

GENOMIC AND PROTEOMIC ANALYSIS

Module designation	<i>Genomic and Proteomic Analysis</i>
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	<i>Bahasa Indonesia</i>
Relation to curriculum	<i>Compulsory</i> / <i>elective</i> / <i>specialisation</i>
Teaching methods	<i>lecture, discussion, assignment</i>
Workload (incl. contact hours, self-study hours)	<i>(Estimated) Total workload: Contact hours (structured activities.): 90,67 hours Private study including independent learning activities: 90,67 hours</i>
Credit points	<i>2 SCU / 6 ECTS</i>
Required and recommended prerequisites for joining the module	NA
Module objectives/intended learning outcomes	<p>Students are:</p> <p>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</p> <p>LO2: Able to internalize the spirit of independence, struggle, and entrepreneurship</p> <p>LO4: Able to develop a pharmaceutical professional performance with analytical acumen in solving pharmaceutical problems and managing research in the pharmaceutical field related to national and global systems and policies, both inter and inter-disciplinary approaches.</p> <p>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.</p> <p>LO11: Able to develop systems for evaluating the bioavailability of drugs in the body, pharmaceutical products circulation permits, and their in-vitro and in-vivo evaluations with specific delivery systems with appropriate analytical methods.</p> <p>LO15: Able to plan and organize concepts and procedures for quality assurance and recommendations on pharmaceutical products, which include drugs, cosmetics, foods, and beverages as products and therapeutic goods.</p>

Content	The Genomic and Proteomics Analysis course provide learning topics about the nature and structure of DNA, PCR and electrophoresis analysis, application of PCR and electrophoresis analysis results, gene regulation, Lac operon theory, and tryptophan metabolism, immunohistochemistry, gene expression analysis for cancer research, and gene expression analysis for diabetes research.
Exams and assessment formats	<i>Final exam or take-home written assignments</i>
Study and examination requirements	<i>The final grade in the module is composed of 25% presentation 65% take-home assignments, 10% in-class participation and soft-skills assessment. Students must have a final grade of 70% or higher to pass</i>
Reading list	<ol style="list-style-type: none"> 1. Siswandono, ed., 2016. <i>Kimia Medisinal I, Edisi Kedua</i>. Sura-baya: Airlangga University Press. 2. Siswandono, 2014. <i>Pengembangan Obat Baru</i>. Sura-baya: Airlangga University Press. 3. Choudhuri, S., 2014. <i>Bioinformatics for Beginners; Genes, Genomes, Molecular Evolution, Databases and Analytical Tools</i>, Amsterdam: Elsevier Inc. 4. Roy, K., 2019. <i>Multi-Target Drug Design Using Chem-Bioinformatic Approaches</i>, New York: Springer Science+Business Media. 5. Cavasotto, C.N., 2016. <i>In Silico Drug Discovery and Design; Theory, Methods, Challenges, and Applications</i>, Boca Raton: Taylor & Francis Group, LLC. 6. Merz, K.M., Ringe, D., Reynolds, C.H., 2010. <i>Drug Design, Structure- and Ligand-Based Approaches</i>, Cambridge: Cambridge University Press