

Module Handbook

Module Name:	Drug Design
Module Level:	Bachelor
Abbreviation, if applicable:	KIM402
Sub-heading, if applicable:	
Courses included in the module, if applicable:	
Semester/term:	1 or 2 (open semester) / Fourth year
Module coordinator(s):	Prof.Dr. Siswandono, M.S.
Lecturer(s):	Prof.Dr. Siswandono, M.S.
	Dra. Nuzul Wahyuning Diyah, M.Si.
	Prof.Dr. Purwanto
	Dr. Bambang Tri Purwanto, M.S.
	Ir. Rully Susilowati, M.S.
	Dra. Nuzul Wahyuning Diyah, M.Si.
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:	Student must have taken Physical Chemistry (KIF201), Organic Chemistry II (KIO203) and Biochemistry (BIK201) courses.
Learning goal/competencies:	<p>Knowledge</p> <ul style="list-style-type: none"> – To understand the concept of developing new drug from rational drug design. <p>Skills</p> <ul style="list-style-type: none"> – Honesty, discipline, and teamwork. – Critical thinking, comprehensive, scientifically valid. – Active in discussion. <p>Competence</p> <ul style="list-style-type: none"> – To understand and able to apply the concept and theories of developing new drug. – To understand and able to make rational design of new drug. – To understand and able to know active compounds in drugs, its characteristic and receptor from 3D molecular views. – To understand and able to analyze drug-receptor interaction from computer program and apply it into drug development experiment.
Content:	Aspect of drug development and rational drug design,

	steps and optimalization method of drug development, molecule modification aspect, pre-drug design, drug compounds characteristics and its receptor from 3D molecular view, application of molecular model and drug-receptor interaction process in drug formulation
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 : 45% Exam I + 45% Exam II + 10% Assignment</p> <p>Final index is defined as follow : A : ≥ 75 AB : 70 – 74,9 B : 65 – 69,9 BC : 60 – 64,9 C : 55 – 59,9 D : 40 – 54,9 E : <40</p>
Forms of Media:	LCD projector, whiteboard, internet, computer, loudspeaker.
Literature:	<ol style="list-style-type: none"> 1. Siswandono dan Soekardjo B., eds., 1998. <i>Prinsip-Prinsip Rancangan Obat</i>. Surabaya: Airlangga University Press. 2. Rekka, E.A. and Kourounakis, P.N., 2008. <i>Chemistry and Molecular Aspects of Drug Design and Action</i>, Boca Raton: CRC Press. 3. Turner, J.R., ed., 2007. <i>New Drug Development, Design, Methodology and Analysis</i>, Hoboken: John Wiley & Sons, Inc. 4. Abraham, D.J. ed., 2003. <i>Burger's Medicinal Chemistry and Drug Discovery</i>. 6th ed., Vol 2, <i>Drug Discovery and Drug Development</i>, Hoboken: A Wiley-Interscience Publication. 5. Tutorial dalam Program Komputer ChemOffice dan Molegro.
Notes:	