

MODULE HANDBOOK

Module Name	Coordination Chemistry
Module level	Bachelor
Abbreviation, if applicable	8420402116
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	5 th /Third Year
Module coordinator(s)	Dr. Amaria, M.Si.
Lecturer(s)	Prof. Dr. Sari Edi Cahyaningrum. M.Si. Dina Kartika Maharani, S.Si., M.Sc.
Language	Indonesian
Classification within the curriculum	Compulsory 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 = 2 x 1.59 = 3.18 ECTS
Prerequisite course(s):	-
Targeted learning outcomes:	<p>CLO 1 : Students are able to understand the concepts of covalent bonding, ligands, stereochemistry, stability, magnetic properties and electronic spectra of coordinating compounds</p> <p>CLO 2 : Students are able to structure and predict the properties of coordination compounds</p> <p>CLO 3 : Students are able to communicate both verbally and in writing the concepts of chemical bonds, stereochemistry, stability, magnetic properties, and electronic spectra of coordinating compounds</p> <p>CLO 4 : Students Have a caring and responsible attitude in applying coordination compounds in the environment</p>
Content:	<p>Introduction: The properties, the development of coordination compounds and the nomenclature</p> <p>Bonds in coordination compounds: Effective Atomic Number, Valence Bond Theory, Crystal Field Theory, Molecular Orbital Theory</p> <p>Geometry and Isomerism of Coordination compounds: Various isomerism in coordination compounds, Geometry isomersm, Optic isomerism</p> <p>Stability of Coordination Compounds: Stability of the complex thermodynamic and kinetic, Reaction steps for the reaction of the formation of the coordination compound, Factors affecting the stability of coordination compounds.</p> <p>Term Simbol, Multiplisitas, Diagram Orgel, dan Diagram</p>

	Tanabe-Sugano										
Study/exam achievements:	<p>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:</p> <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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Participation	20%										
Assignment	30%										
Mid-semester test	20%										
Final semester test	30%										
Media:	Computer, LCD, White board										
Learning Methods	Individuals assignment, group assignment, discussion, and presentation										
Literature:	<ol style="list-style-type: none"> 1. Basolo, F and Johnson, R.C. 1986. <i>Coordination Chemistry, 2nd Edition</i>. New York: W.A. Benjamin, Inc. 2. Sugiarto, Bambang. 2006. <i>Teori Senyawa Koordinasi</i>. Surabaya: Unesa University Press 3. Quagliano, J. V. And Vallarino, L. M., 1969. <i>Coordination Chemistry</i>, Massachusetts: D. C. Heath and Company 4. Huheey, E. James, Ellen, A.K, and Richard I.K. 1978. <i>Inorganic Chemistry, Principle of Structure and Reactivity</i>. USA: Harper Collins College Publishers 5. Madan, R.D., 1997. <i>Modern Inorganic Chemistry</i>, S. Chand and Company LTD, New Delhi. 										
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 Year 2015 jo. the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 50 Year 2018.</p> <p>**1 CU = 1,59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/Un38/Hk/Ak/2019</p>										