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.

<table>
<tr><td>Module designation</td><td>Labwork of Industrial Microbiology</td></tr>
<tr><td>Semester(s) in which the module is taught</td><td>Odd</td></tr>
<tr><td>Person responsible for the module</td><td>Dr. Anna Rakhmawati, M.Si</td></tr>
<tr><td>Language</td><td>Indonesian language</td></tr>
<tr><td>Relation to curriculum</td><td>Elective subject</td></tr>
<tr><td>Teaching methods</td><td>lecture, project, case study, seminar, examination</td></tr>
<tr><td>Workload (incl. contact hours, self-study hours)</td><td>Total workload is 91 hours per semester which consists of 320 minutes structured activities, and 120 minutes individual study per week for 16 weeks.</td></tr>
<tr><td>Credit points</td><td>2 SKS (3,2 ECTS)</td></tr>
<tr><td>Required and recommended prerequisites for joining the module</td><td>Biochemistry, Microbiology, and Mycology</td></tr>
<tr><td>Module objectives/intended learning outcomes</td><td>PLO 5, PLO 9, PLO 10</td></tr>
<tr><td>Content</td><td>This course will discuss the isolation, selection and identification of industrial microorganisms and the factors affecting the productivity of those microbes and also the quality of the product.</td></tr>
<tr><td>Examination forms</td><td>Test, rubrics, and presentation</td></tr>
<tr><td>Study and examination requirements</td><td>Requirements for successfully passing the module
The final mark will be weight as follow:
<table><tr><td>NO</td><td>Assessment Techniques</td><td>Percentage Weight</td><td>Information</td></tr></table></td></tr>
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		Assessment (%)	
1	Cognitive	50	Maximum assessment weight accumulation 50%
	Presence	10	
	Task	10	
	Quiz	10	
	Mid-semester exams	0	
	Final Semester Exam	20	
2	Participatory	50	Maximum assessment weight accumulation 50%
	Case study	25	
	Team Base Project	25	
	Total	**100**	

Reading list

A. Claus, G.W. 1989. *Understanding Microbes, A : Laboratory Textbook for Microbiology*, W.H. Freeman and Company,USA
B. Febrianti,N., Prijambada,I.D., Sembiring, L, and Widianto, D. 2003. Karakterisasi dan Identifikasi Isolat Bakteri Pendegradasi Fraksi Aspaltik Hidrokarbon Lumpur Minyak Bumi, *Biologi*, 3 (2).
C. Benson, H., J. 1998. *Microbiological Applications: Laboratory Manual in General Microbiology*, 7th edition, WCB McGraw-Hill,Boston USA.
D. Madigan MT, Martinko JM, Stahl DA, Clark DP, 2021. Biology of Microorganism. Boston: Pearson
E. Adams MR, dan Moss MO, 2008. Food Microbiology . Cambridge: RSC Publishing.
F. Wilson, D.B., Sahm, H., Stahmann, K., Koffas, M., 2019. Industrial Microbiology. Wiley-VCH