UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF CHEMISTRY
1 Colombo Street Yogyakarta 55281
Phone (0274) 565411, Ext. 1398, Fax (0274)548203
Website: http://kimia.fmipa.uny.ac.id, E-mail: kimia@uny.ac.id

Module name:	Structural Analysis of Organic Compounds
Module level, if applicable:	Undergraduate
Code:	KMA6306
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	5th
Module coordinator:	Prof. Dr. Sri Atun
Lecturer(s):	1. Prof. Dr. Sri Atun 2. Prof. Dr. Indyah Sulistyo Arty
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course
Teaching format / class hours per week during the semester:	• Lectures: 100 minutes lectures, 120 structured activities and 120 individual study per week • Laboratory work: 170 minutes includes the laboratory work and it's reporting per week
Workload:	Total workload of the activity is 136 hours per semester which consists of 100 minutes lectures, 120 structured activities and 120 individual study and also 170 minutes laboratory work with it's reporting per week for 16 weeks
Credit points:	3 SKS (5 ECTS) with the details of 2 SKS (3 ECTS) lectures and 1 SKS (2 ECTS)
Prerequisites course(s):	Reactivity and Mechanism of Organic Compound
Course Outcomes	After taking this course, the students have ability to: CO1. Students are able to master theoretical concepts about spectroscopy CO2. Students are able to analyze the spectroscopic data of organic compund CO3. Students are able to apply the spectroscopic method in chemical research and guessing structure of organic compound
Content:	Structure Analysis courses for organic chemical compounds include the basic concepts of spectroscopy, the basic principles of UV, IR, NMR and MS spectroscopy, as well as structure elucidation of organic compounds based on the spectroscopic data.
Study/ exam achievements:	The final mark will be weight as follow:

No	CO	Assessment Object	Assessment Technique	Weight

	1	CO1, CO2, CO3	Individual assignment	Assignment	15%
			Structural assignment	Assignment	15%
			Practical work	Observation Report	20%
			Mid-term exam	Written test	20%
			Final exam	Written test	30%
				Total	100%
Forms of media:	Board, LCD Projector, handouts, PPT slides, laboratory kits, and stationaries				
Reference:	A. Kraack, J.P. Ultrafast structural molecular dynamics investigated with 2D infrared spectroscopy methods. *Top Curr Chem (Z)* **375,** 86 (2017). https://doi.org/10.1007/s41061-017-0172-1 B. Raghava Rao, K.V., Mani, P., Satyanarayana, B. et al. Purification and structural elucidation of three bioactive compounds isolated from Streptomyces coelicoflavus BC 01 and their biological activity. 3 Biotech 7, 24 (2017). https://doi.org/10.1007/s13205-016-0581-9 C. YouzhongLiu, Edwin. Romijnc GuidoVerniest, Kris Laukens, Thomas De Vijlderc 2019, Mass spectrometry-based structure elucidation of small molecule impurities and degradation products in pharmaceutical development *TrAc Trends in Analytical Chemistry* Vol 121 D. Mikhail Elyasberg. 2015. Identification and structure elucidation by NMR spectroscopy. TrAc Trends in Analytical Chemistry Vol 69 hal 88-97. E. Donald L. Pavia, dkk , Introduction to Spectroscopy, Brooks/Cole, US F. Lambert. J. B,(1998), Organic structural spectroscopy, Prentice Hall, New Jersey. G. Sri Atun, (2016) Elusidasi struktur senyawa organik, UNY Press H. www.sdbs/spectral data I. Silverstein R.M., (1997), Spectrometric identification of Organic Compounds, sixth ed.John, Wiley & Sons, New York					

PLO and CO mapping

CO	PLO									
	Attitude	Generic Skills		Knowledge				Specific Skills		
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10
CO1							√			
CO2					√					
CO3								√		