Module Descriptions

A **module** is a self-contained **learning unit** within a higher education program that includes thematically related courses and is assigned a **fixed number of credits**. It follows specific **learning objectives**, includes an **assessment component**, and contributes to achieving the qualifications of a degree program. In some countries, “modules” are also named “courses”.

Please provide a module description for each module. In addition to the compulsory and elective modules, this also includes credited internships and the final thesis.

Please summarize all module descriptions in one document (Module Handbook) and create a table of contents so that the modules can be found easily.

Module designation	Molecular Genetics
Semester(s) in which the module is taught	Odd
Person responsible for the module	Dr Ixora Sartika Mercuriani, M.Si
Language	Indonesian language
Relation to curriculum	Elective subject
Teaching methods	lecture, project, case study, seminar, examination
Workload (incl. contact hours, self-study hours)	Total workload is 91 hours per semester which consists of 100 minutes lectures, 120 minutes structured activities, and 120 minutes individual study per week for 16 weeks.
Credit points	2 SKS (3,2 ECTS)
Required and recommended prerequisites for joining the module	Genetics, Biology Molecular of the Cell
Module objectives/intended learning outcomes	PLO-6, PLO-7, PLO-8
Content	This course develops science in a more profound way in the molecular field specifically related to genetics or inheritance in living things. The material covered includes: (1) Proof of DNA as Carrier of Genetic Material (2) Genes and Biological Information (3) Structure of DNA and RNA (4) Changes in Genetic Material (5) Function of Genes (6) Molecular Mendelic Genetics (7) DNA Replication (8) Genomes in prokaryotes and eukaryotes (9) Human Genomes (10) Transcription (11) Translations (12) Regulation of Gene Expression in Prokaryotes and (13) Regulations for Gene Expression in Eukaryotes.
Examination forms	Test, rubrics, and presentation

<table>
<tr><td>Study and examination requirements</td><td>Requirements for successfully passing the module
The final mark will be weight as follow:

<table>
<tr><th>NO</th><th>Assessment Techniques</th><th>Percentage Weight Assessment (%)</th><th>Information</th></tr>
<tr><td>1</td><td>Cognitive</td><td>50</td><td>Maximum assessment weight accumulation 50%</td></tr>
<tr><td rowspan="5"></td><td>Presence</td><td>5</td><td></td></tr>
<tr><td>Task</td><td>5</td><td></td></tr>
<tr><td>Quiz</td><td>10</td><td></td></tr>
<tr><td>Mid-semester exams</td><td>15</td><td></td></tr>
<tr><td>Final Semester Exam</td><td>20</td><td></td></tr>
<tr><td>2</td><td>Participatory</td><td>50</td><td>Maximum assessment weight accumulation 50%</td></tr>
<tr><td rowspan="3"></td><td>Case study</td><td>25</td><td></td></tr>
<tr><td>Team Base Project</td><td>25</td><td></td></tr>
<tr><td>Total</td><td>100</td><td></td></tr>
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<tr><td>Reading list</td><td>

A. Brooker, R. J., 2009, *Genetics, Analysis & Principle*, McGraw-Hill Higher Education, Boston.
B. Broman, K.W. (2005) The Genomes of Recombinant inbred Lines. *Genetics*, 169: 1133–1146.
C. Brown, T.A., 1999. *Genomes*. John Weiley and Sons. New York.
D. Desmond S. T. Nicholl, An Introduction to Genetics Engineering, 2022, 4th Edition, Cambridge University Press.
E. Hart, D.L. and B.J.Cochrane. 2019. *Genetics : Analysis of genes and genomes*. Jones and Bartlett Learning. Burlington.
F. Kar, D.K., Halder, S. 2019. Cell Biology, Genetics and Molecular Biology. New Central Book Agency

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