



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	40.00%
Final Assessment	60.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	Assignment topic is based on chapter 1 & 2	5%	CLO1
	Assignment	Assignment topic is based on chapter 3	5%	CLO2
	Assignment	Assignment topic is based on chapter 4 and 7	10%	CLO3
	Test	Test subjects are chapters from 1 to 3	10%	CLO2
	Test	Test is based on chapter 4 to 7	10%	CLO2

Reading List	Recommended Text	McMurry, J 2007, <i>Organic Chemistry</i> , 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	