

MODULE HANDBOOK

Module Name	Coordination Chemistry
Module level	Bachelor
Abbreviation, if applicable	4720102064
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	5 st / 3 rd Year
Module coordinator(s)	Dr. Amaria, M.Si.
Lecturer(s)	Prof. Dr. Sari Edy Cahyaningrum. M.Si. Dina Kartika Maharni, 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 hours lectures, 2 hours structured activity , 2 hours individual activity, 14 weeks per semester, total 84 hours per semester ~ 2.8 ECTS
Credit points:	2 SCU
Prerequisites 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>

	Term Simbol, Multiplisitas, Diagram Orgel, dan Diagram Tanabe-Sugano
Study/exam achievements:	<p>Students are considered to be competent and pass if at least get 55</p> <p>Final score is calculated as follows: 20% participation + 30% assignment + 20% middle exam (UTS) & 30% final exam (UAS)</p> <p>Table index of graduation</p> <ul style="list-style-type: none"> • A = 4 (85 - 100) • A- = 3,75 (80 - 85) • B+ = 3,5 (75 - 80) • B = 3 (70 - 75) • B- = 2,75 (65 - 75) • C+ = 2,5 (60 - 65) • C = 2 (55 - 60) • D = 1 (40 - 55) • E = 0 (0 - 40)
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. Coordination Chemistry, 2nd Edition. New York: W.A. Benjamin, Inc. 2. Sugiarto, Bambang. 2006. Teori Senyawa Koordinasi. Surabaya: Unesa University Press 3. Quagliano, J. V. And Vallarino, L. M., 1969. Coordination Chemistry, Massachusetts: D. C. Heath and Company 4. Huheey, E. James, Ellen, A.K, and Richard I.K. 1978. Inorganic Chemistry, Principle of Structure and Reactivity. USA: Harper Collins College Publishers 5. Madan, R.D., 1997. Modern Inorganic Chemistry , S. Chand and Company LTD, New Delhi.
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