

MODULE HANDBOOK

Module Name	Stereochemistry							
Module Level	Bachelor							
Abbreviation, if applicable	3074112062							
Sub-heading, if applicable	-							
Course included in the module, if applicable	-							
Semester/term	4 th / Second year							
Module coordinator(s)	Dr. Ismono, M.S.							
Lecturer(s)	Dr. Ismono, M.S. Prof. Dr. Suyatno, M.Si.							
Language	Indonesian Language							
Classification within the curriculum	Elective Course							
Teaching format/class hours per week during the semester	2 hours lectures (50 min / hour)							
Workload	2 x 50 minutes lectures, 2 x 60 minutes structured activity, 2 x 60 minutes individual activity, 14 weeks per semester, 79,33 total hours per semester ~ 3.18 ECTS**							
Credit point	2 CU x 1.59 = 3.18 ECTS							
Requirement	Monofunctional Organic Compound							
Targeted Learning Outcomes	<ul style="list-style-type: none"> • Mastering the theoretical concepts of geometric isomer, optical isomer, conformational isomer and effect of stereochemistry to the organic reaction mechanism and stability of organic compound. • Able to apply conceptual understanding of stereochemistry to explain everyday phenomena through logical, critical, and creative thinking, as well as problem solving. • Able to make appropriate decisions in the context of solving problems based on the results of analysis of information and data related to stereochemistry • Demonstrate a responsible attitude towards work in their field of expertise independently 							
Content	This course discusses the geometric isomers (cis-trans and E-Z), conformation of acyclic and alicyclic compounds, non-aromatic bicyclic compounds (bridged and spiro bicyclic compounds), chirality and optical activity, absolute configuration (RS) and relative configuration, racemic mixtures, effect of stereomolecules on stability, mechanisms, and reaction products, as well as the implementation of stereochemistry in chemistry, biology and biochemistry.							
Study/exam achievements	Students are considered to complete the course and pass if they obtain at least 40% of maximum final grade. The final grade (NA) is calculated based on the following ratio: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Assessment Components</th> <th>Percentage of contribution</th> </tr> </thead> <tbody> <tr> <td>Participation</td> <td style="text-align: center;">20%</td> </tr> <tr> <td>Assignment</td> <td style="text-align: center;">30%</td> </tr> </tbody> </table>		Assessment Components	Percentage of contribution	Participation	20%	Assignment	30%
Assessment Components	Percentage of contribution							
Participation	20%							
Assignment	30%							

	Mid-semester test	20%
	Final semester test	30%
Forms of media	Computer, LCD, White board	
Learning Methods	Lectures, discussion, assignment	
Literature	<ul style="list-style-type: none"> • Ismono & Suyatno (2017). <i>Stereokimia</i>. Surabaya: Unesa University Press. • Solomon, T.W.G. & Fryhle, C.B. (2011). <i>Organic Chemistry</i>. 10th Edition. New York: John Wiley & Sons, Inc. • Nasipuri, D. (2008). <i>Stereochemistry of Organic Compounds: Principles and Applications</i>. 2nd Ed. New Delhi: New Age International pvt Ltd. • Fessenden, R.J. dan Fessenden, J.S. (1998). <i>Kimia Organik</i>. Jilid 1 dan 2. Penerjemah AH Pudjaatmaka. Jakarta: Erlangga. • Pine, S.H., Hendrickson, J.B., Cram, D.J. & Hammond, G.S. (1988). <i>Kimia Organik 1</i>. Edisi IV. Penerjemah: Roehyati J dan Sasanti WPH. Bandung: ITB. • Nogradi, M. (2013). <i>Stereochemistry: Basic Concepts and Applications</i>. New York: Pergamon Press 	
Notes:	<p>*1 CU in learning process = three periods consist of: (a) scheduled instruction in a classroom or laboratory (50 minutes); (b) structured activity (60 minutes); and (c) individual activity (60 minutes) according to the Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 44 Year 2015 jo. The Regulation of Indonesia Ministry of Research, Technology, and Higher Education No. 50 Year 2018.</p> <p>**1 CU = 1,59 ECTS according to Rector Decree Of Universitas Negeri Surabaya No. 598/Un38/Hk/Ak/2019</p>	