

Semester	AUG 2022
Open to semester	5,7,11
Course code	CH3163
Course title	Advanced Organic Chemistry Laboratory
Credits	3 /
Course Coordinator & participating faculty (if any)	Pinaki Talukdar
Nature of Course	Lectures
Pre-requisites	None
Objectives (goals, type of students for whom useful, outcome etc)	This laboratory course will provide a reasonable opportunity for the students to learn the nuances of organic synthesis. Classical name reactions, oxidation, reduction, rearrangement and multi-step reactions will be performed in this course. Purification techniques such as column chromatography will be also included. Synthesized compounds will be characterized using IR, UV, NMR and Mass spectrometer. Put together this organic chemistry lab course will set a platform for students who wish to pursue research in experimental chemistry.
Course contents (details of topics /sections with no. of lectures for each)	<ul style="list-style-type: none"> • Wittig Reaction: <ol style="list-style-type: none"> (I) Synthesis of benzyl triphenylphosphonium bromide (II) Synthesis of Stilbenes (III) Separation of cis and trans stilbenes by column chromatography • Reduction of Benzophenone to Benzhydrol • Conversion of Benzhydrol to Benzophenone • Resolution of 1-Phenylethylamine • Diels Alder Reaction • Grignard Reaction with a Ketone: Triphenylmethanol • Click Reaction: Copper (I) Catalyzed Azide – Alkyne Cycloaddition Reaction • Determination of Hammett Equation Rho Constant for the Hydrolysis of p-Nitrophenyl Benzoate Esters: <ol style="list-style-type: none"> Step-I: Preparation of p-Nitrophenyl Benzoate Esters: Step-II: Kinetic Study:
Evaluation /assessment	End-Sem Examination-20% Mid-Sem Examination-20%

	Others-Notebook Evaluation: 50% Lab Conduct/group work/safety instructions, etc.: 10%%
Suggested readings (with full list of authors, publisher, year, edn etc.)	Experimental procedures will be provided from the current literature. 1. General Chemistry Experiments by Anil J. Elias, Revised Edition 2007, Universities Press. 2. Comprehensive Practical Organic Chemistry by V. K. Ahluwalia, Renu Aggarwal, 2000, Universities Press.