

DEREE COLLEGE SYLLABUS FOR: CH 2121 ORGANIC CHEMISTRY		3/0/3
(Updated: Fall 2024)		<b>UK LEVEL: 4</b> <b>UK CREDITS: 15</b>
<b>PREREQUISITES:</b>	CH 2015 General Chemistry	
<b>CATALOG DESCRIPTION:</b>	<p>An introduction to organic chemistry, focusing primarily on the basic principles underlying the structure and reactivity of organic molecules. Hydrocarbons, alcohols and ethers, aldehydes, ketones and carboxylic acids are discussed, with emphasis on nomenclature, preparation and reactions of hydrocarbons, alkyl halides, organometallic compounds, alcohols and ethers, reaction mechanisms, stereochemistry, and tools for structure determination, including mass spectrometry and infrared spectroscopy.</p>	
<b>RATIONALE:</b>	<p>This is an introductory course in organic chemistry that intends to transmit basic knowledge of organic chemistry which is required for the successful completion of other undergraduate courses of general background and/or specialization, such as food chemistry, biochemistry and medicinal chemistry. Having a basic knowledge on organic molecules and their structure, their properties and the way they react helps students understand the molecular mechanisms underlying the chemistry of life and provides an essential background and tool for students who wish to pursue studies in life sciences.</p>	
<b>LEARNING OUTCOMES:</b>	<p><i>As a result of taking this course, the student should be able to:</i></p> <ol style="list-style-type: none"> <li>1. Demonstrate knowledge and understanding of organic molecules and the role that they play in the natural world.</li> <li>2. Demonstrate knowledge and understanding of reactivity of different organic molecules and identify different isomers and conformations.</li> <li>3. Relate structure with reactivity and identify basic reaction mechanisms under specific reaction conditions.</li> <li>4. Develop problem solving and critical thinking skills for using basic structure elucidation methods.</li> </ol>	
<b>METHOD OF TEACHING AND LEARNING:</b>	<p>In congruence with the teaching and learning strategy of the college, the following tools are used:</p> <ul style="list-style-type: none"> <li>• Class lectures, interactive learning (class discussions, group work), video presentations, and practical problems solved in class.</li> <li>• Exercises and primary source documents are assigned as homework and are discussed and reviewed in class.</li> <li>• Use of textbook and supplementary material/resources posted on blackboard site.</li> <li>• Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture material.</li> <li>• Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.</li> </ul>	

<b>ASSESSMENT:</b>	<p><b>Summative:</b></p> <table border="1" data-bbox="643 185 1441 510"> <tr> <td>1<sup>st</sup> assessment: Midterm examination, (Multiple choice/short answers/matching /short essay questions, exercises)</td><td>40%</td></tr> <tr> <td>2<sup>nd</sup> assessment: Portfolio (Exercises, problems aiming to prepare students for their first and final assessments)</td><td>10%</td></tr> <tr> <td>Final assessment: Final examination, (Multiple choice/short answers/matching /short essay questions, exercises)</td><td>50%</td></tr> </table> <p><b>Formative:</b></p> <table border="1" data-bbox="643 584 1441 656"> <tr> <td>Multiple homework quizzes and worksheets</td><td>0</td></tr> <tr> <td></td><td></td></tr> </table> <p>The formative assessment aims to prepare students for the summative assessments.  The 1<sup>st</sup> assessment tests Learning Outcomes 1, 2 and 3  The 2<sup>nd</sup> and final assessments tests Learning Outcomes 1, 2, 3 and 4</p>	1 <sup>st</sup> assessment: Midterm examination, (Multiple choice/short answers/matching /short essay questions, exercises)	40%	2 <sup>nd</sup> assessment: Portfolio (Exercises, problems aiming to prepare students for their first and final assessments)	10%	Final assessment: Final examination, (Multiple choice/short answers/matching /short essay questions, exercises)	50%	Multiple homework quizzes and worksheets	0		
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<b>INDICATIVE READING:</b>	<p><b>REQUIRED READING:</b>  T. W. Graham Solomons, Craig B. Fryhle and Scott A. Snyder, Organic Chemistry, 13th Edition, ISBN: 9781119801290, Wiley.</p> <p><b>RECOMMENDED READING:</b>  Francis Carey and Robert Giuliano, Organic Chemistry, 11th Edition, ISBN: 9781260568806, McGraw Hill.</p>										
<b>INDICATIVE MATERIAL:</b> (e.g. audiovisual, digital material, etc.)	<p><b>REQUIRED MATERIAL:</b>  Scientific Calculator</p> <p><b>RECOMMENDED MATERIAL:</b>  Organic Chemistry Model set</p>										
<b>COMMUNICATION REQUIREMENTS:</b>	Verbal and written skills using academic / professional English										
<b>SOFTWARE REQUIREMENTS:</b>	MS Office and Blackboard CMS										
<b>WWW RESOURCES:</b>	Royal Society of Chemistry: <a href="http://www.rsc.org/learn-chemistry">http://www.rsc.org/learn-chemistry</a> American Chemical Society: <a href="http://www.acs.org">http://www.acs.org</a> Online Resources for Teaching and Learning Chemistry: <a href="http://www.chemcollective.org/">http://www.chemcollective.org/</a>										
<b>INDICATIVE CONTENT:</b>	<ul style="list-style-type: none"> <li>• Introduction to Organic Chemistry</li> <li>• Functional groups, nomenclature and Stereochemistry</li> <li>• Fundamentals of reaction mechanisms</li> <li>• Properties, preparations and reactions of hydrocarbons, Organometallic compounds, alcohols, alkyl halides and ethers</li> <li>• Spectroscopic methods</li> </ul>										