

MODULE HANDBOOK

Module Name	Qualitative Analytical Chemistry
Module level	Bachelor
Abbreviation, if applicable	3074212018
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	2 nd / First Year
Module coordinator(s)	Prof. Dr. Sri Poedjiastoeti, M.Si.
Lecturer(s)	Prof. Dr. Sri Poedjiastoeti, M.Si. Dr. Maria Monica Sianita, M.Si. Rusmini S.Pd., M.Si.
Language	Bahasa Indonesia
Classification within the curriculum	Compulsory/ Elective
Teaching format/class hours per week during the semester:	2 contact hours of lectures and lab activity (Indonesia credit semester or sks*)
Workload:	a. Lecture: 1 x 50 minutes lectures, 1 x 60 minutes structured activity, 1 x 60 minutes individual activity, 14 weeks per semester, 39.67 total hours of lecture per semester ~ 1.59 ECTS b. Lab activity: 1x170 minutes lab activity, 14 weeks per semester 39.67 total hours of lab activity per semester ~ 1.59 ECTS Total of lecture and lab activity = 79.33 total hours per semester ~ 3.18 ECTS**
Credit points:	2 CU = 2 x 1.59 = 3.18 ECTS
Prerequisites course(s):	Basic Chemistry 1
Targeted learning outcomes:	CLO 1: Students are able to collect information from various sources, both ICT and non-ICT, so that they have knowledge of supporting theories, experimental techniques and how to carry out qualitative analysis. CLO 2: Skilled students use tools and materials in conducting qualitative analysis through the stages of preliminary analysis, analysis of cations and anions in a compound and the reactions that occur. CLO 3: Students have the ability to work together and be responsible for conducting a quality analysis. CLO 4: Students have the ability to communicate their knowledge and skills in the form of the results of qualitative analysis of chemical compounds in single or multiple samples

Content:	1. Supporting theory in qualitative analysis 2. Qualitative analysis experimental techniques 3. Preliminary analysis 4. Cation analysis in general 5. Cation analysis group I 6. Analysis of group ii cations 7. Cation analysis group III 8. Cation analysis for group IV 9. Analysis of group v cations 10. Anion analysis		
Attribute Soft skill	Active communication; Discipline; Collaboration; Responsibility; and Argumentation in class and outdoor setting		
Study / exam achievements:	The final grade (NA) is calculated based on the following ratio:		
	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:		
	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, laboratory, text books, practicum guide book, journals
Learning Methods	Lecture and laboratory activity: Lecture and laboratory activity using: Lecture, individual assignment, group assignment, discussion, presentation, laboratory activity and compiling a practicum report
Literature:	1. Sawyer, Heineman, and Beebe.1984. <i>Chemistry Experiments for Instrumental Methods</i>. New York: John Wiley & Sons 2. Svehla, G, 1979. <i>Vogel's Text Book of Macro and Semimicro Qualitative Inorganic Analysis. Fifth ed.</i> London: Longman Group Limited 3. Sorum, Clarence Harvey, and Lagowski, J. J. 1977. <i>Introduction to Semimicro Qualitative Analysis</i>. United State of America: Prentice-Hall Inc 4. Briggs, J. G. R. 2000.Chemistry for GCE 'O' Level Practical Workbook. Singapore: Pearson Education Asia Pte Ltd 5. Poedjiastoeti, S., Monica, M., Sukarmin, dan Rusmini. 2016. <i>Kimia Analisis Kualitatif</i>. Surabaya: Unesapress 6. Rahmadani, Alawiyah, T. & Herowati, R., (2021) Deteksi Logam Berat Timbal (Pb) dalam Kosmetik yang Beredar di Pasar Tradisional Banjarmasin; <i>Journal of Pharmacy and Science</i> Vol. 6 No. 2, pp: 99-102 7. Martines, S.A., Latief, M., & Rahman H., (2018) Analisis Logam Timbal (Pb) pada Lipstik yang Beredar di Kecamatan Pasar Jambi, <i>Jurnal Farmasi dan Ilmu Kefarmasian Indonesia</i> Vol. 5 No. 2, pp: 69-75
Notes:	*1 sks in learning process = three periods consist of: (a) scheduled instruction in a classroom (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. For lab activity: 1 sks in learning process = two periods consist of: (a) scheduled lab activity (100 minutes); (b) structured lab activity (70 minutes); **1 sks = 1.59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/Un38/Hk/Ak/2019