

St Thomas College, Kozhencherry

Certificate Course in *Food Science and Nutrition*



Name of the Department: Department of Chemistry

Course Coordinator: Dr Cimi A Daniel

Duration of the Course: 30 hours

Course Objectives:

1. To impart enthusiasm and awareness about food science thereby demonstrating nutrition and wellness practices that enhance individual and family well being.
2. To understand the nutritional needs of people in various stages of life.
3. To integrate knowledge and skills in food and nutrition and it also enable students to acquire an additional certificate along with their Degree.

Course Outcomes:

1. Awareness about Food Science
2. Understand nutritional needs

Course Outline

Module 1: (4 hours)

BASICS OF FOOD SCIENCE

Definition of Food and Food Science, Classification of Foods based on Functions, Food groups and Food pyramid, Balanced Diet, Composition and nutritive value of various food items.

Module 2: (5 hours)

PRINCIPLES OF NUTRITION

Definition of Energy; Carbohydrates- Functions; Proteins- functions, essential amino acids; Lipids and Water- Functions; Minerals- Micro and macro minerals- functions, deficiency and toxicity; Vitamins- Fat soluble vitamins and water soluble vitamins – functions and deficiency; Nutrition during Pregnancy, Childhood and Adolescence.

Module 3: (8 hours)

CHEMISTRY OF FOODS, EDIBLE OILS AND BEVERAGES

Denaturation of Proteins, enzymatic and non enzymatic browning reaction in foods, rancidity – types and prevention. Fats, oils. Saturated and unsaturated fatty acids – Iodine value - Role of MUFA and PUFA in preventing heart diseases, saponification value and their significance. Beverages - alcoholic and non- alcoholic beverages. Carbonation – addiction to alcohol - cirrhosis of liver and social problems.

Module-4: (8 hours)

FOOD SAFETY AND QUALITY CONTROL

Principles of Quality control of food –Raw material control, processed control and finished product inspection; Food adulteration - definition, types of adulteration in various foods, Common adulterants in foods and tests to detect common adulterants. Food additives, Food flavours, Food colours, leavening agents, emulsifiers, taste makers.

Practical - (5Hrs)

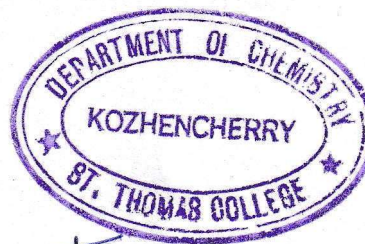
- Analysis of intentional adulteration in various food items.
- Determination of adulteration in milk.
- Estimation of Acidity in fruit juice.
- Estimation of Iron content in various food items.
- Determination of Vitamin C content in fruit juices

Mode of Evaluation:

Assignments, Test

Recommended Readings:

1. Swaminathan M., Food Science And Experimental Foods, Ganesh And Company.
2. Srilakshmi, B., Nutrition Science, New Age International (P) Ltd., New Delhi, 2017.



For