

Undergraduate Programme in Biology

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MODULE HANDBOOK

Module Name	Analytical Microbiology																
Module level, if applicable	Bachelor																
Code, if applicable	BIO425076																
Subtitle, if applicable	-																
Courses, if applicable	Microbiology																
Semester(s) in which the module is taught	6 th (sixth)																
Person responsible for the module	Lela Susilawati, PhD																
Lecturer(s)	-																
Language	Indonesia																
Relation to curriculum	Elective course in the third year (6 th semester) Bachelor Degree																
Type of teaching, contact hours	150 minutes lectures and 180 minutes structured activities per week.																
Workload	Total workload is 90,7 hours per semester, which consists of 150 minutes lectures per week for 14 weeks, 180 minutes structured activities per week, 180 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam																
Credit points	3 credits (4,5 ECTS)																
Requirements according to the examination regulations	Minimal attendance 75%; fulfil all the task																
Recommended prerequisites	No prerequisites stated on																
Module objectives/intended learning outcomes	<p>After completing this course, the students should be:</p> <p>CO1: able to able to describe the urgency of analytical microbiology, laboratory safety, sampling techniques, and QA and QC in microbiology regulations</p> <p>CO2: able to describe microbial detection and analyze based on physics, chemistry and molecular approaches</p> <p>CO3: able to practice analytical microbiology on several object in nature</p>																
Content	<ol style="list-style-type: none"> 1. Urgency of analytical microbiology, lab safety and sampling techniques 2. QA and QC regulation in microbiology 3. Microbial detection and analysis by physics, chemistry, molecular methods 4. Microbial analysis practice in laboratory for some samples 																
Study and examination requirements and forms of examination	<p>The final mark will be weighted as follows:</p> <table border="1"> <thead> <tr> <th>NO</th> <th>Assessment methods (components, activities)</th> <th>Weight (percentage)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Final Examination</td> <td>25%</td> </tr> <tr> <td>2</td> <td>Mid-Term Examination</td> <td>25%</td> </tr> <tr> <td>3</td> <td>Class Activities: Quiz, Homework, etc.</td> <td>20%</td> </tr> <tr> <td>4</td> <td>Practical lab report</td> <td>30%</td> </tr> </tbody> </table>		NO	Assessment methods (components, activities)	Weight (percentage)	1	Final Examination	25%	2	Mid-Term Examination	25%	3	Class Activities: Quiz, Homework, etc.	20%	4	Practical lab report	30%
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	The final assessment is expressed in the form of a letter value converted from a number value with the following categories:																																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">NO</th><th style="text-align: center;">Number Value</th><th style="text-align: center;">Letter Value</th><th style="text-align: center;">NO</th><th style="text-align: center;">Number Value</th><th style="text-align: center;">Letter Value</th></tr> </thead> <tbody> <tr><td style="text-align: center;">1</td><td style="text-align: center;">≥ 95</td><td style="text-align: center;">A</td><td style="text-align: center;">7</td><td style="text-align: center;">65-69.99</td><td style="text-align: center;">B/C</td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">90-94.99</td><td style="text-align: center;">A-</td><td style="text-align: center;">8</td><td style="text-align: center;">60-64.99</td><td style="text-align: center;">C+</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">85-89.99</td><td style="text-align: center;">A/B</td><td style="text-align: center;">9</td><td style="text-align: center;">55-59.99</td><td style="text-align: center;">C</td></tr> <tr><td style="text-align: center;">4</td><td style="text-align: center;">80-84.99</td><td style="text-align: center;">B+</td><td style="text-align: center;">10</td><td style="text-align: center;">50-54.99</td><td style="text-align: center;">C-</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">75-79.99</td><td style="text-align: center;">B</td><td style="text-align: center;">11</td><td style="text-align: center;">55-34.99</td><td style="text-align: center;">D</td></tr> <tr><td style="text-align: center;">6</td><td style="text-align: center;">70-74.99</td><td style="text-align: center;">B-</td><td style="text-align: center;">12</td><td style="text-align: center;"><35</td><td style="text-align: center;">E</td></tr> </tbody> </table>						NO	Number Value	Letter Value	NO	Number Value	Letter Value	1	≥ 95	A	7	65-69.99	B/C	2	90-94.99	A-	8	60-64.99	C+	3	85-89.99	A/B	9	55-59.99	C	4	80-84.99	B+	10	50-54.99	C-	5	75-79.99	B	11	55-34.99	D	6	70-74.99	B-	12	<35	E
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Media employed		White-board, LCD Projector, e-learning (https://daring.uin-suka.ac.id/)																																													
Reading list		<ol style="list-style-type: none"> 1. Michael T. Madigan, Kelly S. Bender, Daniel HB., Matthew Sattley, David, A.Stahl. 2019. Brock Biology of Microorganisms. 15th edition. Pearson Education. London. 2. Cappuccino James G, Welsh C. 2018. Microbiology A Laboratory Manual. Pearson Education. London 3. Talaro Kathleen P, Talaro A. 2002. Foundations in Microbiology. The McGraw-Hill Companies. 																																													

PLO and CO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
CO 1				✓							
CO 2				✓	✓						
CO 3					✓				✓		