



MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY
UNIVERSITAS NEGERI JAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCE
CHEMISTRY STUDY PROGRAM

Kampus A, Gedung Hasjim Asj'arie Rawamangun, Jakarta Timur 13220 Telp/Fax : (021) 4894909, E-mail : pkimia@unj.ac.id

Bachelor in Chemistry Education

Module Handbook

Module name:	Practicum of Inorganic Chemistry														
Module level, if applicable:	Undergraduate														
Code:	33150472														
Sub-heading, if applicable:	-														
Classes, if applicable:	-														
Semester:	5 th														
Module coordinator:	Prof. Yuli Rahmawati, S.Pd., M.Sc., Ph.D														
Lecturer(s):	Dr. Setia Budi, M.Sc Dr. Sukro Muhab, M.Si														
Language:	Bahasa Indonesia (Indonesian Language)														
Classification within the curriculum:	Compulsory Courses in the third year (5 th semester) Bachelor Degree														
Teaching format/class hours per week during the semester	<p>Learning activity can be carried out in the form of Laboratory activity: 340 minutes per week</p> <ul style="list-style-type: none"> - Safety induction: 1 time (MSDS, safety equipment, waste disposal) - Preparation: 1 time (chemical preparation and experiment equipment) - Laboratory work: 7 times (7 project topics, i.e pretest, practicum activity, and writing report) <p>Discussion: 340 minutes for 5 times (presentation and discussion of practical results)</p> <p>Examination: 340 minutes for 2 times (mid and final examination)</p>														
Workload:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Type</th> <th style="width: 10%;">CU</th> <th style="width: 20%;">Laboratory Activity</th> <th style="width: 20%;">Discussion</th> <th style="width: 25%;">Examination</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">P</td> <td style="text-align: center;">2</td> <td style="text-align: center;">51,00 h 1,692 ECTS</td> <td style="text-align: center;">28,33 h 0,94 ECTS</td> <td style="text-align: center;">11,33 h 0,372 ECTS</td> </tr> </tbody> </table>					Type	CU	Laboratory Activity	Discussion	Examination	P	2	51,00 h 1,692 ECTS	28,33 h 0,94 ECTS	11,33 h 0,372 ECTS
	Type	CU	Laboratory Activity	Discussion	Examination										
	P	2	51,00 h 1,692 ECTS	28,33 h 0,94 ECTS	11,33 h 0,372 ECTS										
Credit points:	2 CU (3 ECTS)														
Prerequisite course(s):	Atomic Structure and Inorganic Chemistry, Essential Concepts in Main Group Chemistry, Transition Metals and Complex Compounds														



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Program intended learning outcomes	<p>PLO 1. Be able to apply religious attitudes, responsibility, leadership, communication skills, professionalism, and can work individually and collaborate in groups.</p> <p>PLO 3. Able to integrate mathematical and basic concepts of science to solve problems in chemistry.</p> <p>PLO 8. Be able to plan, manage, and evaluate activities in the laboratory by considering the principles of HSE (Health Safety and Environment).</p>												
Course outcomes:	CO1. Student are able to demonstrate basic inorganic chemistry laboratory techniques which includes separation, purification, syntesis, and identification of inorganic molecules												
Content:	<ol style="list-style-type: none"> 1. Manufacture of Potassium Nitrate 2. Purification Materials Through Recrystalization 3. Determentaion Chemical Formula of Complex Compounds 4. Stabilization and Isolation of Copper (I) Compound 5. Stoichiometry Complex of Ammin-Copper (II) 6. Photocatalyst of TiO₂ to decompose dyes 7. Synthesis and Characterization of Ni(II) (DMG)₂ Complex 												
Study/exam achievements:	<p>Examinations are conducted as Unit Tests. There are two-unit tests, each covers 3-4 chapters. The final marks are derived from unit tests (70%) and structured tasks (30%).</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Aspect</th> <th style="text-align: center;">(%)</th> </tr> </thead> <tbody> <tr> <td>Attitude</td> <td style="text-align: center;">15</td> </tr> <tr> <td>General skills</td> <td style="text-align: center;">10</td> </tr> <tr> <td>Special skills</td> <td style="text-align: center;">50</td> </tr> <tr> <td>Knowledge</td> <td style="text-align: center;">25</td> </tr> <tr> <td>Final score</td> <td style="text-align: center;">100</td> </tr> </tbody> </table>	Aspect	(%)	Attitude	15	General skills	10	Special skills	50	Knowledge	25	Final score	100
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Attitude	15												
General skills	10												
Special skills	50												
Knowledge	25												
Final score	100												
Media	Laboratory equipment, Projectors, Practical videos, Learning Management System (MsTeams or Alkana)												



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Literatures	<ol style="list-style-type: none"> 1. Angelici, R. (1997). Synthesis and Technique in Inorganic Chemistry. Toronto. W.B Saunders Company 2. Atkins, P.W., Shriver, D., Overton, T.L., Rourke, J.P., Weller, M.T, Armstrong, F.A, 2018, Shriver and Atkins' Inorganic Chemistry, 7th Edition, Oxford University Press. 3. Housecroft, C.E., and Sharpe, A.G., 2012, Inorganic Chemistry 4th Edtn, Pearson Education Limited 4. Jolly, W.L. (1970). The Synthesis and Characterization of Inorganic Compounds, New Jersey. Prentice-Hall, Inc, Englewood Cliffs 5. Miessler, G.L., Fischer, P.J., and Tarr, D.A., 2014, Inorganic Chemistry, 5th Edtn, Pearson Education. 6. Szafran, Z. Pieke, R.M and Singh, M.M. (1991). Microscale Inorganic Chemistry: A Comprehensive Laboratory Experience, John Wiley and Sons, Inc, Toronto 7. Tim, 2022, Practical Guide Anorganic Practicum Departement Chemistry FMIPA Universitas Negeri Jakarta
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PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CO1	v		v					v				