UNIVERSITAS NEGERI JAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
CHEMISTRY STUDY PROGRAM

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Bachelor in Chemistry **MODULE HANDBOOK**

Module name:	Practicum of Biochemistry
Module level, if applicable:	Undergraduate
Code:	33250132
Sub-heading, if applicable:	-
Classes, if applicable:	-
Semester:	4th
Module coordinator:	Prof. Dr. Muktiningsih Nurjayadi, M.Si.
Lecturer(s):	Prof. Dr. Muktiningsih Nurjayadi, M.Si. Irma Ratna Kartika, M.Sc. Tech. Dr. Irwan Saputra, M.Si.
Language:	Indonesian
Classification within the curriculum:	Compulsory Courses in the second year (4th semester) Bachelor Degree
Class size	40
Type of Teaching	In class activity : Team Based Project and Project based Learning Structured activity : Group Discussion using WorkSheet Independent activity : Individual task
Teaching format / class hours per week	Learning activity can be carried out in the form of Laboratory activity: 340 minutes per week **Safety induction**: 1 time (MSDS, safety equipment, waste disposal) **Preparation**: 3 time (chemical preparation and experiment equipment) **Laboratory work**: 7 times (7 main topics that consist of 14 Subtopics topics, i.e pretest, practicum activity, and writing report) **Discussion**: 340 minutes for 3 times (presentation and discussion of practical results) **Examination**: 340 minutes for 2 times (mid and final examination)
Workload:	**Type** / **CU** / **Laboratory Activity** / **Discussion** / **Examination** P / 2 / 68 h (2.256 ECTS) / 11.33 h (0.372 ECTS) / 11.33 h (0.372 ECTS)
Credit points:	2 CU (3 ECTS)
Prerequisite course(s):	Practicum of Organic Chemistry, Practicum of Basic Chemistry

<table>
<tr><td>Course Outcomes :</td><td>After taking this course the students have ability to:
1. CLO-1 Assistance
2. CLO-2 Carbohydrate practice
3. CLO-3 Lipid practice
4. CLO-4 Protein and DNA practice
5. CLO-5 Enzyme practice
6. CLO-6 Urine practice
7. CLO-7 Final report</td></tr>
<tr><td>Content:</td><td>1. Assistance
2. Carbohydrate practice
2.1 Qualitative test for carbohydrate
2.2 Quantitative test for carbohydrate
3. Lipid practice
3.1 Qualitative test for lipid
3.2 Quantitative test for lipid
4. Protein and DNA practice
4.1 Qualitative test for protein
4.2 Quantitative test for protein
4.3 DNA isolation
5. Enzyme practice
5.1 Effect of enzyme concentration on its activity
5.2 Effect of substrates concentration on enzyme activity
5.3 Effect of inhibitor on enzyme activity
6. Urine practice
6.1 Determination of physical properties of urine
6.2 Determination of some components in urine
6.3 Determination of some components in abnormal urine
7. Final report</td></tr>
<tr><td>Study/exam achievements:</td><td>Examinations are conducted as Unit Tests. There are two-unit tests, each covers 4-5 chapters. The final marks are derived from unit tests (70%) and structured tasks (30%).
<table>
<tr><th>No</th><th>CO</th><th>Assesment Object</th><th>Assessment Techniques</th><th>Weight</th></tr>
<tr><td>1</td><td>CLO 1-7</td><td>a. Pre-test
b. Practice skills
c. Report practice
d. Response</td><td>Written test</td><td>10%
30%
30%
30%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Media</td><td>Power point presentation, LMS, Zoom/Google Meet/Microsoft Teams, Google Classroom, Kahoot, Moodle, laptop, proyektor.</td></tr>
</table>

Literatures	Amrita Edu (2022). Qualitative Analysis of Carbohydrates. Available in https://vlab.amrita.edu/?sub=3&brch=63&sim=631&cnt=1. Ataya, F. S. (2007). Practical Biochemistry. AlRoshd Publisher, Riyadh, Saudi Arabia. Ataya, F. S. and Al-Anazi, M. (2019). Practical Note General Biochemistry. Available in https://faculty.ksu.edu.sa/sites/default/files/bch202_practical-modefiedff-converted.pdf

PLO and CO mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9	PLO10	PLO11	PLO12
CO1			v							v	v	
CO2			v							v	v	
CO3			v							v	v	
CO4			v							v	v	
CO5			v							v	v	
CO6			v							v	v	
CO7			v							v	v	