



**FIRST-YEAR OF BACHELOR OF SCIENCE
CHEMISTRY OPEN ELECTIVE COURSE
REVISED SYLLABUS ACCORDING TO CBCS
NEP2020**

**COURSE TITLE: FOOD ADULTERATION
SEMESTER-II
W.E.F. 2023-2024**

**RECOMMENDED BY THE BOARD OF STUDIES IN CHEMISTRY
AND
APPROVED BY THE ACADEMIC COUNCIL**

Devrukh Shikshan Prasarak Mandal's

Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and
Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh.
Tal. Sangameshwar, Dist. Ratnagiri-415804, Maharashtra,
India

Academic Council Item No: 03 dated 08 July 2023

Name of the Implementing Institute	:	Nya. Tatyasaheb Athalye Arts, Ved. S. R. Sapre Commerce, and Vid. Dadasaheb Pitre Science College (Autonomous), Devrukh. Tal. Sangameshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Bachelor of Science
Name of the Department	:	Chemistry
Name of the Class	:	First Year
Semester	:	Second
No. of Credits	:	02
Title of the Course	:	Food Adulteration
Course Code	:	CHOE102
Name of the Vertical in adherence to NEP 2020	:	Generic/ Open Elective Courses
Eligibility for Admission	:	Any 12 th Pass seeking Admission to Degree Programme in adherence to Rules and Regulations of the University of Mumbai and Government of Maharashtra
Passing Marks	:	40%
Mode of Assessment	:	Formative and Summative
Level	:	UG
Pattern of Marks Distribution for SEE and CIA	:	60:40
Status	:	NEP-CBCS
To be implemented from Academic Year	:	2023-2024
Ordinances /Regulations (if any)		

Syllabus for First Year of Bachelor of Science in Chemistry

(With effect from the academic year 2023-2024)

SEMESTER-II

Course Title: Food Adulteration

No. of Credits - 02

Type of Vertical: Generic/Open Elective Courses

COURSE CODE: CHOE102

Learning Outcomes Based on BLOOM's Taxonomy:

After completing the course, the learner will be able to...

Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CLO-01	Understand	describe various foods and types of adulteration and explain basic laws and procedures regarding food adulteration and consumer protection.
CLO-02	Apply	identify common food adulterants and their adverse effects on health.
CLO-03	Analyse	analyse adulteration of commonly consumed food items.

Syllabus for First Year of Bachelor of Science in Chemistry

(With effect from the academic year 2023-2024)

SEMESTER-II

Course Title: Food Adulteration

No. of Credits - 02

Type of Vertical: Generic/Open Elective Courses

COURSE CODE: CHOE102

COURSE CONTENT			
Module No.	Content	Credits	No. of Hours
1	<p>1.1 Introduction to Food Science</p> <ul style="list-style-type: none"> ○ Introduction, types of food, functions of food, food groups, Food and Health. <p>1.2 Food Adulteration</p> <ul style="list-style-type: none"> ○ Food adulteration, types of adulterants, health impacts of adulteration, Food hazard-definition, types, Food poisoning- types, prevention and control, Diseases-neurolethyrism, Botulism, aflatoxin, egotism, Staphylococcal intoxication, salmonellosis etc. <p>1.3 Present Laws and Procedures on Adulteration</p> <ul style="list-style-type: none"> ○ Basic Highlights of Food Safety and Standards Act 2006 (FSSA) - Food Safety and Standards ○ Authority of India (FSSAI) - Rules and Certification Systems. ○ Role of voluntary agencies such as, Agmark, I.S.I., Quality control laboratories of companies, Private testing laboratories, Quality control laboratories of consumer cooperatives. ○ Consumer education, Consumer's problems rights and responsibilities, COPRA 2019 - Offenses and Penalties – Procedures to Complain – Compensation to Victims. 	01	15
2	<p>2.1. Adulteration of Common Foods and Methods of Detection</p> <ul style="list-style-type: none"> ○ Means of Adulteration, Methods of Detection Adulterants in the following Foods; Milk, Oil, Grain, Sugar, Spices and condiments, processed food, Fruits and vegetables. Additives and Sweetening agents (at least three methods of detection for each food item). <p>2.2. Recommended Co-curricular Activities (including Hands on Exercises)</p> <ul style="list-style-type: none"> ○ Collection of information on adulteration of some common foods from local market 	01	15

	<ul style="list-style-type: none"> ○ Demonstration of Adulteration detection methods for a minimum of 5 common foods (one method each) ○ Invited lecture/training by local expert ○ Visit to a related nearby laboratory ○ Assignments, Group discussion, Quiz etc. ○ chemicals in cosmetics. 		
	Total	02	30

Access to the Course

The course is available for all the students admitted for Bachelor of Arts and Commerce faculties.

Methods of Assessment

The assessment pattern would be 60:40, 60% for Semester End Examination (SEE) and 40% for Continuous Internal Assessment (CIA). The structure of the SEE and CIA would be as recommended by the Board of Studies and approved by the Board of Examination and the Academic Council of the college.

References:

1. A first course in Food Analysis - A.Y. Sathe, New Age International (P) Ltd., 1999
2. Food Safety, case studies - Ramesh. V. Bhat, NIN, 1992.
3. https://old.fssai.gov.in/Portals/0/Pdf/Draft_Manuals/Beverages and confectionary.pdf
4. <https://cbseportal.com/project/Download-CBSE-XII-Chemistry-Project-Food-Adulteration#gsc.tab=0> (Downloadable e-material on food adulteration)
5. <https://www.fssai.gov.in/>
6. <https://indianlegalsolution.com/laws-on-food-adulteration/>
7. <https://fssai.gov.in/dart/>
8. <https://byjus.com/biology/food-adulteration/>