

Module Handbook

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| Module Name: | Biochemistry I (Practical) |
| Module Level: | Bachelor |
| Abbreviation, if applicable: | BIK301 |
| Sub-heading, if applicable: | - |
| Courses included in the module, if applicable: | - |
| Semester/term: | 5 th / Third Year |
| Module coordinator(s): | Dr. Sri Sumarsih, M.Si. |
| Lecturer(s): | Dr. Purkan, M.Si., Prof. Dr. Afaf Baktir, M.S., Drs. Sofijan Hadi, M.Kes. |
| Language: | Bahasa Indonesia |
| Classification within the curriculum | Compulsory Course / Elective Studies |
| Teaching format / class hours per week during semester: | 2 hours laboratory work(50 min/hour) |
| Workload: | 2 hours doing worksheet and pretest preparation, 2 hours laboratory work, 2 hours group discussion, searching literature and writing report, 13 week per semester, and total 78 hours per semester ~ 2.6 ECTS * |
| Credit Points: | 1 |
| Requirements: | Biochemistry I, could be taken in the same time |
| Learning goals/competencies: | <p>General competence(skill): Students are expected to conduct research in the Laboratory of Biochemical Basis.</p> <p>Specific Competence:</p> <ol style="list-style-type: none"> 1. Practice changing the structure of proteins and fibrous, 2. Distinguish and coagulation protein denaturation process, 3. Practicing isolation and determination of protein content in the sample 4. Detecting the presence of different kinds of photosynthetic microorganisms based dye product produced 5. Being able to test the effect of pH on the solubility of proteins, 6. Practicing extraction and enzyme activity assay of a sample of natural 7. Practicing visualization of nucleic acids and proteins by electrophoresis |
| Content: | Changing the structure of proteins and fibrous, denaturation and coagulation of proteins, protein isolation and determination of protein content, Widnogradsky column, the effect of pH on the solubility of proteins, extraction and enzyme activity assay, DNA and protein visualization by electrophoresis. |
| Attribute softskill | Team-work group |
| Study/exam achievements: | <p>Students are considered to be competent and pass if at least get 55% of maximum mark of the exams (pretest + UAP), and laboratory works.</p> <p>Final score (NA) is calculated as follow: 60% daily value + 40% UAP. (Daily value = 50% pretest + 25% experiment + 25% report).</p> <p>Final index is defined as follow:</p> |

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| | A : 75 - 100 AB : 70 - 74.99 B : 65 - 69.99 BC : 60 - 64.99 C : 55 - 59.99 D : 40 - 54.99 E : 0 – 39.99 |
| Forms of Media: | Slides and LCD projectors, whiteboards, laboratory equipment |
| Learning Method | Lecture, Practical work, discussion |
| Literature: | <ol style="list-style-type: none"> 1. Plummer, D.T., 1995, Practical Biochemistry, 2nd ed., McGraw Hill & Sons Ltd., New Delhi 2. Baum, S.J., 1991, Laboratory Exercise in Organic and Biological Chemistry, McMillan Publishing Co. Inc., New York 3. Brandt, M., 2002, <i>Biochemistry Laboratory Manual</i>, third edition Fullerton Calstate, California. 4. Bettelheim, F.A. and Landesberg, J.M., 2010, Laboratory Experiments for Introduction to General, Organic, and Biochemistry, Seventh Edition, Brooks/Cole Cengage Learning, Australia |
| Notes: | *Total ECTS = {(total hours workload x 50 min) / 60 min } / 25 hours Each ECTS is equals with 25 hours |