Module Description
Food Biotechnology Application

Module designation	Food Biotechnology Application
Module code	23G03130402
Semester(s) in which the module is taught	5th semester
Person responsible for the module (lecturers)	❖ Dr. Fitri, S.TP. ❖ Serli Hatul Hidayat, S.TP., M.Si. ❖ Arfina Sukmawati Arifin, S.TP., M.Si. ❖ Sunrixon Carmando Yuansah, STP, M.T.P
Language	Indonesian language (Bahasa Indonesia)
Relation to curriculum	Compulsory course
Teaching methods	Laboratory practice, group discussion
Workload	Total workload (estimated): 91 Laboratory practice
Credit points	2 credit points = 3.24 ECTS
Required and recommended prerequisites for joining the module	
Module objectives/ Intended Learning Outcomes (ILO)	ILO 3. Demonstrates effective communication of scientific knowledge both verbally and in written form, adhering to academic and professional standards (S) ILO 6. Identifies microorganisms in food ingredients and processed foods, including applications in biotechnology (C3)
	CLO 1. Students are able to identify microorganisms that are isolated from food ingredients and processed food products CLO 2. Students are able to practice fermentation in the manufacture of food products, both spontaneous fermentation and using starter microorganisms, molds, yeasts, and bacteria
Content	❖ Isolation and identification of microorganisms ❖ Making fermentation starter ❖ Fermentation with mold, yeast and bacteria starter ❖ Spontaneous fermentation

<table>
<tr><td>Examination form</td><td>Writing (essay)</td></tr>
<tr><td>Study and examination requirements</td><td>Examination requirements: Attendance above 80%

❖ Practical response: 12.5%
❖ Preliminary assignment: 12.5%
❖ Final report of practicum: 60%
❖ Presentation: 15%

Grading:
<table>
<tr><th>Numerical range</th><th>Letter grade</th><th>Conversion value</th></tr>
<tr><td>85 - 100</td><td>A</td><td>4.00</td></tr>
<tr><td>80 - < 85</td><td>A-</td><td>3.75</td></tr>
<tr><td>75 - < 80</td><td>B+</td><td>3.50</td></tr>
<tr><td>70 - < 75</td><td>B</td><td>3.00</td></tr>
<tr><td>65 - < 70</td><td>B-</td><td>2.75</td></tr>
<tr><td>60 - < 65</td><td>C+</td><td>2.50</td></tr>
<tr><td>50 - < 60</td><td>C</td><td>2.00</td></tr>
<tr><td>40 - < 50</td><td>D</td><td>1.00</td></tr>
<tr><td>< 40</td><td>E</td><td>0.00</td></tr>
</table>
If student(s) receives(s) a score below 40, student(s) must retake the course</td></tr>
<tr><td>Reading list</td><td>1. Food Biotechnology Application Practical Module
2. Katz, S. E. (2012). The Art of Fermentation: An In-Depth Exploration of Essential Concepts and Processes from Around the World. United States: Chelsea Green Publishing.
3. Cook, D. J., Bamforth, C. W. (2019). Food, Fermentation, and Micro-organisms. United Kingdom: Wiley.</td></tr>
<tr><td>Date of last amendment</td><td></td></tr>
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