably over time.

*With TECH, nutritionists can experience a way of learning that is shaking the foundations of traditional universities around the world.*



According to Dr. Gérvas, the clinical case is the annotated presentation of a patient, or group of patients, which becomes a "case", an example or model that illustrates some peculiar clinical component, either because of its teaching power or because of its uniqueness or rarity. It is essential that the case is based on current professional life, trying to recreate the real conditions of professional nutritional practice.

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*Did you know that this method was developed in 1912, at Harvard, for law students? The case method consisted of presenting students with real-life, complex situations for them to make decisions and justify their decisions on how to solve them. In 1924, Harvard adopted it as a standard teaching method”*

The effectiveness of the method is justified by four fundamental achievements:

1. Nutritionists who follow this method not only achieve the assimilation of concepts, but also a development of their mental capacity through exercises to evaluate real situations and the application of knowledge.
2. Learning is solidly translated into practical skills that allow the nutritionist to better integrate knowledge into clinical practice.
3. Ideas and concepts are understood more efficiently, given that the example situations are based on real-life.
4. Students like to feel that the effort they put into their studies is worthwhile. This then translates into a greater interest in learning and more time dedicated to working on the course.



## Relearning Methodology

At TECH we enhance the case method with the best 100% online teaching methodology available: Relearning.

This university is the first in the world to combine the study of clinical cases with a 100% online learning system based on repetition, combining a minimum of 8 different elements in each lesson, a real revolution with respect to the mere study and analysis of cases.

*The nutritionist will learn through real cases and by solving complex situations in simulated learning environments. These simulations are developed using state-of-the-art software to facilitate immersive learning.*





At the forefront of world teaching, the Relearning method has managed to improve the overall satisfaction levels of professionals who complete their studies, with respect to the quality indicators of the best online university (Columbia University).

With this methodology, more than 45,000 nutritionists have been trained with unprecedented success in all clinical specialties regardless of the surgical load. All this in a highly demanding environment, where the students have a strong socio-economic profile and an average age of 43.5 years.

*Relearning will allow you to learn with less effort and better performance, involving you more in your training, developing a critical mindset, defending arguments, and contrasting opinions: a direct equation for success.*

In our program, learning is not a linear process, but rather a spiral (learn, unlearn, forget, and re-learn). Therefore, we combine each of these elements concentrically.

The overall score obtained by TECH's learning system is 8.01, according to the highest international standards.





This program offers the best educational material, prepared with professionals in mind:



#### Study Material

All teaching material is produced by the specialists who teach the course, specifically for the course, so that the teaching content is highly specific and precise.

These contents are then applied to the audiovisual format, to create the TECH online working method. All this, with the latest techniques that offer high quality pieces in each and every one of the materials that are made available to the student.



#### Nutrition Techniques and Procedures on Video

TECH brings students closer to the latest techniques, the latest educational advances and to the forefront of current nutritional counselling techniques and procedures. All of this in direct contact with students and explained in detail so as to aid their assimilation and understanding. And best of all, you can watch the videos as many times as you like.



#### Interactive Summaries

The TECH team presents the contents attractively and dynamically in multimedia lessons that include audio, videos, images, diagrams, and concept maps in order to reinforce knowledge.

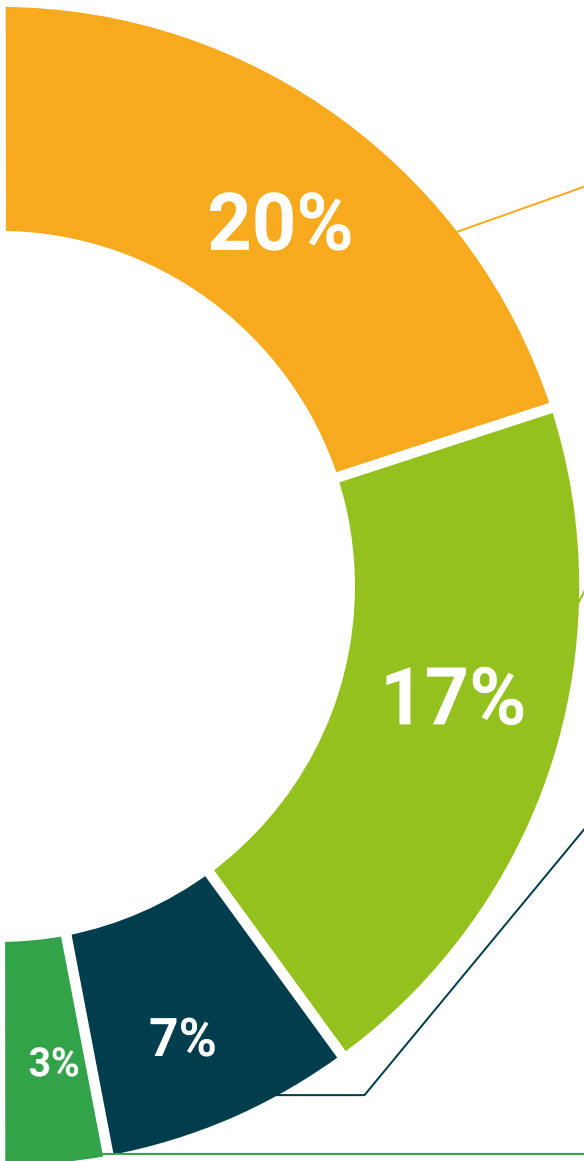
This exclusive educational system for presenting multimedia content was awarded by Microsoft as a "European Success Story".



#### Additional Reading

Recent articles, consensus documents and international guidelines, among others. In TECH's virtual library, students will have access to everything they need to complete their course.





#### Expert-Led Case Studies and Case Analysis

Effective learning ought to be contextual. Therefore, TECH presents real cases in which the expert will guide students, focusing on and solving the different situations: a clear and direct way to achieve the highest degree of understanding.



#### Testing & Retesting

We periodically evaluate and re-evaluate students' knowledge throughout the program, through assessment and self-assessment activities and exercises, so that they can see how they are achieving their goals.



#### Classes

There is scientific evidence suggesting that observing third-party experts can be useful.

Learning from an Expert strengthens knowledge and memory, and generates confidence in future difficult decisions.



#### Quick Action Guides

TECH offers the most relevant contents of the course in the form of worksheets or quick action guides. A synthetic, practical, and effective way to help students progress in their learning.



# 06 Certificate

The Professional Master's Degree in Integrated Food Business Management guarantees students, in addition to the most rigorous and up-to-date education, access to a Professional Master's Degree issued by TECH Technological University.





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*Successfully complete this program and receive your university qualification without having to travel or fill out laborious paperwork”*

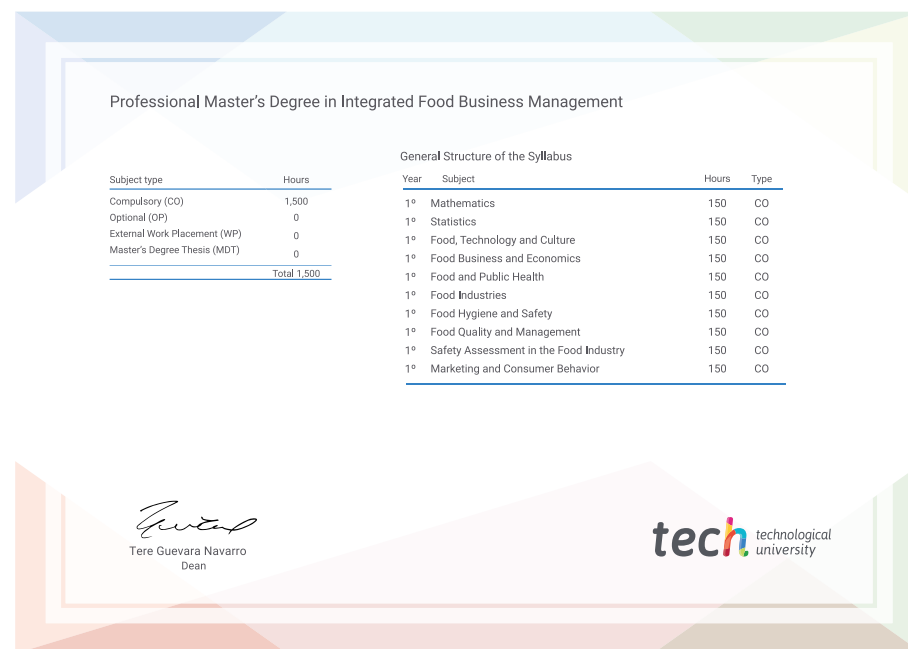


This **Professional Master's Degree in Integrated Food Business Management** contains the most complete and up-to-date scientific program on the market.

After the student has passed the assessments, they will receive their corresponding **Professional Master's Degree** issued by **TECH Technological University** via tracked delivery\*.

The certificate issued by **TECH Technological University** will reflect the qualification obtained in the Professional Master's Degree, and meets the requirements commonly demanded by labor exchanges, competitive examinations, and professional career evaluation committees.

Title: **Professional Master's Degree in Integrated Food Business Management**  
 Official N° of Hours: **1,500 h.**



\*Apostille Convention. In the event that the student wishes to have their paper certificate issued with an apostille, TECH EDUCATION will make the necessary arrangements to obtain it, at an additional cost.

future

health confidence people

education information tutors

guarantee accreditation teaching

institutions technology learning

community commitment

personalized service innovation

knowledge present quality

development language

virtual classroom

**tech** technological  
university

**Professional Master's  
Degree**

Integrated Food  
Business Management

Course Modality: Online

Duration: 12 months

Certificate: TECH Technological University

Teaching Hours: 1,500 h.

# Professional Master's Degree

## Integrated Food Business Management

