Module Handbook

Module Name	Validation Method Technique				
Module Level	Higher Diploma				
Code, if applicable	VKT537				
The subtitle, if applicable	-				
Courses, if applicable	-				
Semester(s) in which the module is taught	5th semester				
Person responsible for the module	Thorikul Huda, M.Sc.				
Lecturer	Thorikul Huda, M.Sc.				
Language	Bahasa Indonesia				
Relation to curriculum	Compulsory				
Type of teaching, contact hours	Lecture (face to face teaching, structured activities, independent study and exam): 11.3 hours x 16 weeks per semester				
Workload	Total workload	91 hours; 2CU			
		Face to face teaching	Structured activities	Independent study	Exam
	Hours	23	28	28	11
Credit Points	2 CU/3.4 ECTS				
Requirements according to the examination regulations	75% minimum requirements of attendance in theory 100% requirements of attendance in lab activities				
Recommended prerequisites	Standardization				
Module objectives/intended learning outcomes	PLO 9: Able to carry out the validation or verification of chemical analysis methods Subject LO: 1. Able to explain the principles of test method validation 2. Able to design the development of chemical testing methods 3. Able to design test method validation procedures taking into account the principles of environmental sustainability 4. Able to validate the test method 5. Able to analyze sources of uncertainty and determine standard, combined and extended uncertainty values				
Content	a. General principles of test method validation and calibration b. Test method development c. Calibration test method validation procedure d. Parameters of test and calibration method validation e. Estimated measurement uncertainty				
Study and examination requirements and forms of examination	Midterm (35%), presentation (10%), final exam (35%), assignment (20%)				
Media employed	Google classroom, youtube, zoom meeting, google form, google doc, standard method, laboratory handbook				

Reading list	1. Ermer, J., Miller, J. H.M., 2014, Method Validation in Pharmaceutical Analysis: A Guide to Best Practice, ILEY-VCH Verlag GmbH & Co. KGaA, Weinheim 2. Riley, C.M., Rosanske, T.W., 1996, Development and Validation of Analytical Methods, Elsevier, New York, USA. 3. Prichard E., Barwick V., 2007, Quality Assurance in Analytical Chemistry, Wiley 4. Chan.C.C., Lam, H., Lee, Y.C., Zhang, X.M., (eds), 2004, Analytical Method Validation, John Wiley & Sons, Inc., Hoboken, New Jersey. 5. Fajgelj, A. and Ambrus, A. eds., 2007. Principles and practices of method validation. Royal Society of Chemistry. 6. EURACHEM / CITAC Guide CG 4 Quantifying Uncertainty in Analytical Measurement Second 7. Standar Kompetensi Kerja Nasional Indonesia SKKNI) bidang Analisis Kimia atau SKKNI bidang penguji laboratorium