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:	**Chemistry Macromolecule**
Module level, if applicable:	Undergraduate
Code:	KIP 6208
Sub-heading, if applicable:	-
Classes, if applicable:	1
Semester:	Even
Module coordinator:	C. Budimarwanti, M.Si
Lecturer(s):	Dr. Dra. Eli Rohaeti, M.Si.; Prof. Dr. Sri Atun, M.Si.
Language:	Bahasa Indonesia and English
Classification within the curriculum:	Elective Subject
Teaching format / class hours per week during the semester:	Lectures: 100 minutes lectures, 120 minutes structured activities and 120 minutes individual study per week
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.
Credit points:	2SKS (3.28 ECTS)
Prerequisites course(s):	-
Course Outcome:	After taking this course, the students are expected to be able to: CO1. apply or use the right method in polymer synthesis and its characterization technique CO2. describe the basic concepts and global development of polymer science, describe various methods of synthesis and modification of polymers, and explain various techniques for determining the physical properties and chemical properties of polymers CO3. analyze and evaluate various results of research on polymer synthesis and characterization techniques using various methods
Content:	Macromolecular chemistry courses discuss the basic concepts of polymer science, polymerization reactions, polymer characterization, polymer properties and the development of polymers based on research that has been done. • Development of Basic Concepts and global trends in polymer science • Natural Polymers • Synthetic Polymers • Condensation Polymerization and Free Radical Addition Polymerization

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Ionic Polymerization and Coordination Chain
Chemical Transformation and Polymer Degradation
Solubility and Polar Solubility Parameters
Rheology and Mechanical Properties of Polymers
Polymer Thermal Properties Analysis
Analysis of Polymer Function and Crystallinity
Surface Analysis and Molar Mass of Polymers
Synthesis of Polyurethanes Based on Natural Materials and Their Applications
Biocomposite
Composite Cellulose Glycerol Chitosan for Biomedical Applications

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<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 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:
<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>Assignment
Presentation
Final Exam
Midterm Exam</td><td>Presentation / written test</td><td>20
10
40
30</td></tr>
<tr><td colspan="4">Total</td><td>100</td></tr>
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</td></tr>
<tr><td>Forms of media:</td><td>Handout, Board, LCD Projector, Laptop/Computer, Module.</td></tr>
<tr><td>References:</td><td>

Eli Rohaeti (2018). Kimia Polimer. Yogyakarta : UNY Press
Eli Rohaeti (2015). Sintesis Poliuretan Ramah Lingkungan. Yogyakarta : UNY Press
F. W. Billmeyer (2003). Textbook of Polymer Science. Amerika : John Wiley & Sons. Inc.
Malcolm P. Stevens (2003). Kimia Polimer. Jakarta : PT Pertja.
Artikel di Jurnal Nasional dan Internasional

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PLO and CO mapping

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