

MODULE HANDBOOK

Module Name	Organometallic Compound
Module level	Bachelor
Abbreviation, if applicable	3074112064
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	7 th / Fourth 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	Compulsory /Elective
Teaching format/class hours per week during the semester:	2 hours lecturers (50 min per hours)
Workload:	Lecture: 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):	Have taken Basic Chemistry 1, Basic Chemistry 2, Basic Theory of Inorganic, Coordination Chemistry, Transition Elements of Chemistry
Targeted learning outcomes:	CLO1 Utilizing learning resources and ICT to support mastery of concepts and theories of organometallic compounds CLO 2 Have knowledge of concepts, properties, similarities and differences between organometallic compounds and complex compounds (coordination compounds), structures and bonds, types of reactions and synthesis of organometallic compounds, use, stability and role of organometallic compounds in the environment. CLO 3 Make conclusions and analyze concepts, properties, similarities and differences between organometallic compounds and complex compounds (coordination compounds), structures and bonds, types of reactions and synthesis of organometallic compounds, use, stability and role of organometallic compounds in the environment CLO 4 Have a caring and responsible attitude in applying organometallic compounds in the environment
Content:	• The study of the concepts of organometallic compounds,

	• The properties of organometallic compounds, • Similarities and differences between organometallic compounds and complex compounds (coordination compounds), • Structure and bonding, • Types of reactions and synthesis of organometallic compounds, • The use of organometallic compounds, • Stability and role of organometallic compounds in the environment.																														
Attribute Soft skill	Active communication; Discipline; Collaboration; Responsibility; and Argumentation in class and outdoor setting																														
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><tr><td>Assessment Components</td><td>Percentage of contribution</td></tr><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></table>	Assessment Components	Percentage of contribution	Participation	20%	Assignment	30%	Mid-semester test	20%	Final semester test	30%																				
	Assessment Components	Percentage of contribution																													
	Participation	20%																													
	Assignment	30%																													
	Mid-semester test	20%																													
	Final semester test	30%																													
	Grade Conversion of 0-100 scale into 0-4 scale is set as below:																														
	<table><tr><td>Letter</td><td>Number</td><td>Grade interval</td></tr><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></table>	Letter	Number	Grade interval	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	$0 \leq E < 40$
	Letter	Number	Grade interval																												
	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	$0 \leq E < 40$																													
Media:	Computer, LCD, White board																														
Learning Methods	Lecture using: Student-centered approach; project-based learning; and discussion; and presentations (structured activities).																														

Literature:	1. Shriver, D.F., Atkins,P.W. and Langford, C., 1990. Inorganic Chemistry, Oxford University Press, Tokyo. 2. Crabtree, Robert H, 1988. The Organometallic Chemistry of The Transition Metals, John Wiley & Sons, Singapore. 3. Douglas, B.E.; McDaniel, D. H. ; Alexander, J.J., 1994. Concepts and Models of Inorganic Chemistry, Third Edition, John Wiley & Sons, Inc. New York. 4. Huheey, J.E.; Keiter, E.A.; Keiter, R.L., 1990, Inorganic Chemistry, Principles of Structure and Reactivity, Fourth Edition, Harper Collins College Publishers. 5. Miessler, G.L., Fischer, P.J., and Tarr, D.A., 2014, Inorganic Chemistry 5th ed, Prentice Hall, International Inc., New Jersey 2. 6. Crabtree, H., R, 2009, The Organometallic Chemistry of the transition metals, John Wiley & Sons, USA 7. Organometal Chemistry Journal
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