

B. Sc. Chemistry
VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
Syllabus effective from June, 2023 For
B. Sc. Semester- I
SEC (Skill Enhancement Course)
Total credit: 01 (Theory)
Total Hrs: Theory: 15

Course Code		Title of the Course	Chemistry Lab Operations and Safety Measures
Total Credits of the Course	1	Hours per Week	1 hr.

Course Outcome: By the end of the course, students will be able to	
1.	Understand the importance and significance of laboratory safety and proper regulation of chemistry laboratory, Learn about various handling of chemicals, its storage and disposal.
2.	Identify the appropriate chemical and fire safety hazards and its associated risks, Know the various protective equipment, emergency procedure & first aid.

Introduction to lab operations

8 hours

General guidelines, Handling of glassware, Handling of equipment, Equipment protection, Handling of chemicals, Receipt and labelling of chemicals, Precautions in handling, Chemical spills, Storage and Disposal of chemicals and glassware, Mercury and Biohazardous clean up and disposal procedure.

Safety measures

7 hours

Safety rules, Hygiene, Knowledge about personal safety, Use of personal safety equipment, Respiratory protective equipment, Electrical safety, Fire extinguisher, Laboratory injuries and treatment, Accident management.

Recommended Books/References:

1. *Hazards in Chemical Laboratory* - G. D. Muir
2. *Research Methodology* –C. R. Kothari, New Age International Publishers, New Delhi (2004).
3. *Manufacture, Storage and Import of Hazardous Chemicals Rules* -1989.
4. *Laboratory safety for chemistry students* – R. H. Hill, D. C. Finster, Wiley (2016).

B. Sc. Chemistry
VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT
Syllabus effective from June, 2023 For
B. Sc. Semester- I
SEC (Skill Enhancement Course)
Total credit: 01 (Practical)
Total Hrs: Practical: 30

Chemistry Lab Operations and Safety Measures:

Course Code		Title of the Course	SEC-Practical
Total Credits of the Course	1	Hours per Week	2 hrs.

Course Outcome: By the end of the course, students will be able to

1.	Understand how to minimize the risk of injury and other accidents during chemistry laboratory work
----	--

(Minimum 6 Practicals, to be performed)

1. Demonstration and handling of fire-extinguisher.
2. Calibration and handling of burette and pipette.
3. Handling, precautions and calibration of weighing machine.
4. Storage and disposal of chemicals: demonstration and handling.
5. Preparation technique of standard solutions.
6. Laboratory preparation of standard soap.
7. Laboratory preparation of liquid soap.
8. Laboratory preparation of detergent.

Recommended Books/References:

1. *Hazards in Chemical Laboratory* - G. D. Muir
2. *Research Methodology* –C. R. Kothari, New Age International Publishers, New Delhi (2004).
3. *Manufacture, Storage and Import of Hazardous Chemicals Rules -1989.*
4. *Laboratory safety for chemistry students* – R. H. Hill, D. C. Finster, Wiley (2016).