



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:	Selected Topics on Chemical Research									
Module level, if applicable:	Undergraduate									
Code:	KMA 6218									
Sub-heading, if applicable:	-									
Classes, if applicable:	2									
Semester:	5 th									
Module coordinator:	Jaslin Ikhsan, Ph.D									
Lecturer(s):	1. Jaslin Ikhsan, Ph.D 2. Dr. Sri Handayani 3. Dr. Cahyorini Kusumawardani									
Language:	English									
Classification within the curriculum:	Compulsory Subject									
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):	-									
Course Outcomes	After taking this course, the students are expected to be able to: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">CO1</td> <td>Show responsibility in writing chemical research designs</td> </tr> <tr> <td style="text-align: center;">CO2</td> <td>Apply scientific methods and principles of using Information and Communication Technology (ICT) for the purposes of storing, analyzing, processing, and collecting data in the fields of chemistry, research and industry</td> </tr> <tr> <td style="text-align: center;">CO3</td> <td>Analyze the implications of the development or implementation of science and technology in accordance with their expertise based on rules, procedures and scientific ethics in order to produce ideas and solutions to chemical problems</td> </tr> <tr> <td style="text-align: center;">CO4</td> <td>Writing chemical research ideas that show innovation for society</td> </tr> </table>		CO1	Show responsibility in writing chemical research designs	CO2	Apply scientific methods and principles of using Information and Communication Technology (ICT) for the purposes of storing, analyzing, processing, and collecting data in the fields of chemistry, research and industry	CO3	Analyze the implications of the development or implementation of science and technology in accordance with their expertise based on rules, procedures and scientific ethics in order to produce ideas and solutions to chemical problems	CO4	Writing chemical research ideas that show innovation for society
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CO4	Writing chemical research ideas that show innovation for society									
Content:	Selected Chemistry Research Topics study various research topics that have been developed and the ethics of writing articles: <ol style="list-style-type: none"> 1. Definition of Ethics and Style of Article Writing in the field of science, chemical aspects 2. Selection of themes from research articles in the fields 									

	<p>of organic chemistry, inorganic chemistry, biochemistry, analytical chemistry, and physical chemistry from international and national journals.</p> <p>3. Analysis of research articles on the fields of organic chemistry, inorganic chemistry, biochemistry, analytical chemistry and physical chemistry from international journals and national journals</p> <p>4. Writing the Report of Analysis Results</p> <p>5. Preparation of TAS Introduction</p>															
Study / exam achievements:	<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 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" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">No</th> <th style="width: 15%;">CO</th> <th style="width: 30%;">Assessment Object</th> <th style="width: 20%;">Assessment Technique</th> <th style="width: 30%;">Weight</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CO1, CO2, CO3, CO4.</td> <td>a. Participation b. Assignment c. Mid-term exam d. Final Exam</td> <td>Presentation / written test</td> <td>5% 25% 30% 40%</td> </tr> <tr> <td colspan="4" style="text-align: right;">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1, CO2, CO3, CO4.	a. Participation b. Assignment c. Mid-term exam d. Final Exam	Presentation / written test	5% 25% 30% 40%	Total				100%
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Forms of media:	Handout, Board, LCD Projector, Laptop/Computer, Module															
References:	<p>1. Ali Saukah dan Mulyadi Guntur Waseso (2006), <i>Menulis Artikel untuk Jurnal Ilmiah</i>, Universitas Negeri Malang, Malang.</p> <p>2. Mabry, T.J. (2001), Selected Topics from Forty Years of Natural Products Research: Betalains to Flavonoids, Antiviral Proteins, and Neurotoxic Nonprotein amino Acids, <i>Journal of Natural Products</i>, 64, 12, 1596-1604</p> <p>3. Sing, I.S. (2015), The effect of using Concept Maps on Student Achievement in Selected Topic in Chemistry at Tertiary Level, <i>Journal of Education and Practice</i>. Nol 6, No 15</p> <p>4. Tellez, F. (2020), <i>33 Critical Topics in Chemistry for 2020</i>, American Chemical Society Publishing</p>															

PLO and CO mapping

CO	PLO										
	Attitude	General Skill			Knowledge				Specific Skill		
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	
CO1		√									
CO2						√					
CO3								√			
CO4										√	