



Universitas Gadjah Mada

Faculty of Pharmacy

Doctoral Study Program in Pharmaceutical Science

Structure Elucidation (3,2 ECTS/ 2 CSU)

Code/Status	FAS3220110/Elective
Module designation	Doctoral Study Program in Pharmaceutical Science
Semester(s) in which the module is taught	1
Person responsible for the module	Prof. Dr. apt. Ratna Asmah Susidarti, M.S. Dr. Ritmaleni Prof. Dr. rer. nat. apt. Endang Lukitaningsih, M.Si.
Language	Indonesian
Teaching methods	Case Based Learning, 100 minutes/weekly and 16 weeks during the semester
Workload (incl. contact hours, self-study hours)	100 minutes of in-class lectures
Credit points	3,2 ECTS/2 CSU
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	Students acquire proficiency in various spectroscopy techniques, including UV and IR spectroscopy, mass spectroscopy, and both 1D- and 2D-NMR spectroscopy. Furthermore, they are trained to interpret UV, IR, NMR, and mass spectra effectively, equipping them with the skills to determine the structure of compounds based on these spectral data.
Content	This course discusses the basics of UV, IR, mass, and NMR spectroscopy as well as spectral interpretation to manipulate the chemical structure of a compound.
Examination forms	
Study and examination requirements	A-E. 20% presentation, 30% task, 20% midterm, 30% final exam.



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Reading list	<p>Main:</p> <ol style="list-style-type: none">1. Pavia, D., Lampman, G.M., and Kriz, G.S., 2001, Introduction to Spectroscopy :A Guide for 1. Student of Organic Chemistry, W.B. third ed., Saunders Company, London2. Silverstein RM, Webster FX., 1998, Spectrometric Identification of Organic Compounds, 6th edition, John Wiley & Sons, New York3. McLafferty FW., 1980, Interpretation of Mass Spectra, Mill Valley, University Science Books, California <p>Additional:</p> <ol style="list-style-type: none">1. Williams, D.H., Fleming, I., 1995, Spectroscopic methods in Organic Chemistry, Fifth edition., McGraw-Hill, Maidenhead, Berkshire, England2. Kemp,W., 1979, Organik Spectroscopy, The MacMillan Press Ltd, London
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