

Module Handbook

Module Name	Laboratory Management					
Module Level	Higher Diploma					
Code, if applicable	VKT432					
The subtitle, if applicable	-					
Courses, if applicable	-					
Semester(s) in which the module is taught	4 th semester					
A person responsible for the module	Thorikul Huda, M.Sc.					
Lecturer	Thorikul Huda, M.Sc. Tri Esti Purbaningtias, M.Si.					
Language	Bahasa Indonesia					
Relation to curriculum	Compulsory					
Type of teaching, contact hours	Lecture (face to face teaching, structured activities, independent study and exam): 5.6 hours x 8 weeks per semester Practical class (ISO 17025 document drafting and exam): 5.8 hours x 8 weeks per semester					
Workload	Total Workload	91 hours; 2 CU				
		Face to face teaching	Structured activities	Independent study	Document drafting practice	Exam
	Hours	12	14	14	40	11
Credit Points	2 CU/3.4 ECTS					
Requirements according to the examination regulations	75% minimum requirements of attendance					
Recommended prerequisites	-					
Module objectives/intended learning outcomes	<ol style="list-style-type: none"> 1. PLO 4: Able to complete work, analyze data and communicate results reports effectively by showing quality performance. 2. PLO 5: Able to contribute to solving problems in the scope of work. 3. PLO 6: Able to be responsible as a leader and role model in the scope of work and society 4. PLO 8: Able to implement standardized laboratory management system under the full responsibility of supervision 5. Subject LO: 6. Able to understand laboratory management system requirements 7. Able to simulate and demonstrate the manufacture of quality documents in the testing and calibration laboratory 8. Able to demonstrate internal audit practices and management reviews 9. Able to explain the application of quality management system standards in clinical laboratories 10. Able to describe quality management systems in school and college laboratories 					

	<ol style="list-style-type: none"> 11. Able to simulate and demonstrate the manufacture of quality documents in the testing and calibration laboratory 12. Able to demonstrate internal audit practices and management reviews
Content	<ol style="list-style-type: none"> 1. Laboratory management system requirements 2. Testing and calibration laboratory quality management system 3. Internal audits and laboratory management reviews 4. Clinical laboratory quality management system 5. Educational laboratories and industrial laboratories
Study and examination requirements and forms of examination	Midterm exams (25%), presentation (20%), role play (20%), document drafting practice (35%)
Media employed	Google classroom, youtube, zoom meeting, google form, google doc
Reading list	<ol style="list-style-type: none"> 1. Dittrich, E. ed., 2015. The Sustainable Laboratory Handbook: Design, Equipment, and Operation. John Wiley & Sons. 2. Sitorus, M., Sutiani A., 2013 Pengelolaan Dan Manajemen Laboratorium Kimia, Graha Ilmu, Yogyakarta 3. Günzler, H. ed., 2012. Accreditation and quality assurance in analytical chemistry. Springer Science & Business Media. 4. Hadi, A., 2007, Pemahaman dan Penerapan ISO 17025: 2005, Gramedia Pustaka Utama, Jakarta 5. ISO/IEC17025-2005: General Requirements for Competence of Testing and Calibration Laboratories 6. ISO 15189:2007, Medical laboratories – Particular requirements for quality and competence versi Bahasa Inggris (E). 7. Rosenlund, S.J., 1987. The chemical laboratory: its design and operation: a practical guide for planners of industrial, medical, or educational facilities. Noyes Publications. 8. Psillos, D. and Niedderer, H. eds., 2006. Teaching and learning in the science laboratory (Vol. 16). Springer Science & Business Media. 9. Petrozzi, S., 2012. Practical instrumental analysis: methods, quality assurance, and laboratory management. John Wiley & Sons. 10. Henrie, S.A., 2015. Green Chemistry Laboratory Manual for General Chemistry. CRC Press. 11. Ham, B.M. and Maham, A., 2015. Analytical chemistry: a chemist and laboratory technician's toolkit. John Wiley & Sons.