

MODULE HANDBOOK

Module Name	Organic Polymer Chemistry
Module Level	Bachelor
Abbreviation, if applicable	3074112079
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	8 th / Fourth year
Module coordinator(s)	Dr. Ismono, M.S.
Lecturer(s)	Dr. ismono, M.S. Prof. Dr. Titik Taufikurohmah, M.Si.
Language	Indonesian Language
Classification within the curriculum	Elective course
Teaching format/class hours per week during the semester	2 hours lectures (50 min/hour)
Workload	2 x 50 minutes lectures, 2 x 60 minutes structured activity, 2 x 60 minutes individual activity, 14 weeks per semester, 79.33 total hours per semester ~ 3.18 ECTS**
Credit point	2 CU x 1.59 = 3.18 ECTS
Prerequisite course(s)	Monofunction Organic Compounds and Polyfunction Organic Compound
Targeted Learning Outcomes	CLO 1: Able to use the learning resources and ICT to support learning related to polymers and implementation of polymers in everyday life. CLO 2: Mastering the knowledge of polymers, and implementation of polymers in everyday life. CLO 3: Able to make decisions in determining the positive and negative aspects of the role of polymers in everyday life CLO 4: Demonstrate a responsible by implementing the positive impact and how to overcome the negative impact of using polymers in everyday life
Content	This course discusses polymer classification, reaction mechanisms and polymer kinetics, ionic addition polymers and free radicals, condensation polymers, determination of polymer molecular mass, polymer solubility, polymer structure and stereochemistry, copolymer reactions, and polymer implementation in everyday life and industry.
Attribute Soft skill:	Active communication; Discipline; Collaboration; Responsibility; and Argumentation in class and outdoor setting

Study/exam achievements	<p>Students are considered to complete the course and pass if they obtain at least 40% of the maximum final grade. The final grade (NA) is calculated based on the following ratio:</p> <table border="1"> <thead> <tr> <th data-bbox="653 316 1003 354">Assessment Components</th><th data-bbox="1062 316 1415 354">Percentage of contribution</th></tr> </thead> <tbody> <tr> <td data-bbox="653 361 823 399">Participation</td><td data-bbox="1205 361 1268 399">20%</td></tr> <tr> <td data-bbox="653 406 802 444">Assignment</td><td data-bbox="1205 406 1268 444">30%</td></tr> <tr> <td data-bbox="653 451 887 489">Mid-semester test</td><td data-bbox="1205 451 1268 489">20%</td></tr> <tr> <td data-bbox="653 496 891 534">Final semester test</td><td data-bbox="1205 496 1268 534">30%</td></tr> </tbody> </table> <p>Grade Conversion of 0-100 scale into 0-4 scale is set as below:</p> <table border="1"> <thead> <tr> <th data-bbox="637 615 891 676">Letter</th><th data-bbox="923 615 1130 676">Number</th><th data-bbox="1162 615 1415 676">Grade interval</th></tr> </thead> <tbody> <tr> <td data-bbox="637 705 664 743">A</td><td data-bbox="1003 705 1066 743">4.00</td><td data-bbox="1209 705 1396 743">$85 \leq A \leq 100$</td></tr> <tr> <td data-bbox="637 772 669 810">A-</td><td data-bbox="1003 772 1066 810">3.75</td><td data-bbox="1209 772 1396 810">$80 \leq A- < 85$</td></tr> <tr> <td data-bbox="637 840 685 878">B+</td><td data-bbox="1003 840 1066 878">3.50</td><td data-bbox="1209 840 1396 878">$75 \leq B+ < 80$</td></tr> <tr> <td data-bbox="637 907 664 945">B</td><td data-bbox="1003 907 1066 945">3.00</td><td data-bbox="1209 907 1396 945">$70 \leq B < 75$</td></tr> <tr> <td data-bbox="637 974 669 1012">B-</td><td data-bbox="1003 974 1066 1012">2.75</td><td data-bbox="1209 974 1396 1012">$65 \leq B- < 70$</td></tr> <tr> <td data-bbox="637 1042 685 1080">C+</td><td data-bbox="1003 1042 1066 1080">2.50</td><td data-bbox="1209 1042 1396 1080">$60 \leq C+ < 65$</td></tr> <tr> <td data-bbox="637 1109 664 1147">C</td><td data-bbox="1003 1109 1066 1147">2.00</td><td data-bbox="1209 1109 1396 1147">$55 \leq C < 60$</td></tr> <tr> <td data-bbox="637 1176 664 1215">D</td><td data-bbox="1003 1176 1066 1215">1.00</td><td data-bbox="1209 1176 1396 1215">$40 \leq D < 55$</td></tr> <tr> <td data-bbox="637 1244 664 1282">E</td><td data-bbox="1003 1244 1066 1282">0.00</td><td data-bbox="1209 1244 1396 1282">$0 \leq E < 40$</td></tr> </tbody> </table>	Assessment Components	Percentage of contribution	Participation	20%	Assignment	30%	Mid-semester test	20%	Final semester test	30%	Letter	Number	Grade interval	A	4.00	$85 \leq A \leq 100$	A-	3.75	$80 \leq A- < 85$	B+	3.50	$75 \leq B+ < 80$	B	3.00	$70 \leq B < 75$	B-	2.75	$65 \leq B- < 70$	C+	2.50	$60 \leq C+ < 65$	C	2.00	$55 \leq C < 60$	D	1.00	$40 \leq D < 55$	E	0.00	$0 \leq E < 40$
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Media	Computer, LCD, Whiteboard																																								
Learning Methods	Lecture using: Student-centered approach; project-based learning; and discussion; and presentations (structured activities)																																								
Literature	<ol style="list-style-type: none"> Dove, Peter, A., Stefan, N., Sardon, H. 2019. Organic catalysis for polymerisation. Royal Society of Chemistry. Germany. Akay, M. 2012. <i>Introduction to Polymer Science and Technology</i>, 1st Ed. http://bookboon.com/en/introduction-to-polymer-science-and-technology-ebook. Han, C.D., Sup-L., Kobayashi. 2011. <i>Polymer Materials: Block-Copolymers, Nanocomposites, Organic/Inorganic Hybrid, Polymethylenes</i>. Springer-Verlog Berlin Heidelberg. Germany. 																																								

	<p>4. <u>Mark</u>, J.E. (2007), <i>Physical Properties of Polymers Handbook</i>,http://link.springer.com/book/10.1007%2F978-0-387-69002-5</p> <p>5. Idol, J.D. & Richard L. Lehman, R.L. (2004), <i>Polymer</i>, CRC Press, Boca Raton, London, New York, Washington DC, http://amipp.rutgers.edu/assets/documents/scholarlypubs/Polymers.pdf</p>
Notes:	<p>*1 CU in learning process = three periods consist of: (a) scheduled instruction in a classroom or laboratory (50 minutes); (b) structured activity (60 minutes); and (c) individual activity (60 minutes) according to the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 44 the Year 2015 jo. the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 50 the Year 2018.</p> <p>**1 CU = 1,59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/UN38/Hk/Ak/2019</p>