

Module Handbook

Module Name:	Molecular Genetics
Module Level:	Bachelor
Abbreviation, if applicable:	BIG 201
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/term:	Even (4 th semester)
Module coordinator(s):	Prof. Bambang Irawan
Lecturer(s):	Prof. Bambang Irawan Dr. Sri Puji A., M.Si.
Language:	Bahasa Indonesia
Classification within the curriculum	Compulsory Course / Elective Studies
Teaching format / class hours per week during semester:	300 minutes/ week
Workload:	100 min lecture + 100 min structural assignment + 100 min self-assignment x 13 weeks; total 3900 min = 65 hours 65/25 = 2.6 ECTS
Credit point	2
Requirements	Genetics, Organic chemistry, Cell Biology
Learning goals/competencies	General Competence (Knowledge) Students are able to understand the mechanism of fenotype presence and DNA structure, as well as protein syntesis. Specific Competence <ol style="list-style-type: none">1. Students are able to explain the connection between molecular genetics and othetr genetics field2. Students are able to explain chromosomal structure up to molecular level3. Students are able to explain the requirement of genetic material4. Students are able to conclude nucleic acid as genetic material5. Students are able to connect nucleic acid with the structure and organization of gene6. Students are able to categorize RNA based on its structure and function7. Students are able to make the scheme of gene expression8. Students are able to conclude that there is a control toward gene expression9. Students are able to compare dominant, resesif, and co-dominant gene based on gene expression10. Students are able to elaborate the mechanism of DNA replication11. Students are able to connect the connection between genetic material changes and mutant12. Students are able to conclude that there is a mechanism to prevent the distraction of genetic information13. Students are able to explain the definition of genom14. Students are able to evaluate the application of molecular

	genetics in the society.
Content	Structure of chromosome, gene, genome, and mechanism of gene expression; mechanism of DNA replication, mutation and repair of DNA; molecular genetic issues in the community.
Soft skill Attribute	Discipline and argumentation
Study/ exam achievements	<p>Students are considered to be competent and pass if at least get 40% of maximum. Final score (NA) is calculated as follow: Paper project (20%), mid exam (30%), final exam (40%), and soffskill (10%)</p> <p>Final index is defined as follow:</p> <p>A : 75 - 100 AB : 70 - 74.99 B : 65 - 69.99 BC : 60 - 64.99 C : 55 - 59.99 D : 40 - 54.99 E : 0 - 39.99</p>
Form of media	LCD
Learning Method	Class and discussion
Literature	<p>a. Irawan B. 2008. Buku Ajar Genetika Molekuler. AUP, Surabaya</p> <p>b. Klug W.S., dan Cummings, M.R. 2003. Genetics; a Molecular Perspective. Pearson Education, Inc. Upper Saddle River, NJ.</p>
Note	Requirement of Genetic Engineering, Biotechnology, and Natural Resource Management