



**UNIVERSITAS NEGERI YOGYAKARTA**  
 FACULTY OF MATHEMATICS AND NATURAL SCIENCES  
 DEPARTMENT OF CHEMISTRY  
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**Bachelor of Science in Chemistry**

**MODULE HANDBOOK**

Module name:	Introduction to Computer Sciences
Module level, if applicable:	Undergraduate
Code:	KMA6215
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	2 <sup>nd</sup>
Module coordinator:	Erfan Priyambodo, M.Si.
Lecturer(s):	1. Marfuatun, M.Si. 2. Erfan Priyambodo, M.Si.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	Lectures: 50 minutes' lectures, 60 structured activities and 60 individual study per week Laboratory work: 170 minutes includes the laboratory work and it's reporting per week
Workload:	Total workload is 90,67 hours per semester which consists of 50 minutes lectures, 60 structured activities and 60 individual, and also 170 minutes laboratory work with it's reporting study per week for 16 weeks
Credit points:	2 SKS (3 ECTS)
Prerequisites course(s):	-
Targeted learning outcomes:	After taking this course, the students are expected to be able to: CO1. Show grateful for the technology developments that facilitate human activities especially in chemistry work field CO2. Students are able to use Microsoft Word features to write reports and research articles CO3. Students are able to use Microsoft PowerPoint features for presentations in scientific forums CO4. Students are able to use Microsoft Excel features for data analysis CO5. Students are able to use chemical applications to make names and structure of compounds CO6. Students are able to understand the benefits and methods of using chemical applications for research in the field of computational chemistry (Pascal, ChemDraw, Hyperchem)
Content:	This course aims to introduce various basic application programs, word processors and data processors for writing, analyzing, and presenting. Lecture material includes the use of Microsoft Word to support report writing or chemical articles, Microsoft Powerpoint for presentations, Microsoft Excel for research data analysis, and chemistry applications to support chemistry studies and research
Study / exam achievements:	Attitude assessment is carried out at each meeting by observation and/or self-assessment techniques using the assumption that basically every student has a good attitude. The student is marked very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not taken into account in the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least

	<p>have a good attitude. The final mark will be weight as follow:</p> <table border="1"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td rowspan="2">1</td> <td rowspan="2">CO1, CO2, CO3, CO4, and CO5</td> <td>a. Independent Assignments</td> <td>Portofolio and project</td> <td>65%</td> </tr> <tr> <td>b. Final Exam</td> <td>Project</td> <td>35%</td> </tr> <tr> <td colspan="4">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1, CO2, CO3, CO4, and CO5	a. Independent Assignments	Portofolio and project	65%	b. Final Exam	Project	35%	Total				100%
No	CO	Assessment Object	Assessment Technique	Weight															
1	CO1, CO2, CO3, CO4, and CO5	a. Independent Assignments	Portofolio and project	65%															
		b. Final Exam	Project	35%															
Total				100%															
Forms of media:	Board, LCD Projector, Laptop/Computer																		
References:	<ol style="list-style-type: none"> <li>Goel, A. 2010. <i>Computer Fundamental</i>. New Delhi. Pearson Education</li> <li>Faithe Wempen, et.al. 2007. <i>Special edition using Microsoft Office Word 2007</i>. Que Publishing: Indiana</li> <li>B. Lisa A. Bucki. 2007. <i>Teach Yourself VISUALLY Microsoft Office PowerPoint 2007</i>: Wiley Publishing, Inc.: Indianapolis</li> <li>C. Gerard M. Verschuuren. 2008. <i>Excel 2007 for Scientists</i>. Holy Macro! Books: Chicago</li> <li>Jensen, F. 2017. <i>Introduction to Computational Chemistry</i>. United Kingdom: John Willey and Sons</li> <li>Khaldun, I. 2019. <i>Aplikasi Ms Excel pada Program Titrasi Volumetri</i>. Banda Aceh: Syiah Kuala University Press</li> </ol> <p>Suggested Reading</p> <ol style="list-style-type: none"> <li>Robert de Levie. 2001. <i>How to use excel in analytical chemistry and in general scientific data analysis</i>. Cambridge University Press: Cambridge</li> <li>Advanced Chemistry Development, Inc. 2013. <i>ACD/ChemBasic Tutorial</i>. Diunduh dari <a href="http://www.acdlabs.com/">http://www.acdlabs.com/</a></li> <li>Avogadro Tutorial yang diunduh dari <a href="http://avogadro.cc/wiki/Tutorials">http://avogadro.cc/wiki/Tutorials</a></li> </ol>																		

#### PLO and CO mapping

	PLO										
	Attitude	Generic Skill			Knowledge				Specific Skill		
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	
CO1	√										
CO2				√							
CO3				√							
CO4									√		
CO5							√				
CO6							√				
CO7											

