Module Handbook

Module Name	Spectrometry Lab Work					
Module Level	Higher Diploma					
Code, if applicable	VKD325					
Subtitle, if applicable	-					
Courses, if applicable	-					
Semester(s) in which the module is taught	3rd semester					
Person responsible for the module	Puji Kurniawati, S.Si., M.Sc.					
Lecturer	Puji Kurniawati, S.Si., M.Sc. Tri Esti Purbaningtias, S.Si., M.Si.					
Language	Bahasa Indonesia					
Relation to curriculum	Compulsory					
Type of teaching, contact hours	Laboratory Practice (teaching, preparation, lab work, data analysis and report) and Exams: 11.3 hours x 16 week					
Workload	Total Workload	181 hours; 4 CU				
		Face to face teaching	Laboratory preparation	Laboratory work	Data analysis and report	Exam (Theory and Practice)
	Hours	22	22	99	22	16
Credit Points	4 CU/6.8 ECTS					
Requirements according to the examination regulations	100% of requirements attendance in laboratory work					
Recommended prerequisites	Laboratory work of lab technique					
Module objectives/intended learning outcomes	PLO 3: Students can express basic concepts of chemistry, chemical analysis, operation, and maintenance of chemical instruments that can be applied in their work PLO 7: Students can select and carry out chemical analysis methods and operate instruments by applying the principles of chemical occupational health and safety Subject LO: Students are able to build teamwork in carrying out laboratory procedures Students are able to analyze data and report test results in writing and orally Students are able to determine the stage of qualitative and quantitative analysis in chemical testing Students are able to determine the concept of spectrometry for chemical testing Students are able to apply the principles and techniques of spectrometric analysis Students are able to apply principles and build a culture of chemical safety and health					

Content	Preparation of test samples, principles and techniques of spectrometric analysis, interpretation of qualitative and quantitative data
Study and examination requirements and forms of examination	Assessment lab work (60%), team work (10%), report (20%), safety lab (10%)
Media employed	Google classroom, youtube, zoom meeting, google form, google doc
Reading list	1. Day, Jr., R.A. and Underwood A.L., 2002, *Quantitative Analysis*, translated by Aloysius Pudjaatmaka, Volume 6, Erlangga, Jakarta 2. Duckett, S and Gilbert, B., 2000, *Foundation of Spectroscopy*, Oxford University Press, Oxford UK 3. Harvey, D., 2000, *Modern Analytical Chemistry*, McGraw-Hill Companies, Inc., New York 4. Kurniawati, P dan Huda, T., 2014, Guidebook Spectrometry, Chemical Analysis Study Program, Yogyakarta 5. Khopkar , S., M., 2004, *Basic Concepts Of Analytical Chemistry 2nd Edition*, New Age International (P) Ltd., New Delhi, India 6. Pecksock, R.I., Shield, 1976, *Modern Methods of Chemical Analysis*, John Wiley & Sons, New York