



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:	Catalyst Chemistry						
Module level, if applicable:	Undergraduate						
Code:	KMA 6230						
Sub-heading, if applicable:	-						
Classes, if applicable:	-						
Semester:	7 th						
Module coordinator:	Dr. Isana Supiah Yosephine Louise, M.Si						
Lecturer(s):	Dr. Isana Supiah Yosephine Louise, M.Si						
Language:	Bahasa Indonesia and English						
Classification within the curriculum:	Elective Course						
Teaching format / class hours per week during the semester:	100 minutes lectures, 120 structured activities and 120 individual study per week						
Workload:	Total workload is 90,67 hours per semester which consists of 100 minutes lectures, 120 structured activities and 120 individual study per week for 16 weeks						
Credit points:	2 SKS (3 ECTS)						
Prerequisites course(s):	1. Chemical Equilibrium 2. Molecular Dynamic						
Course Outcomes:	<p>After taking this course the students have ability to:</p> <table border="1" style="width: 100%;"> <tr> <td>CO1</td> <td>Able to apply heterogeneous catalysts in life</td> </tr> <tr> <td>CO2</td> <td>Applying concepts and chemical mindset in social life</td> </tr> <tr> <td>CO3</td> <td>Applying mathematical and scientific concepts to solve problems in the field of chemistry</td> </tr> </table>	CO1	Able to apply heterogeneous catalysts in life	CO2	Applying concepts and chemical mindset in social life	CO3	Applying mathematical and scientific concepts to solve problems in the field of chemistry
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CO2	Applying concepts and chemical mindset in social life						
CO3	Applying mathematical and scientific concepts to solve problems in the field of chemistry						
Content:	<p>Catalyst Chemistry Course discusses the concept of catalysts, types of catalysts, synthesis, properties and applications in life.</p> <ol style="list-style-type: none"> 1. Introduction <ol style="list-style-type: none"> a. Catalyst Concept b. Catalysts and inhibitors c. Promoter and Catalyst Poison 						

	<p>2. Homogeneous Catalysts, Properties and Applications in Life</p> <ol style="list-style-type: none"> Homogeneous Catalyst Concept Homogeneous Catalyst Properties Homogeneous Catalyst Application in Life <p>3. Heterogeneous Catalysts, Synthesis, Properties and Applications in Life</p> <ol style="list-style-type: none"> Heterogeneous Catalyst Concept Heterogeneous Catalyst Synthesis or Preparation Properties of Heterogeneous Catalysts Heterogeneous Catalyst Application in Life <p>4. Biocatalyst</p> <ol style="list-style-type: none"> Biocatalyst concept Properties of Biocatalysts <p>Application of Biocatalysts in Life</p>																								
<p>Study / exam achievements:</p>	<p>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 given a value of very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not a component of 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.</p> <p>The final mark will be weight as follow:</p> <table border="1" data-bbox="620 1220 1432 1570"> <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="4">1</td> <td rowspan="4">CO1, CO2 and CO3</td> <td>a. Assignment</td> <td>Presentation/ written assignment</td> <td>30%</td> </tr> <tr> <td>b. Participation</td> <td>Observation</td> <td>20%</td> </tr> <tr> <td>c. Midterm Exam</td> <td>Written test</td> <td>20%</td> </tr> <tr> <td>d. Final Exam</td> <td>Written test</td> <td>30%</td> </tr> <tr> <td colspan="3">Total</td> <td></td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1, CO2 and CO3	a. Assignment	Presentation/ written assignment	30%	b. Participation	Observation	20%	c. Midterm Exam	Written test	20%	d. Final Exam	Written test	30%	Total				100%
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		d. Final Exam	Written test	30%																					
Total				100%																					
<p>Forms of media:</p>	<p>White Board, LCD Projector, Laptop/Computer, stationery</p>																								

