MODULE HANDBOOK

Module Name	Qualitative Analytical Chemistry
Module level	Bachelor
Abbreviation, if applicable	8420402094
Sub-heading, if applicable	-
Course included in the module, if applicable	-
Semester/term	2nd/First Year
Module coordinator(s)	Prof. Dr. Sri Poedjiastoeti, M.Si.
Lecturer(s)	1. Prof. Dr. Sri Poedjiastoeti, M.Si. 2. Dr. Maria Monica Sianita, M.Si. 3. Rusmini S.Pd., M.Si.
Language	Bahasa Indonesia
Classification within the curriculum	Compulsory Course
Teaching format/class hours per week during the semester:	2 hours lectures (50 min / hour)
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:	2 CU = 2 x 1.59 = 3.18 ECTS
Prerequisite 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

<table>
<tr><td></td><td>10. Anion analysis</td></tr>
<tr><td>Study / exam achievements:</td><td>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>
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<tr><td>Media:</td><td>Computer, LCD, White board, laboratory</td></tr>
<tr><td>Learning Methods</td><td>Individuals assignment, group assignment, discussion, presentation, and practicum</td></tr>
<tr><td>Literature:</td><td>1. Sawyer, Heineman, and Beebe.1984. Chemistry Experiments for Instrumental Methods. New York: John Wiley & Sons
2. Svehla, G, 1979. Vogel’s Text Book of Macro and Semimicro Qualitative Inorganic Analysis. Fifth ed. London: Longman Group Limited
3. Sorum, Clarence Harvey, and Lagowski, J. J. 1977. Introduction to Semimicro Qualitative Analysis. 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. Kimia Analisis Kualitatif. Surabaya: Unesapress</td></tr>
<tr><td rowspan="2">Notes:</td><td>*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.</td></tr>
<tr><td>**1 CU = 1.59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/Un38/Hk/Ak/2019</td></tr>
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