



MINISTRY OF EDUCATION, CULTURE, RESEARCH,
AND TECHNOLOGY

UNIVERSITAS NEGERI SURABAYA

FACULTY OF MATHEMATICS AND NATURAL SCIENCES
Ketintang Campus, D-1 Building, Surabaya 60231 +6231-8296427
Website: www.fmipa.unesa.ac.id, email: info_fmipa@unesa.ac.id

Master Program of Science Education

Module Handbook

Module Name :	<i>Kajian Sains Kimia II/ Study of Chemical Science II*</i>
Module level :	<i>Master Program of Science Education</i>
Course Code :	<i>8410102202</i>
Abbreviation, if applicable:	-
Courses included in the module, if applicable:	<i>Not Applicable</i>
Semester/Term	<i>2nd /First Year</i>
Module coordinator(s)	<i>Dr. I. Gusti Made Sanjaya, M.Si.</i>
Lecturer(s):	<i>Dr. I. Gusti Made Sanjaya, M.Si.</i>
Language:	<i>Indonesian Language</i>
Classification within the curriculum:	<i>Compulsory/ Elective</i>
Teaching format/class hours per week during the semester:	<i>3 contact hours of lectures (Indonesia credit semester or CU*)</i>
Workload :	<i>3 x 50 minutes lectures, 3 x 90 minutes structured activity, 3x 100 minutes individual activity, 14 weeks per semester, 168 total hours per semester ~ 6.72 ECTS**</i>
Credit Point:	<i>3 CU (6.72 ECTS)</i>
Requirements:	
Learning goals/competencies:	<p>Knowledge (KNO-2) CLO-1 <i>Mastering knowledge and technology various learning resources and learning media to support mastery of the concept of Chemical Science Study II</i> CLO-2 <i>Mastering of the concept of Chemical Science Study II</i></p> <p>Competency (COM-3) CLO-3 <i>Design to study various concepts in Chemical Science Studies II through inter and multidisciplinary approaches.</i></p>
Content	<i>This course examines application of various learning resources and learning media to support the mastery of concepts: atomic structure of various developments in atomic theory, periodic properties of elements, acid-bases, chemical bonds, coordination bonds and compounds, redox systems, solvents, elemental chemistry and macro-molecules of life; and instilling a tough attitude, daring to make decisions, and being responsible in the science of Chemical Science Studies II.</i>
Attribute Soft skill:	<i>Scientific report, public speaking, and team work</i>



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<p><i>Study/exam achievements:</i></p>	<p>Students are considered to be competent and pass if at least get 70. Final score is calculated as follows: 20% Participation + 30% Assignment + 20% Middle Exam (UTS) + 30% Final Exam (UAS) Final index is defined as follow:</p> <table border="1" data-bbox="667 533 1294 913"> <thead> <tr> <th>Index</th> <th>Converted Score</th> <th>Score Range</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>4.00</td> <td>$85 \leq A \leq 100$</td> </tr> <tr> <td>A-</td> <td>3.75</td> <td>$80 \leq A- < 85$</td> </tr> <tr> <td>B+</td> <td>3.50</td> <td>$75 \leq B+ < 80$</td> </tr> <tr> <td>B</td> <td>3.00</td> <td>$70 \leq B < 75$</td> </tr> <tr> <td>B-</td> <td>2.75</td> <td>$65 \leq B- < 70$</td> </tr> <tr> <td>C+</td> <td>2.50</td> <td>$60 \leq C+ < 65$</td> </tr> <tr> <td>C</td> <td>2.00</td> <td>$55 \leq C < 60$</td> </tr> <tr> <td>D</td> <td>1.00</td> <td>$40 \leq D < 55$</td> </tr> <tr> <td>E</td> <td>0.00</td> <td>$0 \leq E < 40$</td> </tr> </tbody> </table>	Index	Converted Score	Score Range	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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<p><i>Learning Methods :</i></p>	<p>Case Method and Discussion</p>																														
<p><i>Form of Media:</i></p>	<p>Power Point slides, e-book file, and multimedia.</p>																														
<p><i>Literature (primary references):</i></p>	<ol style="list-style-type: none"> 1. Douglas, B.E., McDaniel, D.H., Alexander, J.J. 1994. <i>Concepts and Models of Inorganic Chemistry</i>. 3rd ed. New York: John Wiley & Sons, Inc. 2. Huheey, J.E., Keiter, E. A., Keiter, R. L. 1993. <i>Inorganic Chemistry. Principles of Structure and Reactivity</i>, 4th ed. New York: Harper International Edition 3. Lee, J. D. 1991. <i>Concise Inorganic Chemistry</i>. London: Chapman & Hall. 4. Madan, R.D. 1997. <i>Modern Inorganic chemistry</i>. New Delhi: S. Chand & Company, Inc. 5. Mathew, C.K., van Holde, K.E., Ahern, K.G., 1999. <i>Biochemistry</i>, San Fransisco: Addison-Wesley Pub. Co 6. Miessler, G. L. & Tarr, D. A. 1999. <i>Inorganic Chemistry</i>. New Jersey: Prentice-Hall, Inc. 7. Styer, L., 1988. <i>Biochemistry</i>. New York: W.H. Freeman and Company 																														
<p><i>Notes:</i></p>	<p>*1 CU in learning process = three periods consist of: (a) scheduled instruction in a classroom (50 minutes); (b) structured activity (90 minutes); and (c) individual activity (100 minutes) according to according to Rector Decree of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2020</p> <p>**1 CU = 2.24 ECTS according to Rector Decree of Universitas Negeri Surabaya No. 598/UN38/HK/AK/2020</p> <p>*Total ECTS = (total hours workload/ 60 min) / 25 hours Each ECTS is equals with 25 hours</p>																														
<p><i>Last Amendment</i></p>	<p>5 January 2023</p>																														