



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

**MODULE HANDBOOK**

Module name:	<b>Non-metal Inorganic Chemistry</b>
Module level, if applicable:	Undergraduate
Code:	KIM 6409
Sub-heading, if applicable:	-
Classes, if applicable:	2
Semester:	2 <sup>nd</sup>
Module coordinator:	Prof. AK. Prodjosantoso, Ph.D
Lecturer(s):	<b>M. Pranjoto Utomo, M.Si</b> ; Dr. Cahyorini Kusumawardani, M.Si.
Language:	Bahasa Indonesia and English
Classification within the curriculum:	Compulsory Subject
Teaching format / class hours per week during the semester:	<ul style="list-style-type: none"> <li>• Lectures: 100 minutes lectures, 120 minutes structured activities and 120 minutes individual study per week</li> <li>• Laboratory Work: 170 minutes includes the laboratory work and it's report per week.</li> </ul>
Workload:	Total workload of the activity is 136 hours per semester which consist of 100 minutes lectures, 120 minutes structured activities, 120 minutes individual study per week, and 170 minutes include laboratory work and it's report.
Credit points:	2SKS (3 ECTS) lectures, and 1SKS (1,64 ECTS) laboratory Work
Prerequisites course(s):	-
Course Outcome:	<p>After taking this course, the students are expected to be able to:</p> <p>CO1. apply anorganic chemstry theory to solve daily problems carefully and responsibly</p> <p>CO2. Describe basic concept of anorganic chemistry which covers: structure, chemical bonds, chemical properties and chemical reactions</p> <p>CO3. understand ways to synthesize and characterize physics and chemistry in inorganic compounds;</p> <p>CO4. apply and solve inorganic chemical problems in daily life through practical activities in the laboratory and field activities</p>
Content:	This course covers theories and practices which include: hydrogen and polyatomic atomic structures, periodic trend elements, symmetry and group molecular theory, covalent bond models (valence bond theory and molecular orbital theory), acid-base and donor-acceptor chemistry, chemical reactions (oxidation-reduction), and group chemistry main non-metal.
Study / exam achievements:	Attitude assessment is carried out at each meeting by observation and/or self-assessment techniques using the

	<p>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 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>1</td> <td>CO1, CO2, CO3, CO4.</td> <td>Assignments Activity Final Exam Midterm Exam Lab-work</td> <td>Presentation / written test</td> <td>10% 20% 20% 20% 30%</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.	Assignments Activity Final Exam Midterm Exam Lab-work	Presentation / written test	10% 20% 20% 20% 30%	Total				100%
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Total				100%												
Forms of media:	Handout, Board, LCD Projector, Laptop/Computer, Module, Tools and Chemicals for labwork															
References:	<ul style="list-style-type: none"> <li>• K Sugiyarto, Retno Dwi Suyant i&amp; Hari S. (2015). Kimia Anorganik Non-Logam. UNY-Press</li> <li>• Miessler, G.L., Fischer, P.J. danTarr, D.A. (2006), <i>Inorganic Chemistry</i>, Pearson</li> <li>• Housecroft, C.A. and Sharpe, A.G. (2007), <i>Inorganic Chemistry</i>, Prentice Hall</li> <li>• Lee, J.D., (1998), Concise Inorganic Chemistry, John Wiley</li> <li>• Huheey, J (2008), <i>Inorganic Chemistry: Principles of Structure and Reactivity</i>, Pearson</li> </ul>															

### PLO and CO mapping

	PLO					
	Attitude		Knowledge	Specific Skill	General Skill	
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
CO1						√
CO2			√			
CO3			√			
CO4				√		