



**Shri Vaishnav Vidyapeeth Vishwavidyalaya**  
**Shri Vaishnav Institute of Science**  
**Department of Chemistry**  
**Interdisciplinary Course**  
**GENERIC ELECTIVE COURSE FOR UG**

COURSE CODE	CATEGORY	COURSE NAME	L	T	P	CREDITS	TEACHING & EVALUATION SCHEME				
							THEORY			PRACTICAL	
							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
GUCH104	UG	Exploring Everyday Chemistry	3	0	0	3	60	20	20	00	00

**Legends:** L - Lecture; T - Tutorial/Teacher Guided Student Activity; P – Practical; C - Credit;

\***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

**Course Objectives:**

1. To increase scientific literacy in a general population of students.
2. To describe the fundamentals of chemistry in everyday products, activities and events.

**Course Outcomes:**

1. Students will be introduced to multidisciplinary approaches to applying chemistry in everyday life.
2. Students will be able to know the impacts of chemistry in their lives and to understand the chemical principles applicable for products, processes and phenomena.

**Syllabus:**

**Unit I: Chemistry of Food in Everyday Life**

Nutritional value of foods, colouring agents, artificial preservatives, binding substance, artificial sweetness, antioxidants, minerals, and vitamins. Identification of adulterants in some common food items.

Role of international agencies and programmes in community nutrition; Food & Agriculture Organization (FAO); World Health Organization (WHO); United Nations Children's Fund (UNICEF)

**Unit II: Chemistry of House-hold materials in Everyday Life**

Cleansing agents: Soaps and detergents, disinfectants. Cosmetics.

Polymers: Types and classification of polymers. Source and general characteristics of natural and synthetic polymers. Typical examples of polymers used as plastics, in textiles, in electronic and automobile components, in the medical and aerospace materials. Problems of plastic waste management. Strategies for the development of environment friendly polymers.

**Unit III: Chemistry of Farming in Everyday Life**

Agricultural chemicals: pesticides, herbicides, fungicides, insecticides, and fertilizers. Pollution aspects of agricultural chemicals. organic farming, storage and preservation of agriculture products, food processing, agricultural waste management.



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**Unit IV: Chemistry of Drugs**

Classification of drugs, Therapeutic action of different classes of drugs, Synthesis and uses of antacids, antihistamines, tranquilizers, antipyretics (paracetamol) and analgesics (ibuprofen), antimicrobial (antibiotics and antiseptics), antimalarial (chloroquine). Medicinal values of curcumin (haldi), amla, azadirachtin (neem), and vitamin C.

**Unit V: Batteries and Storage**

Batteries: Primary and secondary batteries, battery components and their role, Characteristics of Battery. Working of following batteries: Li-Battery, Solid state electrolyte battery. Fuel cells, Solar cell.

Supercapacitors, hydrogen energy storage.

**Text Books:**

1. Foods: Facts and Principles: N. Shakuntala Many and S. Swamy (New Age International).
2. Medicinal Chemistry: Ashtoush Kar.
3. Handbook on Fertilizer Technology: Swaminathan and Goswamy (FAI).
4. Introduction to Polymers: Robert J. Young (CRC Press).
5. A Text book of Polymer Chemistry: M.S. Bhatnagar (S.Chand).