Module Description
MPKP 317 Advanced Biochemistry

Module Name	**Advanced Biochemistry**
Module level, if applicable	Undergraduate Programme
Code, if applicable	MPKP 317
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	6th Semester
Module coordinator(s):	Prof. Risa Nofiani, S.Si., M.Si., Ph.D
Lecturer	Prof. Risa Nofiani, S.Si., M.Si., Ph.D Puji Ardiningsih, S.Si., M.Si
Language	Bahasa Indonesia
Relation to curriculum	Elective course for the undergraduate programme in Chemistry
Type of teaching, contact hours	Decide teaching/training components for each course outcome ● Lecture (Face-to-face lecture) 14 ● Assignment 4 ● Group discussion 14 ● Presentation 14
Workload	(Estimated) Total workload: 2 x 2,83 hours = 5,66 hours per week. Contact hours (lecture): 2 x 0,83 hours = 1,66 hours per week Private study including examination preparation, specified in hours: 2 x 2 hours = 4 hours per week 2 x 50 minutes lectures, 2 x 60 minutes structured activity, 2 x 60 minutes individual activity, 14 weeks per semester, 80 total hours
Credit points	2 (3.34 ECTS)
Requirements according to the examination regulations	Registered in this course Minimum 75% attendance in this course

<table>
<tr><td>Learning goals/competencies:</td><td>Intended Learning Outcomes (ILO)
After taking this course, students will be able to:
1. LO-1
2. LO-2
3. LO-3
4. LO-6</td></tr>
<tr><td>Module objectives</td><td>Students are able to master the latest developments in the field of biochemistry.
1. Students are able to use the techniques used in biochemical research
2. Students are able to analyse data using bioinformatic approaches</td></tr>
<tr><td>Content:</td><td>1. Introduction of the course contract
2. Sterilisation of equipment
3. Isolation and identification of microorganisms
4. Light Microscope
5. Isolation of protein
6. Isolation of genomic deoxyribonucleic acid (DNA)
7. Isolation and sequencing of amino acids in a protein or enzyme
8. DNA or protein electrophoresis
9. Polymerase Chain Reaction (PCR)
10. Sequencing</td></tr>
<tr><td>Attribute Soft skill:</td><td>Discipline, collaboration, responsibility, and argumentation in the natural classroom setting</td></tr>
<tr><td>Recommended prerequisites</td><td>Biochemistry II</td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td>Students are considered to be competent and pass if they get at least 50% of the maximum final grade. The final grade (NA) is calculated based on the following :

<table><tr><td>Assessment Components</td><td>Percentage Contribution</td></tr><tr><td>Participation</td><td>10%</td></tr><tr><td>Assignment</td><td>20%</td></tr><tr><td>Mid-semester test</td><td>35 %</td></tr></table></td></tr>
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	<table><tr><td>Final semester test</td><td>35%</td></tr><tr><td>Total</td><td>100%</td></tr></table> The student competency is assessed from activity student in the class, assignments, quizzes, presentations, and tests
Learning Methods	- Team-Based Project (Project or Case-Based Learning)
Media employed	- white board; power point presentation; and e-learning system
Reading list	1. Switzer, R.L., and Garrity, L.F., 1999, Experimental Biochemistry, W.H. Freeman 2. Boyer, R.F., 2000, Modern Experimental Biochemistry, Prentice Hall. 3. Jensen, F., 2007, An Introduction to Computational Biochemistry, John Wiley & Sons, Ltd.