

Semester	JAN 2022
Open to semester	4
Course code	<b>CH2243</b>
Course title	<b>General Chemistry Practicals II</b>
Credits	3 /
Course Coordinator & participating faculty (if any)	Shabana Khan,* Sujit K. Ghosh, S. G. Srivatsan, and Harinath Chakrapani, Jeetender Chugh, Arun Venkatnathan,
Nature of Course	Lab
Pre-requisites	None
Objectives (goals, type of students for whom useful, outcome etc)	This is a UG laboratory course and all BS-MS students will be exposed to basic chemistry experiments. As part of this course, the students will be carrying out regular chemistry experiments in the lab, experience in handling analytical instruments, and data handling, etc.
Course contents (details of topics /sections with no. of lectures for each)	<p>Experimental procedures/details will be given in the first class. You will be doing 10-12 experiments in general chemistry topics. Each class will start with an explanation (theory) for 15-30 minutes followed by 2.0 h lab work, and 30 minutes of laboratory workbook writing.</p> <p>Tentative list of experiments</p> <ol style="list-style-type: none"> <li>1. Synthesis of artificial sweetener (Aspartame/Saccharine)</li> <li>2. Continuous-Flow Chemistry in Undergraduate Education: Sustainable Conversion of Reclaimed Vegetable Oil into Biodiesel</li> <li>3. Biodegradable polymers from organocatalysts</li> <li>4. Reaction of Dimedone and Benzaldehyde: A Discovery-Based Lab</li> <li>5. Determination and comparison of acid-neutralizing power of commercial antacids.</li> <li>6. Preparation of potash alum from scrap aluminum.</li> <li>7. Synthesis of molybdenum blue and estimation of phosphoric acid in cold drinks by Mo-Blue Method.</li> <li>8. Saponification of esters and soap manufacturing with different ingredients.</li> <li>9. Acid-base Titrations using Conductivity Method (general concept about acid-base and electrochemistry).</li> <li>10. To investigate the phenomena of Depression in Freezing</li> </ol>

	<p>point and determine the molar mass of unknown solute (Colligative properties).</p> <p>11. Determination of Heat of Neutralization. (Thermodynamics)</p> <p>12. Study the second-order velocity constant of the hydrolysis of ethyl acetate by sodium hydroxide using conductivity measurements (Kinetics).</p>
Evaluation /assessment	<p>End-Sem Examination-50%</p> <p>Mid-Sem Examination-50%</p> <p>Others-Based on experimental skills, lab report, record keeping and viva</p> <p>The mode of evaluation will be informed later.</p> <p>%</p>
Suggested readings (with full list of authors, publisher, year, edn etc.)	Will be provided in the first class.