

Module Handbook

Module Name:	Introduction to Drug Synthesis
Module Level:	Bachelor
Abbreviation, if applicable:	KIO403
Sub-heading, if applicable:	
Courses included in the module, if applicable:	
Semester/term:	1 / Fourth year
Module coordinator(s):	Drs. Marcellino Rudyanto, Apt., MSi., PhD.
Lecturer(s):	Drs. Marcellino Rudyanto, Apt., MSi., PhD.
	Drs. Hadi Poerwono, Apt., MSc., PhD.
	Prof. Dr. Tutuk Budiati, Apt., MS.
Language:	Bahasa Indonesia
Classification within the curriculum:	Compulsory Course /Elective Studies
Teaching format/class hours per week during the semester:	100 minutes lectures, 13 lecture classes/semester
Workload:	Total 22 hours a semester
Credit Points:	2
Requirements:	Students must have taken Organic Chemistry I (KIO201), Organic Chemistry II (KIO203) and Synthetic Chemistry Labwork (KIO205).
Learning goal/competencies:	<p>Knowledge</p> <ul style="list-style-type: none"> - To understand the basic concept of drug synthesis. <p>Skills</p> <ul style="list-style-type: none"> - Honesty, discipline, and teamwork. <p>Competence</p> <ul style="list-style-type: none"> - To understand and be able to apply the concept of drug synthesis. - To understand and be able to design the synthetic of simple drug compounds.
Content:	Definition, the scope and importance purpose of synthesis in drug development; drug synthesis history; retrosynthetic analysis; latent polarity and functional group interconversion; strategy and planning; chemoselectivity and protecting group; regioselectivity; stereoselectivity; selected examples of commercial drug synthesis
Study/exam achievements:	<p>Student are considered to be competent and pass if at least get 50% of maximum mark of the exams based learning.</p> <p>Final score is calculated as follow :</p> <p>40% Exam I + 40% Exam II + 20% Presentation</p> <p>Final index is defined as follow :</p> <p>A : ≥ 75 AB : 70 – 74,9 B : 65 – 69,9 BC : 60 – 64,9 C : 55 – 59,9 D : 40 – 54,9</p>

	E : <40
Forms of Media:	LCD projector, whiteboard, power point, internet.
Literature:	<ol style="list-style-type: none"> 1. Christine L. Willis dan Martin Wills (terj. M. Rudyanto), Sintesis Organik, Surabaya: Airlangga University Press, 2004. 2. K. C. Nicolaou dan E. J. Sorensen, Classics in Total Synthesis, Weinheim: VCH, 1996. 3. Stuart Warren (terj. M. S. Reksohadiprodjo dan U. A. Jenie), Sintesis Organik Pendekatan Diskoneksi, Yogyakarta: Gadjah Mada University Press, 1994. 4. T. W. Green dan P.G.M. Wuts, Protective Groups in Organic Synthesis, Wiley Interscience, 2006. 5. John Saunders, Top Drugs Top Synthetic Approach, Oxford: Oxford Science Publications, 2000.
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