



## Course specification

University/Academy: Damanhour  
Faculty/Institute: Faculty of Science  
Department: Chemistry

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| 1. Course Data:                                       |  |  |
| Course code:<br>Chem. 201                             | Course title:<br>Organic Chemistry1  | Academic year/level:<br>Second Year /First term<br>2008-2009 |
| Specialization:<br>Chemistry and<br>Physics + Biology | No. of instructional units:<br>lecture <input type="text" value="4hr"/> Tutorial <input type="text" value="1hr"/> practical <input type="text" value="4hr"/> |  |

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| <b>2. Course Aim</b>                | <ul style="list-style-type: none"><li>• State the general purpose for the study of organic chemistry.</li><li>• Describe several types of chemical bonds and the molecular and geometrical shapes of the organic molecules</li><li>• Use different rules for nomenclature of organic compounds.</li><li>• Understand different routes to synthesize aliphatic, aromatic hydrocarbons, alcohols, aldehydes, ketons, ethers, acids, esters and amines.</li><li>• To be able to explain mechanistic pathways of different reactions of the above compounds.</li><li>• Describe the basis of nucleophilic substitution and elimination reactions of different organic compounds.</li><li>• Understand the aromatic phenomena and to be able to classify organic compounds to aromatic, antiaromatic or non aromatic compounds.</li></ul> |
| <b>3. Intended learning outcome</b> |  |
| a) Knowledge and understanding      | <ul style="list-style-type: none"><li>• define the classification and nomenclature of organic compounds.</li><li>• list different methods of synthesis of the studied organic compounds .</li><li>• To be able to define different reaction</li></ul>  |



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|                                     | mechanisms.   |                                    |         |         |         |                                     |                                  |
| <b>b) Intellectual skills</b>       | <ul style="list-style-type: none"><li>• formulate name of hydrocarbons, alcohols, aldehydes, ketones, acids, esters, and amines .</li><li>• Elucidate the bonding structure, and geometrical shape of molecules.</li><li>• Decide the synthesis and products of chemical reactions of the above compounds</li></ul>               |                                    |         |         |         |                                     |                                  |
| <b>c) Professional skills</b>       | <ul style="list-style-type: none"><li>• interpret the geometrical and molecular shape of many different organic compounds.</li><li>• Classify an organic sample</li><li>• formulate a sample organic salt</li></ul>   |                                    |         |         |         |                                     |                                  |
| <b>d) General skills</b>            | <p>D1 Use IT and web search engines for collecting information.</p> <p>D2 Work effectively in a team, and independently on solving organic chemistry problems.</p> <p>D3 communicate ideas, principles and information by oral, written and visual means.</p> <p>D4 Communicate effectively with his lecturer and colleagues.</p> |                                    |         |         |         |                                     |                                  |
| <b>4. course content</b>            | <table border="1"><tr><td>Introduction and chemical bonding.</td></tr><tr><td>Alkanes</td></tr><tr><td>Alkenes</td></tr><tr><td>Alkynes</td></tr><tr><td>Conjugation and reactions of dienes</td></tr><tr><td>Stereochemistry chiral molecules</td></tr></table>  | Introduction and chemical bonding. | Alkanes | Alkenes | Alkynes | Conjugation and reactions of dienes | Stereochemistry chiral molecules |
| Introduction and chemical bonding.  |   |                                    |         |         |         |                                     |                                  |
| Alkanes                             |   |                                    |         |         |         |                                     |                                  |
| Alkenes                             |   |                                    |         |         |         |                                     |                                  |
| Alkynes                             |   |                                    |         |         |         |                                     |                                  |
| Conjugation and reactions of dienes |   |                                    |         |         |         |                                     |                                  |
| Stereochemistry chiral molecules    |   |                                    |         |         |         |                                     |                                  |



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|  | <p>Nucleophilic substitution and elimination reactions of alkyl halides</p> <p>Alcohols and ethers</p> <p>Aromatic phenomena and nucleophilic aromatic substitution reactions</p> <p>Aldehydes and ketones</p> <p>Acids and esters</p> <p>Electrophilic aromatic substitution reactions</p> <p>Phenols</p> <p>Amines</p> |
| <p><b>5. Teaching and learning methods</b></p>                                 | <p>4.1. Lectures and seminars using data show and board.</p> <p>4.2. Problem classes and group tutorial.</p> <p>4.3. Reports and discussion groups</p>   |
| <p><b>6. teaching and learning methods for students with special needs</b></p> | <ul style="list-style-type: none"> <li>• Lectures and seminars using data show and board.</li> <li>• 4.2. Laboratory work and assignment.</li> <li>• 4.3. Problem classes and group tutorial.</li> <li>• 4.4. Reports and discussion groups.</li> </ul>  |
| <p><b>7. Student Assessment</b></p>  | <p>5.1. Mid term exam.</p> <p>5.2. Problems.</p> <p>5.3. Assignments.</p> <p>5.4 Written exam.</p>   |
| <p><b>a) Procedures used:</b></p>  | <p><b>Assessment Schedule</b><br/>Week: 16</p>   |
| <p><b>b) Schedule:</b></p>   | <p>Assessment 1: Mid term<br/>Assessment 2: Final written</p>  |
| <p><b>c) Weighing of Assessment:</b></p>                                       | <p>Quizzes: 10 %</p>   |



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|   | <p>Mid-Term Examination: -<br/>Final-Term Examination: 60%<br/>Oral Examination: -<br/>Practical Examination: 30 %<br/>Semester Work: -<br/>Other types of assessment: -</p> <hr/> <p>Total 100%</p>   |
| <b>8. List of Textbooks and References:</b> | <p>6.1. Course Notes<br/>Organic chemistry<br/>6.2. Essential Books (Text Books)<br/>• Periodical and website</p>  |
| <b>a) Course Notes</b>                      | <p>Essential Books (Text Books)<br/>• <b>Organic</b> Chemistry, 8th Edition T. W. Graham <b>Solomons</b>, Univ. of South Florida.</p>  |
| <b>b) Required Books (Textbooks)</b>        | <p>• Fundamentals of Organic chemistry, 5 th Edition by Solomon, 1991.</p>   |
| <b>c) Recommended Books</b>                 | <p>• Organic Chemistry, 4 th Eddition by Robert Wlorrison and Robert Boyd, Allyn and Bacon, Ir.c., Boston, London, Sydney, Toronto, 1983.<br/>• Organic Chemistry, 6 th Eddition by I. L. Finar, Longmann Group Limited, volume I and II 1975.</p> |
| <b>d) Periodicals, web sites,...,etc</b>    | -----  |

**Course Instructor**

1- Prof.Dr Adel Zaki Nasr  
2- Dr.Mohamed Abd Ellatif Zein

**Head of Department**

Dr. Medhat A. Shaker

*Date:* / /2009