

## MODULE HANDBOOK

Module Name	Quantitative Chemical Analysis
Module level	Bachelor
Abbreviation, if applicable	3074213028
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	3 <sup>rd</sup> /Second Year
Module coordinator(s)	Dr. Pirim Setiarso, M.Si
Lecturer(s)	Prof. Dr. Sri Poedjiastoeti, M.Si Prof. Dr. Nita Kusumawati, M.Sc Dr. Pirim Setiarso, M.Si Rusmini S.Pd., M.Si
Language	Indonesian
Classification within the curriculum	Compulsory Course
Teaching format/class hours per week during the semester:	3 hours lecturers (50 min per hours)
Workload:	3 x 50 minutes lectures, 3 x 60 minutes structured activity, 3 x 60 minutes individual activity, 14 weeks per semester, 119 total hours per semester ~ 4.77 ECTS**
Credit points:	3 CU x 1.59 = 4.77 ECTS
Prerequisites course(s):	General Chemistry
Targeted learning outcomes:	<p>CLO 1: Students have knowledge of the basic principles of quantitative analysis in terms of chemical structure, energetics, and chemical analysis which includes process analysis, evaluation of analysis results, chemical calculations, gravimetric and volumetric analysis (acid-base titration, precipitation titration, complexing titration, redox titration)</p> <p>CLO 2: Students are skilled in using tools in carrying out quantitative analysis in terms of chemical structure, energetics, and chemical analysis which include process analysis, evaluation of analysis results, chemical calculations, gravimetric and volumetric analysis (acid-base titration, precipitation titration, complexing titration, redox titration)</p> <p>CLO 3: Students have the ability to cooperate and have a responsible attitude in carrying out quantitative analysis in terms of chemical structure, energetics, and chemical analysis which includes process analysis, evaluation of analysis results, chemical calculations, gravimetric and volumetric analysis (acid-base titration, precipitation titration, complexing titration). , redox titration)</p> <p>CLO 4: Students have the ability to communicate the results of quantitative analysis in terms of chemical structure, energetics, and chemical analysis which includes the analysis process, evaluation of analysis results, chemical calculations,</p>

	gravimetric and volumetric analysis (acid-base titration, precipitation titration, complexing titration, redox titration)										
Content:	Basics Of Quantitative Analysis, Acid Base Titration, Precipitation Titration, Complexing Titration, Redox Titration										
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 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%
	Assessment Components	Percentage of contribution									
	Participation	20%									
	Assignment	30%									
Mid-semester test	20%										
Final semester test	30%										
Media:	Computer, LCD, White board, laboratory, book, practicum guide book										
Learning Methods	Individuals assignment, group assignment, discussion, presentation, practicum										
Literature:	<ol style="list-style-type: none"> <li>1. Basset,J.,et.al.1991. Vogel: <i>Texbook of Quantitative Inorganic Analysis Including Elementary Instrumental Analysis</i>. London: Longman Group Limited</li> <li>2. Day, Jr, R.A., dan Underwood, A.L., 2002. <i>Quantitativ Analysis</i>. Sixth Ed. (Alih bahasa: Sopyan, I.). Jakarta: Penerbit Erlangga.</li> <li>3. Skoog, Douglas.A. 1982, <i>Fundamental of Analytical Chemistry</i>. Fourth Edition. Tokyo: Holt- Sounders Japan</li> </ol>										
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										