

	UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES MASTER PROGRAM IN CHEMISTRY		COURSE CODE: D20B.103
Module designation	Chemical Separation Techniques		
Semester(s) in which the module is taught	1		
Lecturers	Prof. Dr. Husein H. Bahti Dr. Santhy Wyantuti Dr. Retna Putri Fauzia		
Medium of instruction	English and Indonesian		
Relation to curriculum	Mandatory courses Master of Science in Chemistry		
Teaching methods	Lecture and discussion		
Workload	Total workload: 53.42 hours CLASS Lecture : 16.69 hours Tutorial : 3.35 hours Assignment : 2 hours Assessment : 6.68 hours Independent Study : 26.7 hours		
Credit points	2 (2-0) 2 Credits = 3.62 ECTS		

Required and recommended prerequisites for joining the module	-
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Module objectives/intended learning outcomes	1. Student is able to master the theoretical concepts and principles regarding various techniques of separating organic and inorganic compounds by distillation, extraction, chromatography, electrophoresis, and others 2. Student is able to master separation and analysis procedures, instrument functions and how to operate them, as well as mastering the applications which relevant to the chemical technology, and the use of chemicals and their handling to reduce negative impacts on people's lives, the environment, social and economy 3. Student is able to present and develop the results of studies using separation and analysis techniques and publish them in chemistry journals or other forms of written publications, such as literature books. 4. Student is able to compile and document the results of their literature review 5. Student is able to improve their learning capacity independently and in groups
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Contents	The Separation Chemistry course includes learning about the techniques used to divide elements or molecules into groups or into their single components based on mechanisms including: phase change, selective solubility of the components, differences in the mobility of components through a semipermeable wall, differences solubility, differences in buoyancy, differences in the rate of movement of elements or components.
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Examination forms	Exam and Assignments
Study and examination requirements	Minimum attendance at lectures is 80%. Final score is evaluated based on quiz (20%), individual assignment (20%), first exam (15%), second exam (15%), third exam (15%), and fourth semester exam (15%).
Reading lists	1. Douglas A. Skoog, Fundamentals of Analytical Chemistry, 1992, Saunders college publishing 2. Clifton E. Meloan, Chemical Separation, Principles, Techniques and Experiments, 1999, John Willey 3. Robert L. Pecsok, Modern Methods of Chemical Analysis, 1968, John Willey

