

## Module Handbook

Module Name:	Polymers
Module Level:	Bachelor
Abbreviation, if applicable:	KIF 303
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/term:	5 <sup>th</sup> / third year
Module coordinator(s):	Siti Wafiroh, S.Si.M.Si.
Lecturer(s):	Drs. Tokok Adiarto, M.Si.
Language:	Bahasa Indonesia
Classification within the curriculum	Elective course
Teaching format / class hours per week during semester:	2 hours lectures ( 50 min / hour)
Workload:	2 hours lecture, 2 hours structured activities and 2hours individual activities, 13weeks per semester, and total 78hours per semester ~ 2.6 ECTS *
Credit Points:	2
Requirements:	Physic Chemistry II (KIF204)
Learning goals/competencies:	<p><b>General Knowledge(knowledge):</b> At the end of this course the student, capable menjelaskanmacam-wide structure of the polymer, addition polymerization, condensation polymerization, copolymerization, polymerization conditions, chemical transformations in polymers, rheology of polymer, additives in polymers, polymer characterization, polymer technology and application of polymer technology terkini sesuai with development cutting-edge technology.</p> <p><b>Specific Competence:</b></p> <ol style="list-style-type: none"> <li>1. able to explain the kinds of polymer structures</li> <li>2. able to explain the basics of polymer</li> <li>3. able to explain the fundamentals of addition polymerization</li> <li>4. Able to explain the condensation polymerization</li> <li>5. Able to explain copolymerization</li> <li>6. able to describe the condition of polymerization</li> <li>7. Able to calculate the polymerization kinetics</li> <li>8. Able to explain chemical transformations in polymers</li> <li>9. Able to explain the rheology of polymer</li> <li>10. Able to explain the role of additives in polymers</li> <li>11. Able to explain the characterization of polymers</li> <li>12. Able to describe the technology of polymer</li> <li>13. -Able to explain the latest applications of polymers such as membrane technology, drug release, fuel cell, dendrimer, superconductors, adhesive technologies, and others</li> </ol>
Content:	Various polymer structure, addition polymerization, condensation

	polymerization, copolymerization, polymerization conditions, chemical transformations in polymers, polymer rheology, additives in polymers, polymer characterization, polymer technology and application of the latest polymer technology
Attribut soft skill	Team work and discipline
Study/exam achievements:	<p>Students are considered to be competent and pass if at least get 55.  Final score (NA) is calculated as follow : 20% assignment +40% UTS + 40% UAS  Final index is defined as follow:</p> <p>A : 75 - 100  AB : 70 - 74.99  B : 65 - 69.99  BC : 60 - 64.99  C : 55 - 59.99  D : 40 - 54.99  E:0 - 39.99</p>
Forms of Media:	LCD, internet, journal, Whiteboard
Learning Methods	Problem Based Learning
Literature:	<ol style="list-style-type: none"> <li>1. Bill Meyer, "Textbook of Polymer Science", 3rd, Interscience, 1994</li> <li>2. George Odian, "Principle of Polymerization", 4ed, John Wiley, 2004</li> <li>3. Christopher, "Fundamental Principle of Polymeric Materials", 3rd, John Willey, 2012</li> </ol>
Notes:	<p>*Total ECTS = {(total hours workload x 50 min ) / 60 min } / 25 hours  <b>Each ECTS is equals with 25 hours</b></p>