

朝陽科技大學 098學年度第1學期教學大綱  
Advanced Organic Chemistry 高等有機化學

當期課號	7201	Course Number	7201
授課教師	周德璋	Instructor	CHOU,TEH CHANG
中文課名	高等有機化學	Course Name	Advanced Organic Chemistry
開課單位	應用化學系碩士班一A	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	本課程之目的在提供學生對有機反應在結構及反應機構上較深入的了解。課程的內容著重於鍵結理論、立體化學、反應機構與數種代表反應之機構研究。	Objectives	The purpose of this course is to provide the students the knowledge in advanced organic chemistry. The topics will include 1) basic physical organic chemistry; 2) stereochemistry; 3) basicity and acidity and 4) the basic organic mechanism related to the organic reactions.
教材	M. B. Smith and J. March, "Advanced Organic Chemistry" 5th edition 講義	Teaching Materials	M. B. Smith and J. March, "Advanced Organic Chemistry" 5th edition hand-out
成績評量方式	4次120分鐘考試，每次佔25%	Grading	4 2-hour examinations, 25% each
教師網頁	-		
教學內容	<ol style="list-style-type: none"> <li>1. 結構、鍵結、分子</li> <li>2. 立體化學</li> <li>3. 芳香性</li> <li>4. 有機反應與機制</li> <li>5. 取代反應 發生於sp<sup>3</sup>碳上的親核性取代反應 發生於sp<sup>2</sup>碳上的親核性取代反應 發生於芳香環的親電性取代反應</li> <li>6. 消去反應：Pi-鍵的形成</li> <li>7. 加成反應 親電性加成反應 親核性加成反應 環加成</li> <li>8. 羰基α-位的取代反應 烷基化 烯醇與烯醇陰離子 克萊森縮合及相關反應</li> <li>9. 分子骨架重排 碳-碳重排反應 碳-氧重排反應 碳-氮重排反應</li> </ol>	Syllabus	<ol style="list-style-type: none"> <li>1. Structure, Bonding, and Molecules</li> <li>2. Stereochemistry</li> <li>3. Aromaticity</li> <li>4. Organic Reactions and Mechanisms</li> <li>5. Substitution Reactions Substitution by Nucleophiles at sp<sup>3</sup>-Hybridized Carbon Nucleophilic Substitution at sp<sup>2</sup>-Hybridized Carbon Electrophilic Aromatic Substitution</li> <li>6. Elimination Reactions Pi-Bond Formation Reactions</li> <li>7. Addition Reactions Electrophilic Additions Nucleophilic Additions Cycloaddition Reactions</li> <li>8. Substitution Alpha to Carbonyl Groups Alkylation Enolate Anions and Enols The Claisen Condensation and Related Reactions</li> <li>9. Skeletal-Rearrangement Reactions Carbon-Carbon Rearrangements Carbon-Oxygen Rearrangements Carbon-Nitrogen Rearrangements</li> </ol>

尊重智慧財產權，請勿非法影印。