

## Subject Description Form

<b>Subject Code</b>	ABCT3707 (Revising from ABCT3757)
<b>Subject Title</b>	Organic Chemistry II Laboratory
<b>Credit Value</b>	2
<b>Level</b>	3
<b>Pre-requisite</b>	Chemistry Laboratory II
<b>Co-requisite</b>	Organic Chemistry II
<b>Objectives</b>	The aim of this module is to provide students with practical operational experience in organic chemistry. The reactions taught in Organic Chemistry I provide the theoretical basis for this laboratory module.
<b>Intended Learning Outcomes</b>	Upon completion of the subject, students will be able to: a. strengthen the recognition of risk or safety aspects that may be involved in the operation of glassware/equipment and the general aspect of safety in the laboratory; b. aware the treatment of chemical waste generated by the practical sessions; c. carry out basic laboratory operations such as recrystallization, simple and fractional distillation in a well-organized and better planned manner; d. interpret spectroscopic information for structural elucidation; e. correlate the experimental results with the theoretical aspects of the subject.
<b>Subject Synopsis/ Indicative Syllabus</b>	<ul style="list-style-type: none"><li>• Electrophilic Aromatic Substitution: Preparation of Regioselective Bromine-containing Aromatic Compounds</li><li>• Photochemical Coupling of Benzophenone Followed by an Acid Catalyzed Rearrangement.</li><li>• Michael Addition: Preparation of 1-Phenyl-3-phenylamino-pyrrolidine-2,5-dione.</li><li>• Claisen Reaction</li><li>• Malonate Ester Synthesis: Preparation of Alkyl Carboxylic Acids</li><li>• Mannich-type Reaction: A Structural Problem.</li><li>• Preparation of Indole</li><li>• Small Peptide Synthesis</li></ul>
<b>Teaching/Learning Methodology</b>	Laboratory sessions are conducted with help of demonstrators; students are working as a team of two. Students are requested to complete pre-laboratory exercises, molar ratio table, m.p. / b.p of the products as well as literature search before carrying out the laboratory work.  This laboratory course helps students to acquire some basic techniques in

	<p>practical organic chemistry and to develop their skills in data interpretation and report writing. A variety of assessment tools will be used, including quizzes, assignments, and reports to develop students' analytical skills, critical thinking and communication skills. The demonstrators will check the above pre-laboratory work and provide first hand technical help during the experimental sessions.</p>						
<b>Assessment Methods in Alignment with Intended Learning Outcomes</b>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
			a	b	c	d	e
	1. Continuous assessment	100	√	√	√	√	√
	Total	100 %					
	<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes. The practicals and laboratory reports in particular demand students to demonstrate their competence in executing organic synthesis and in the interpretation and analysis of experimental data.</p>						
<b>Student Study Effort Expected</b>	Class contact:						
	<ul style="list-style-type: none"> <li>▪ Laboratory</li> </ul>						39 Hrs.
	Other student study effort:						
	<ul style="list-style-type: none"> <li>▪ Pre-laboratory work</li> </ul>						26 Hrs.
	<ul style="list-style-type: none"> <li>▪ Report preparation</li> </ul>						35 Hrs.
	Total student study effort						100 Hrs.
<b>Reading List and References</b>	<p>Suggested readings:</p> <p>Schoffstall A.M. et al      Microscale and Miniscale      McGraw-Hill 2004</p> <p>Organic Chemistry: Laboratory experiments</p> <p>Williamson K.L.      Macroscale and Microscale      Houghton Mifflin, 2003</p> <p>Organic Experiments</p>						