Module designation	Laboratory Work in Biotechnology
Semester(s) in which the module is taught	Odd/3rd
Person responsible for the module	RIsma Wiharyanti, M.Si. and Fera Aulia, M.Biotech.
Language	Bahasa Indonesia
Relation to curriculum	Compulsory
Teaching methods	Lab works, project, seminar, exam
Workload (incl. contact hours, self-study hours)	Total workload is 46 hours per semester which consists of 170 minutes lab work per week for 16 weeks.
Credit points	1 SKS (1.6 ECTS)
Required and recommended prerequisites for joining the module	-
Module objectives/intended learning outcomes	PLO-2, PLO-4, PLO-5, PLO-6, PLO-7, PLO-8, PLO-9, PLO-10, PLO-11
Content	Bioethanol production through bio-material fermentation, Recombinant DNA Technology, DNA analysis and amplification, bioinformatics
Examination forms	Presence, task, quiz, mid-semester exam, final semester exam, case study, team based project.

<table>
<tr>
<td>Study and examination requirements</td>
<td>The final mark will be weight as follow:
<table>
<tr><th>NO</th><th>Assessment Techniques</th><th>Percentage Weight Assessment (%)</th><th>Information</th></tr>
<tr><td>1</td><td>Kognitif</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>15</td><td></td></tr>
<tr><td>Quiz</td><td>5</td><td></td></tr>
<tr><td>Mid-semester exams</td><td>10</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>
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<td>Reading list</td>
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A. Sambrook, J. Fritsch, E.F. Maniatis, T. 2012. Molecular Cloning: A Laboratory Manual 4th Edition. USA. Cold Spring Harbor Laboratory Press.
B. Suharsono. 2002. Konstruksi Pustaka Genom Kultivar Slamet. Hayati (3);67-70.
C. Thieman and Palladino, 2018. Introduction to Biotechnology 4th Edition. Boston: Pearson Education Inc.
D. Dwiyani et al., 2016 Transformasi Gen Pembungaan melalui Agrobacterium tumefaciens Secara In-Vitro pada Tanaman Anggrek Vanda tricolor. Agrotrop. 6 (1): 83 - 89 (2016).

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