

MODULE HANDBOOK

Module Name	Material Chemistry
Module level	Bachelor
Abbreviation, if applicable	3074112071
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	6 th / Third Year
Module coordinator(s)	Dina Kartika Maharani, S.Si., M.Sc.
Lecturer(s)	Prof. Dr. Sari Edi Cahyaningrum, M.Si.; Dr. Amaria, M.Si.; Dina Kartika Maharani, S.Si., M.Sc.
Language	Indonesian
Classification within the curriculum	Elective Course
Teaching format/class hours per week during the semester:	2 hours lecturers (50 min per hours)
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 points:	2 CU x 1.59 = 3.18 ECTS
Prerequisite course(s):	Main Elements of Chemistry
Targeted learning outcomes:	<p>CLO 1 Able to apply logical, critical, systematic and innovative thinking in the development or implementation of science and technology to support mastery of concepts and theories of material chemistry</p> <p>CLO 2 Make conclusions and analyze the results of the synthesis and characterization of alumina polysilica and chitosan-based biomaterials.</p> <p>CLO 3 Have knowledge of the basic theories of synthesis and characterization of materials, biomaterials and advanced materials.</p> <p>CLO 4 Have an honest and responsible attitude in synthesizing and characterizing the produced materials, biomaterials and advanced materials.</p>
Content:	<ul style="list-style-type: none"> • Inorganic Polymer, • Homopolymer, • heteropolymer, • Alumina Polysilica Based Material, • silica, • Biomaterials (biomass, chitin chitosan, humic acid), • synthesis, • Materials Characterization, • Nanomaterials.

Study / exam achievements:	Students are considered to complete the course and pass if they obtain at least 40% of maximum final grade. The final grade (NA) is calculated based on the following ratio:										
	<table border="1"> <thead> <tr> <th>Assessment Components</th> <th>Percentage of contribution</th> </tr> </thead> <tbody> <tr> <td>Participation</td> <td>20%</td> </tr> <tr> <td>Assignment</td> <td>30%</td> </tr> <tr> <td>Mid-semester test</td> <td>20%</td> </tr> <tr> <td>Final semester test</td> <td>30%</td> </tr> </tbody> </table>	Assessment Components	Percentage of contribution	Participation	20%	Assignment	30%	Mid-semester test	20%	Final semester test	30%
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Mid-semester test	20%										
Final semester test	30%										
Media:	Computer, LCD, White board										
Learning Methods	Providing information, reviewing journals, group discussions and presentations.										
Literature:	<ol style="list-style-type: none"> 1. D.N. Hunter. 1990. Inorganic Polymer Black Well, Oxford University Science Book. 2. James E mark, Harry R Allcock.1994., Inorganic, Polymer Oxford University Science Book. 3. Mark T Weller.1995. Inorganic material Chemistry. Oxford University Science Book 4. Sari Edi Cahyaningrum, 2016, Chitosan Based Biomaterial 5. Inorganic Material Journals 										
Notes:	*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 Year 2015 jo. the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 50 Year 2018.										
	**1 CU = 1,59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/UN38/Hk/Ak/2019										