Module Descriptions

Module designation	Cell and Molecular Biology
Module level	Bachelor degree/Undergraduate Programme
Course Code	8420502318
Semester/Term	3rd Semester
Person responsible for the module	Prof. Dr. Isnawati, M.Si. Dr. Nurul Jadid Mubarakati, M.Si; Mochammad Ichsan, M.Pd., M.Eng; Dr. Honesty Nurizza Pinanti, M.Si; Erlix Rakhmad Purnama, S.Si., M.Si
Language	Bahasa Indonesia (Indonesian language)
Relation to curriculum	Compulsory Course
Teaching method	Lecture
Workload	100 minutes of lectures/discussions per week, 100 minutes of structured assignments, and 140 minutes of independent study per week for 16 weeks.
Credit Point	2 Credits (3.18 ECTS)
Required and recommended prerequisites for joining the module	General Biology, Genetik and genomics
Module Objectives/intended learning outcomes	✓ Students are able to explain the structure and function of genetic substances (DNA and RNA). ✓ Students are able to compare the genetic organization in prokaryotic and eukaryotic cells. ✓ Students are able to describe the processes of transcription and translation in gene expression. ✓ Students are able to analyze the regulation of gene expression and relate it to molecular mechanisms in cells. ✓ Students demonstrate critical thinking and scientific communication skills in presenting molecular biology concepts.
Content	Genetic Material and Gene Expression
Examination forms	Written test

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<td>Study and examination requirements</td>
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Study Requirement

Attendance: students must attend at least 75% of the lectures to be eligible for the final examination.

Study examination

The final grade (NA) is calculated based on the following ratio:

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<table>
<tr><td>Assessment Components</td><td>Percentage of contribution</td></tr>
<tr><td>Participation</td><td>20%</td></tr>
<tr><td>Assignment</td><td>30%</td></tr>
<tr><td>Mid-semester test</td><td>20%</td></tr>
<tr><td>Final semester test</td><td>30%</td></tr>
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Grade conversion of 0-100 scale into 0-4 scale is set as below:
<table>
<tr><td>Letter</td><td>Number</td><td>Grade Interval</td></tr>
<tr><td>A</td><td>4,00</td><td>85 ≤ A ≤ 100</td></tr>
<tr><td>A-</td><td>3,75</td><td>80 ≤ A- < 85</td></tr>
<tr><td>B+</td><td>3,50</td><td>75 ≤ B+ < 80</td></tr>
<tr><td>B</td><td>3,00</td><td>70 ≤ B < 75</td></tr>
<tr><td>B-</td><td>2,75</td><td>65 ≤ B- < 70</td></tr>
<tr><td>C+</td><td>2,50</td><td>60 ≤ C+ < 65</td></tr>
<tr><td>C</td><td>2,00</td><td>55 ≤ C < 60</td></tr>
<tr><td>D</td><td>1,00</td><td>40 ≤ D < 55</td></tr>
<tr><td>E</td><td>0,00</td><td>0 ≤ E < 40</td></tr>
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<td>Reading List</td>
<td>
Main References:

1. Alberts, B. et al. (2022). Molecular Biology of the Cell (7th ed.). W.W. Norton & Company.
2. Watson, J.D., Baker, T.A., et al. (2018). Molecular Biology of the Gene (7th ed.). Pearson.
3. Lodish, H. et al. (2021). Molecular Cell Biology (9th ed.). W.H. Freeman and Company.
4. Yuwono T. 2006. Biologi Molekuler. Penerbit Erlangga. Jakarta.

Supplementary References:

4. Nelson, D.L., & Cox, M.M. (2023). Lehninger Principles of Biochemistry (9th ed.). W.H. Freeman.
5. Online resources and video materials related to gene expression and molecular genetics.

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