UNIVERSITI TEKNOLOGI MARA

CHE495: HYDROCARBON CHEMISTRY

Course Name (English)	HYDROCARBON CHEMISTRY APPROVED
Course Code	CHE495
MQF Credit	3
Course Description	This course provides a chemical background of sufficient depth to facilitate an understanding of the organic chemical processes, which occur in industry. Topics covered include organic nomenclature, reaction types and mechanisms, biomolecules and polymers.
Transferable Skills	Knowledge
Teaching Methodologies	Lectures, Tutorial
CLO	CLO1 Describe the concept of hybridization between atoms in organic molecules. CLO2 Analyse and distinguish the reactions of organic compounds based upon their functional activity CLO3 Evaluate chemical reactions and propose plausible chemical reaction mechanisms.
Pre-Requisite Courses	No course recommendations

Topics
1. Chapter 1: Structure and bonding 1.1) Atomic structure 1.2) Valence Bond Theory 1.3) Molecular Orbital Theory 1.4) Hybridization
2. Chapter 2: Organic reaction types 2.1) Kinds of organic reactions 2.2) Mechanisms 2.3) Describing reactions
3. Chapter 3: Alkanes, Alkenes and Alkynes 3.1) Structure 3.2) Nomenclature 3.3) Properties 3.4) Synthesis 3.5) Reactions
4. Chapter 4: Benzene and Aromaticity 4.1) Structure 4.2) Nomenclature 4.3) Properties 4.4) Synthesis 4.5) Reactions 4.6) Aromaticity
5. Chapter 5: Organohalides, Alcohols and Carbonyls 5.1) Structure 5.2) Nomenclature 5.3) Properties 5.4) Synthesis 5.5) Reactions

6. Chapter 6: Biomolecules (Amino Acid) 6.1) Structure 6.2) Nomenclature 6.3) Properties 6.4) Synthesis 6.5) Reactions
7. Chapter 7: Monomers and Polymers 7.1) Chain Growth polymerization 7.2) Step Growth polymerization 7.3) Polymer structure and physical properties

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment

Assessment Type	Assessment Description	% of Total Mark	CLO
Assignment	Assignment 1	10%	CLO1
Assignment	Assignment 1	20%	CLO2
Assignment	Assignment 2	20%	CLO3
Test	Mid-term assessment	10%	CLO2

Reading List	**Recommended Text**	**McMurry, J 2007, *Organic Chemistry*, 6 Ed., Belmont: Brooks Cole**
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	