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:	**Petroleum Chemistry**
Module level, if applicable:	Undergraduate
Code:	KMA 6238
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	Even
Module coordinator:	Sukisman Purtadi, M.Pd
Lecturer(s):	Ir. Endang Dwi Siswani, M.T. **Isti Yunita, Ph. D**
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective Course
Teaching format / class hours per week during the semester:	100 minutes lectures, and 120 minutes individual study, and 120 minutes structured activities per week.
Workload:	Total workload is 90.67 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week for 16 weeks.
Credit points:	2 SKS (3.28 ETCS)
Prerequisites course(s):	-
Course Outcomes	After taking this course the students are expected to be able to: CO1. demonstrate an attitude of responsibility and independence in carrying out the given tasks CO2. explain correctly about the process of forming petroleum, processing of petroleum, petroleum products, and collect information about petroleum refining products, including: avtur, premium, pertamax, pertamax dex, pertalite, diesel, biofuel, LPG, lubricating oil , grease, kerosen, and asphalt CO3. collaborate effectively in reviewing the processing and development of the petroleum processing industry, as well as the role of petroleum and petroleum products in everyday life
Content:	This course discusses about the importance of petroleum mines and their results for life and human activities in general. In this course the process of forming petroleum is explained, the processing process becomes a product that can be used. Besides that, a number of petroleum products are also explained, including: methods of manufacture, chemical and physical properties, and measures of quality. In addition, this

<table>
<tr><td></td><td>course also explains the preliminary stages of the establishment of the petroleum refining industry.
Furthermore, information is given about the development of catalysts used in petroleum production or even crude oil</td></tr>
<tr><td>Study/exam achievements:</td><td>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 this course if at least they show a good attitude.

The final mark will be weighted as follows:

<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO1,
CO2,
CO3.</td><td>Assignments
Activity
Final Exam
Midterm Exam</td><td>Presentation / written test</td><td>20%
20%
30%
30%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Forms of media:</td><td>Board and Board markers, LCD Projector, Laptop/Computer, Modules, Learning videos, Power Point Slides</td></tr>
<tr><td>References:</td><td>Handbooks:
A. T. Endang Dwi Siswani. 2017. Diktat Kimia Minyak Bumi, Jurusan Pendidikan Kimia FMIPA UNY
B. Shreve, R.N, and Brink, J, A, Jr. 1990. Chemical Process Industries, Mc Graw Hill International Book Co, Tokyo
C. Steven, A.T., Peter, R. P., David, S. J. J., Handbook of Petroleum processing, Springer International Publishing, Switzerland

Suggested Readings:
A. Hardjono A. 2006. Teknologi Minyak Bumi. Gadjah Mada University Press, Yogyakarta.
B. Zhongyi, M., Wei, Z., Lin, W., Litao, J., Bo, H., Debao, L., and Yongxiang, Z. 2015. Overview of catalyst application in petroleum refinery for biomass catalytic pyrolysis and bio-oil upgrading. RSC Adv., 5, 88287-88297
C. Peigao, D., Xiujun, B., Yuping, X., Aiyun, Z., Feng, W., Lei, Z., and Juan, M. 2013. Catalytic upgrading of crude algal oil using platinum/gamma alumina in supercritical water. Fuel, 109, 225-233</td></tr>
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PLO and CO mapping

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