PROTEOMICS, GENOMICS & DRUG DEVELOPMENT

Module designation	*Proteomics, Genomics & Drug Development*
Semester(s) in which the module is taught	*2*
Person responsible for the module	1. Prof. Dr. apt. Djoko Agus Purwanto, M.Si.**(Course Coordinator)** 2. Prof. Dr. apt. Sudjarwo, MS. 3. Prof. Dr. apt. Sukardiman, MS
Language	*Bahasa Indonesia*
Relation to curriculum	*~~Compulsory /~~ elective / ~~specialisation~~*
Teaching methods	*lecture, discussion, assignment*
Workload (incl. contact hours, self-study hours)	*(Estimated) Total workload:* *Contact hours (structured activities.): 90,67 hours* *Private study including independent learning activites*: *90,67 hours*
Credit points	*2 SCU / 6 ECTS*
Required and recommended prerequisites for joining the module	*NA*
Module objectives/intended learning outcomes	Students are: LO1: Able to realize excellence based on religious morals (excellence with morality), able to work together, and show a responsible attitude to work in their field of expertise independently. LO2: Able to internalize the spirit of independence, struggle, and entrepreneurship. LO5: Able to access and review information through an Information and Communication Technology (ICT) system, decide on a specific subject of study, maintain the feasibility of implementing research designs, conduct research, analyze data, conclude research results comprehensively, and create strategic issues based on the study that reflect the latest updates in the field of pharmaceutical sciences, and communicate them in the media and scientific forums at the national and international level through an interdisciplinary or multidisciplinary approach in the form of a thesis or other equivalent forms. LO6: Able to make decisions in the context of solving problems related to science and technology development based on analytical or experimental studies through collaboration with colleagues, colleagues in institutions and research communities at both national and international levels and utilizing research results for the benefit of the user and other communities. LO8: Able to carry out drug designs through the synthesis of bioactive compounds based on the structure-activity relationship. LO13: Able to design drug development both from natural products and/or synthetic compounds by considering the biological mimicry system.

Content	Proteomics, Genomics, and Drug Development course provides learning topics about the scope and benefits of proteomics and genomics in drug development, the role of bioinformatics in drug development, genomics and proteomics, enzymes and receptors, rational approaches to drug discovery, in silico drug design, structure-based drug design, receptor-based drug design, and their application in drug development.
Exams and assessment formats	*Take-home written assignments*
Study and examination requirements	*the final grade in the module is composed of 30% discussion, 30% presentation, 30% take-home assignments, 10% in-class participation and soft-skills assessment. Students must have a final grade of 70% or higher to pass*
Reading list	1. *Siswandono, ed., 2016. Kimia Medisinal I, Edisi Kedua. Sura¬baya: Airlangga University Press.* 2. *Siswandono, 2014. Pengembangan Obat Baru. Sura¬baya: Airlangga University Press.* 3. *Choudhuri, S., 2014. Bioinformatics for Beginners; Genes, Genomes, Molecular Evolution, Databases and Analytical Tools, Amsterdam: Elsevier Inc.* 4. *Roy, K., 2019. Multi-Target Drug Design Using Chem-Bioinformatic Approaches, New York: Springer Science+Business Media.* 5. *Cavasotto, C.N., 2016. In Silico Drug Discovery and Design; Theory, Methods, Challenges, and Applications, Boca Raton: Taylor & Francis Group, LLC.* 6. *Merz, K.M., Ringe, D., Reynolds, C.H., 2010. Drug Design, Structure- and Ligand-Based Approaches, Cambridge: Cambridge University Press*