

	UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES MASTER PROGRAM IN CHEMISTRY	COURSE CODE: D20B.106
Module designation	Molecular Structure Elucidation	
Semester(s) in which the module is taught	1	
Lecturers	Prof. Dr. Unang S Prof. Dr. Tati Herlina Dr. Desi Harneti	
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	1. Organic Chemistry 1 2. Organic Chemistry 2 3. Kinetics and Reaction Mechanism
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Module objectives/intended learning outcomes	1. Students are able to master the theoretical concepts of identifying and characterizing the molecular structure of chemicals based on spectroscopy, IR, UV, H-C-NMR 1D and 2D and MS data (C2) 2. Student is able to produce precise conclusions regarding the structure of organic molecules based on the results of identification and analysis based on spectroscopy, IR, UV, H-C-NMR 1D and 2 D and MS data, both personally and in group work, and present them (C3)
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Contents	In this course students learn structure elucidation using spectroscopic methods such as UV, IR, NMR and MS. After understanding the phenomena and principles of each spectroscopic method, students analyze spectral data to determine the molecular structure of compounds. This course is a development of the Chemical Compound Identification course accepted at the Undergraduate level by adding techniques to H and C NMR (Order 2 and 2 Dimension) spectroscopy, stereochemistry of chiral compounds, and the introduction of non-C NMR.
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Examination forms	Test, Presentation, and Assignment
Study and examination requirements	Minimum attendance at lectures is 80%. Final score is evaluated based on quiz (10%), individual assignment (20%), mid semester exam (35%), and end semester exam (35%).
Reading lists	1. Silverstein, R.M., Bessler G., and Morrill, T.C. 1999. "Spectronic Identification of Organic Compounds", fifth ed, John Wiley and Sons. 2. Breitmaier, E. 1993. "Structure Elucidation by NMR in Organic Chemistry", John Wiley and Sons. 3. Supratman, U., 2010, "Elucidasi Struktur Senyawa Organik", Widya Padjadjaran,.

