Module Descriptions

A **module** is a self-contained **learning unit** within a higher education program that includes thematically related courses and is assigned a **fixed number of credits**. It follows specific **learning objectives**, includes an **assessment component**, and contributes to achieving the qualifications of a degree program. In some countries, “modules” are also named “courses”.

Please provide a module description for each module. In addition to the compulsory and elective modules, this also includes credited internships and the final thesis.

Please summarize all module descriptions in one document (Module Handbook) and create a table of contents so that the modules can be found easily.

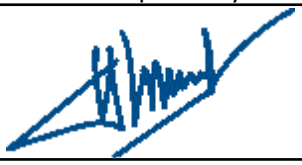
Module designation	*Basic Organic Chemistry (MPK6341)*
Semester(s) in which the module is taught	3
Person responsible for the module	*Dra. Cornelia Budimarwanti, M.Si*
Language	*Indonesia*
Relation to curriculum	*Compulsory ~~/ elective / specialisation~~*
Teaching methods	*Lecture, discussion, lab work, project*
Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload:* *100 minutes/week for class learning* *100 minutes/week for lab work*
Credit points	*3 sks (4.8 ECTS)*
Required and recommended prerequisites for joining the module	*General Chemistry*

Module objectives/intended learning outcomes	*On successful completion of the course students should be able to:* *1. Have values of honesty, independence and responsible in finished well* *theoretical assignments and practical assignments for basic organic chemistry courses.* *2. Describe and explain structure, properties, processes, reactions, synthesis and characterization of organic compounds.* *3. Collaborate with colleagues for decision-making which is precisely related to completion of group tasks both theoretical and internal assignments practicum.* *4. Analyze and discuss data from practical work and present it, as well as write correct scientific papers based on scientific writing guidelines, through writing practical reports.* *5. Understand a variety of tools and materials and are skilled at using equipment in the Basic Organic Chemistry laboratory.* *6. Answer questions given on midterm and final exams, pretest before practicum and about responsiveness.*
Content	*Basic Organic Chemistry is a chemical scientific course that includes theory and practice which includes material:* *1) Basic concepts of organic reactions, namely the structure of organic molecules, Kekulé, Lewis, Pauling, resonance and conjugation structures;* *2) Structure, nomenclature, properties, oxidation reactions, and mechanisms of substitution and conformation reactions of alkanes and cycloalkanes;* *3) Structure, nomenclature, properties, and mechanisms of addition reactions of alkenes and alkynes;* *4) Structure, nomenclature, properties, and mechanisms of haloalkane reactions, SN1/E1 and SN2/E2, and SNi;* *5) Structure, nomenclature, aromaticity, and mechanisms of SE reactions of benzene and its derivatives. O/P directing group, M directing group. Activating and deactivating groups,* *6) Structure, nomenclature, properties, and reaction mechanisms of alkanols, alkoxyalkanes (ethers), and thiols,* *7) Structure, nomenclature, properties, and reaction mechanisms of alkanals and alkanones,* *8) Structure, nomenclature, properties, and reaction mechanisms of alkanoic acids (carboxylic acids),* *9) Structure, nomenclature, properties, and reaction mechanisms of carboxylic acid derivatives,* *10) Structure, nomenclature, properties, and reaction mechanisms of nitrogen-amine compounds*
Examination forms	*Essay, project report and presentation, written tests*

<table>
<tr>
<td>Study and examination requirements</td>
<td>
Minimum attendance at lectures is 75% and lab work is 100%
Final score (NA) is calculated as follows:
<table>
<tr><th>Learning Outcome</th><th>Weight (%)</th><th>Technique of Assesment</th></tr>
<tr><td>1</td><td>5</td><td>Participation</td></tr>
<tr><td>1</td><td>5</td><td>Quizz</td></tr>
<tr><td>1, 3</td><td>10</td><td>Task</td></tr>
<tr><td>4, 5</td><td>30</td><td>Lab work</td></tr>
<tr><td>3, 4</td><td>20</td><td>Project</td></tr>
<tr><td>2, 6</td><td>15</td><td>Mid-term Written Test</td></tr>
<tr><td>2, 6</td><td>15</td><td>Final Exam Written Test</td></tr>
</table>
</td>
</tr>
<tr>
<td>Reading list</td>
<td>

- Allinger et al , 1980, Organic Chemistry, New York : Worth Publisher Inc.
- Bettelheim, F.A, Landesberg, J.M, . 2005. Laboratory Experiments for General, Organic and Biochemistry. Sixth edition. United State:Thomson
- Bruice, P.Y., 2007. Organic Chemistry, fifth edition, Pearson Prentice Hall.
- Doyle Mungal. 1980. Exsperimental Organic Chemistry. New York: John Wiley and Sons
- Furniss, B.S, P.W.G. Smith, A.R. Tatchel.1978. VogelIs Textbook of Practical Organic Chemistry. Fourth edition. London: Longman Group Limited
- McMurry, John., 2016, Organic Chemistry, ninth edition, Cengage Learning
- Tim Penyusun Kimia Organik. 2024. Petunjuk Praktikum Kimia Organik Dasar. Yogyakarta : Laboratorium Kimia Organik FMIPA UNY

</td>
</tr>
</table>

Prepared by	Verified by:	Authorized by:
		
Dra. Cornelia Budimarwanti, M.Si		Program Study Coordinator