

	UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES MASTER PROGRAM IN CHEMISTRY		COURSE CODE: D20B.238
Module designation	Advanced Chromatography		
Semester(s) in which the module is taught	3		
Lecturers	Prof. Dr. Husein H. Bahti ; Dr. Retna Putri Fauzia, M.Si.		
Medium of instruction	Bahasa Indonesia		
Relation to curriculum	Elective Course		
Teaching methods	Student-centred learning		
Workload	Lecture : 24 hours Tutorial : 4 hours Assignment : 2 hours Test and Examination : 4 hours Independent study : 53 hours Total workload: 90 hours		
Credit points	2 (2-0) 2 credit = 2 x 1.81 ECTS = 3.62 ECTS		
Required and recommended prerequisites for joining the module	-		
Module objectives/intended learning outcomes	LO1: Student is able to explain the principles, advanced techniques, and applications of chromatography for the separation and characterization of biological/non-biological materials in an interdisciplinary manner. LO2: Student is able to design and communicate advanced chromatography research strategies ethically and strategically for the development of chemical science and technology.		
Contents	1. Introduction to chromatography 2. Chromatography performance parameters: efficiency, selectivity, and resolution 3. High Performance Liquid Chromatography (MS Detector) 4. Gas Liquid Chromatography (MS Detector) 5. Analytical and Preparative Chromatography 6. Planar and Column Chromatography Techniques 7. Validation Methods: Accuracy, Precision, LOD, and LOQ 8. Chromatography Applications		
Examination forms	Written test, assignment, presentation		
Study and examination requirements	Minimum attendance at lectures is 80%. Final score is evaluated based on individual assignment (20%), final semester exam (20%), participative (10%), Project (50%)		
Reading lists	1. Douglas A. Skoog, Donald M. West, F. James. Holler, Stanley R. Crouch. Fundamental of Analytical Chemistry. Ninth Edition. 2013. Saunders College Publishing. 2. Robert L. Pecsok, Modern Methods of Chemical Analysis. 1968.		

	John Willey. 3. Clifton E. Meloan. Chemical Separation, Principles, Techniques and Experiments. 1999. John Willey.
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