

Module designation	Microbiology
Semester(s) in which the module is taught	Odd/3rd
<i>Person responsible for the module</i>	Dr. Bernadetta Octavia, and Dr. Anna Rakhmawati
Language	Bahasa Indonesia
Relation to curriculum	Compulsory
Teaching methods	Lecture, project, seminar, exam
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	Biochemistry, Cell and Molecular Biology
Module objectives/intended learning outcomes	PLO-2 PLO-6 PLO-8 PLO-11
Content	This course discusses the structure of microbiology, groups of microorganisms and their main characteristics, the cell structure of microorganisms and viruses, classification, nutrition, metabolism, microbial genetics and growth, as well as the roles of microorganisms in human life.
Examination forms	Presence, task, quiz, mid-semester exam, final semester exam, case study, team based project.

Study and examination requirements	<p>The final mark will be weight as follow:</p> <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>10</td><td></td></tr><tr><td>Quiz</td><td>5</td><td></td></tr><tr><td>Mid-semester exams</td><td>15</td><td></td></tr><tr><td>Final Semester Exam</td><td>15</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 Based Project</td><td>25</td><td></td></tr><tr><td>Total</td><td>100</td><td></td></tr></table>	NO	Assessment Techniques	Percentage Weight Assessment (%)	Information	1	Cognitive	50	Maximum assessment weight accumulation 50%		Presence	5		Task	10		Quiz	5		Mid-semester exams	15		Final Semester Exam	15		2	Participatory	50	Maximum assessment weight accumulation 50%		Case study	25		Team Based Project	25		Total	100	
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Reading list	<p>A. Tortora,G.J., B.R Funke, and C.L. Case.2007. Microbiology and Introduction, 9th ed. Benyamin Cummings, USA.</p> <p>B. Madigan, MT., J.M.Martiko, and J.Parker .2009. Brock Biology of Microorganisms. 12th. ed. Prentice Hall International. Inc. USA.</p> <p>C. Rakhmawati A, Wahyuni ET, Yuwono T. 2021. Potential application of thermophilic bacterium Aeribacillus pallidus MRP280 for lead removal from aqueous solution. Heliyon. 7(11):e08304.</p> <p>D. Octavia, B., Rakhmawati, A, et al. 2023. Low-density polyethylene sheet biodegradation by Tenebrio molitor and Zophobas morio larvae and metagenome studies on their gut bacteria. Biodiversitas. 24(2).</p>																																						