

## Module Handbook

Module Name:	<b>Advanced Biochemistry</b>
Module Level:	Bachelor
Abbreviation, if applicable:	BIK 306
Sub-heading, if applicable:	-
Courses included in the module, if applicable:	-
Semester/term:	5
Module coordinator(s):	Prof. Dr. Ni Nyoman Tri Puspaningsih,MSi
Lecturer(s):	Prof. Dr. Afaf Baktir, MSi and Prof. Dr. Ni Nyoman Tri Puspaningsih,MSi
Language:	Bahasa Indonesia
Classification within the curriculum	<del>Compulsory Course</del> / Elective Studies
Teaching format / class hours per week during semester:	1 hour lectures and 2 hour practical works (50 min / hour)
Workload:	1 hour lecture, 1 hour structured assignment, 1 hour individual assignment 2 hours worksheet and pretest preparation, 2 hours laboratory work, 2 hours group discussion, searching literature and writing report, 13 week per semester, and total 117 hours per semester ~ 3.9 ECTS *
Credit Points:	2 SCU
Requirements:	Biochemistry II
Learning goals/competencies:	<p><b>General Competence (knowledge):</b> After attending this course, students would be able to choose the best biochemical technique to be applied in isolating, purifying, and characterizing biomolecules, as well as in manipulating and engineering DNA.</p> <p><b>Specific competent (Skills):</b></p> <ol style="list-style-type: none"> <li>1. Ability to apply techniques for isolating, purifying, and characterizing chromosomal DNA</li> <li>2. Ability to apply techniques for isolating, purifying, and characterizing plasmid DNA</li> <li>3. Ability to apply techniques for isolating, purifying, characterizing protein</li> <li>4. Ability to apply techniques for manipulating and engineering DNA</li> <li>5. Ability to report the practical works in the form of both paper and oral presentation</li> </ol>
Content:	Isolation of nucleic acids (DNA chromosomal and plasmid DNA); engineering analysis of nucleic acid (DNA) in spectroscopy, electrophoresis and restriction enzymes; isolation and purification of proteins; immunological analysis of protein (antigen-antibody and Western blotting); nucleic acid hybridization (methods of Southern blotting and Northern blotting)
Attribut soft skill:	Logic, teamwork, communication skill
Study/exam	Students are considered to be competent and pass if at least get 55

achievements:	<p><u>Final score is calculated as follows:</u> 30% group discussion + 10 % SS + 30 % UTS + 30% UAS</p> <p><u>Final index is defined as follow:</u>  A : 100 &gt; NA ≥ 75  AB : 75 &gt; NA ≥ 68  B : 68 &gt; NA ≥ 60  BC : 60 &gt; NA ≥ 55  C : 55 &gt; NA ≥ 50  D : 50 &gt; NA ≥ 45  E : 45 &lt; NA</p>
Metode	Lecture, discussion, practicum
Forms of Media:	computer, LCD
Literature:	<ol style="list-style-type: none"> <li>1. Stryer, L., 2002, Biochemistry, W.H. Freeman and Co., New York.</li> <li>2. Nelson, D.L. and Cox, M.M., 2005, Lehninger Principles of Biochemistry, 4th Ed, W.H. Freeman &amp; Co, New York.</li> <li>3. Murray,P., Deutscher,M.P., 1990, Methods in Enzymology, vol 182, academic Press</li> <li>4. Sambrook, J., Fritsch,E.F., Maniatis, T., 2001, Molecular Cloning : A Laboratory Manual, 2nd ed., part I, II, III, Cold Spring Harbour Laboratory</li> </ol>
Notes:	<p>*Total ECTS = {(total hours workload x 50 min ) / 60 min } / 25 hours</p> <p><b>Each ECTS is equals with 25 hours</b></p>