

Module Handbook

Module Name:	Analytical Chemistry II (Practical)
Module Level:	Bachelor
Abbreviation, applicable:	if KIA204
Sub-heading, applicable:	if -
Courses included in the module, applicable:	if -
Semester/term:	4 th / Second Year
Module coordinator(s):	Yanuardi Raharjo, S.Si., M.Sc
Lecturer(s):	Dr. Muji Harsini, M.Si Dra. Usreg Sri Handajani, M.Si Dr. Miratul Khasanah, M.Si Dra. Aning Purwaningsih, M.Si
Language:	Bahasa Indonesia
Classification within the curriculum	Compulsory course
Teaching format / class hours per week during semester:	4 hours laboratory work (50 min / hours)
Workload:	4 hours doing worksheet and pretest preparation, 4 hours laboratory work, 4 hours group discussion, searching literature and writing report, 13 week per semester, and total 156 hours per semester ~ 5.2 ECTS *
Credit Points:	2
Requirements:	Analytical Chemistry II
Learning goals/competencies:	<p>General Competence(skill) : Ability to using concepts and theories of volumetry and gravimetry for analysis of inorganic compounds.</p> <p>Specific competence :</p> <ol style="list-style-type: none"> 1. ability to choose and can use the equipment in such chemical analytical balance and glassware properly 2. ability to demonstrate how the titration properly 3. ability to read miniskus burette, pipette and flask properly and carefully 4. ability to write a work plan (journals) to complete the task independently 5. ability to select, calculate and create a primary standard solution for standardizing basic solution properly 6. ability to calculate the levels of acetic acid in alkalimetry on samples given in percent w/w to the right 7. ability to select, calculate and create a primary standard solution for standardizing acid solution correctly 8. ability to calculate the concentration of sodium carbonate in acidimetry on samples given in per cent w / w to the right 9. ability to calculate the concentration of sodium carbonate and bicarbonate in a mixture of a given sample expressed in per cent

	w/w to the right
Content:	The use of analytical balance and glassware for quantitative analysis; volumetric analysis of the includes acid-base titration, argentometry, complexometry, permanganometry and iodometry; analysis gravimetry.
Soft skill	Confidence and good performance individually
Study/exam achievements:	<p>Student are considered to be competence and pass if at least get 55% of Laboratory reports and final exam.</p> <p>Final score is calculated as follow: 60% Laboratory Reports and laboratory work + 40% final exam.</p> <p>Final index is defined as follow:</p> <p>A : 75-100 AB:70-74.99 B :65-69.9 BC:60-64.99 C : 55-59.99 D :40-49.99 E : 0-39.99</p>
Learning Methods	Lectures, practice in laboratory
Forms of Media:	Laboratory equipment.
Literature:	<ol style="list-style-type: none"> 1. Basset, J. et.al (rev), 1985, <i>Vogel's Textbook of Quantitative Inorganic Analysis</i>, 4th ed., ELBL/Longman Group, Ltd., London. 2. Underwood, D.R., 2001, <i>Quantitative Analysis</i>, Prentice Hall, New Delhi. 3. Pecsock, R.L., Shields, L.D., 1985, <i>Modern Method of Chemical Analysis</i>, John Wiley & Sons, Inc., New York. 4. Christian, G.D., 1980, <i>Analysis Chemistry</i>, John Wiley& Sons, Inc., New York.
Notes:	<p>*Total ECTS = {(total hours workload x 50 min) / 60 min } / 25 hours</p> <p>Each ECTS is equals with 25 hours</p>