Module Descriptions

Module designation	Microbiology *Mikrobiologi*
Course Code	8420503164
Semester/Term	3rd semester/year 2
Person responsible for the module	Prof. Dr. Mahanani Tri Asri, M.Si. Dr. Pramita Yakub, S.Pd., M.Pd. Guntur Trimulyono, S.Si., M.Sc. Farah Aisyah Nafidiastri, S.Si., M.Si. Lisa Lisdiana, S.Si., M.Si., Ph.D
Language	Bahasa Indonesia (Indonesian language)
Relation to curriculum	Compulsory course
Teaching methods	Lecture, lab works
Workload	Contact hours: 2 x50 minutes lectures, 3 x50 minutes laboratory works Private study: 2 x60 minutes structured activity, 2 x60 minutes individual activity Total 135 hours per semester ~ 4.77 ECTS**
Credit Point	3 CU
Required and recommended prerequisites for joining the module	General Biology
Module Objectives/intended learning outcomes	1. Able to demonstrate basic knowledge of microbiology, bacteriology, mycology, and virology to analyze current biological problems (*knowledge*) 2. Able to apply basic knowledge of microbiology, bacteriology, mycology, and virology in various fields of life both in the laboratory and in real life that support work such as researchers, quality control and bioentrepreneurs (*knowledge*) 3. Able to make decisions and design activities/experiments to solve life problems using a microbiological approach by applying safety and bioethics principles (*special competence*) 4. Able to communicate basic concepts of microbiology both orally and in writing (*general competence*)

<table>
<tr><td>Content</td><td>This course discusses the scope, history, and development of microbiology, the fundamentals of microbial chemistry, laboratory techniques, microbial classification, prokaryotic (bacteria and blue algae) and eukaryotic (fungi and protozoa) cell structures, the microbial growth and reproduction, the control of microbial growth, microbial metabolism, microbial genetics, the basic of virology, the basic of mycology, and the role of microbes in the various fields</td></tr>
<tr><td>Examination forms</td><td>Written test</td></tr>
<tr><td>Study and examination requirements</td><td>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:

<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>
</table>

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>
</table>
</td></tr>
<tr><td>Reading List</td><td>Meliah, S. 2017. Brock. Biology of Microorganisms Vol 1 Edisi 14.(terjemah). EGC.

Astuti, R.I. 2018. Brock. Biology of Microorganisms Vol 2 Edisi 14.(terjemah). EGC.

Parsaulian, L.R. 2018. Brock. Biology of Microorganisms Vol 3 Edisi 14.(terjemah). EGC.</td></tr>
</table>

	Suhendry, T. 2018. Brock. Biology of Microorganisms Vol 4 Edisi 14.(terjemah). EGC. Ibrahim, M. 2008. Mikrobiologi: Prinsip dan Aplikasi.Surabaya: University Press. Asri, M.T., Trimulyono, G. dan Lisdiana, L. 2019. Petunjuk Praktikum Mikrobiologi Dasar dan Terapan. Surabaya