



Sree Narayana Mangalam College Maliankara

(Affiliated to Mahatma Gandhi University, Kottayam)

CERTIFICATE COURSE SYLLABUS

HEALTH IMPACTS OF CHEMICALS

Sree Narayana Mangalam College
Maliankara P.O, (Via) Moothakunnam,
Kerala, Pin - 683516

snmciqac@gmail.com

0484-2483600

www.snmcollege.ac.in

Certificate Course on Health Impacts of Chemicals

Objectives of the Course:

- ✓ Students will be able to understand about toxic chemicals and their impacts
- ✓ acquire the skills to explain the main forms of toxic chemicals
- ✓ ability to find adulteration in food industry
- ✓ Understand main water pollutants and their impacts
- ✓ Students will be able to understand Biomonitoring of chemicals in our bodies.

Course Overview:

This course covers chemicals in our environment and in our bodies and how they impact our health. It explains the main forms of toxic chemicals, particularly related to how they get into our bodies (exposures), what they do when they get there (toxicology), how we measure them (biomonitoring) and their impact on our health. Outline the ill effects of chemicals in our daily life. Recognize the main water pollutants and their impact. It also explains the food adulteration and its contamination.

Duration of the course: 30 Hours (22 Hours Theory + 8 Practical's)

Module I

Introduction: Chemicals and health; an overview of the course, a discussion of chemicals & how we are exposed and an introduction to chemical production & regulation. The module ends with a homework assignment. **(3 Hours)**

Module II

Toxicology: What do chemicals do in our bodies? Acute toxicology, chronic toxicology; toxicokinetics and toxicodynamics, Introduction to toxic chemicals. **(4 Hours)**

Module III

Biomonitoring: How do we measure these chemicals in our bodies. Toxic chemicals related to our daily routine; analysis of biological samples; Exposure and uptake. **(3 Hours)**

Module IV

Health effects of chemicals: How do we figure out how chemicals affect our health?. Risk Assessment in Environmental Decision Making. Water pollution: causes of chemical water pollution – Organic wastes and Chemical pollutants. **(7 Hours)**

Module V

Case Studies; Real world examples of chemical exposure; impact of tobacco, food additives- Types and uses, Food adulteration, contamination of food. **(5 Hours)**

Suggested Readings

1. Sittig's Handbook of Toxic and Hazardous Chemicals and Carcinogens, Seventh Edition.
 2. Chemical Toxicity and Health Hazards Hardcover by ISHAQ ZAFARE (Author)
 3. Water Pollution Causes, Effects And Control by P.K. Goel
 4. Foods and Their Adulteration by Harvey Washington Wiley
-