THE MODULE HANDBOOK
FACULTY OF BIOLOGY
MASTER PROGRAMME

ANALYTICAL BIOCHEMISTRY

Module code	BIO-60104
Module level	1st year of Master Program in Biology
Abbreviation, if applicable	-
Courses related	-
Semester	Even
Course coordinator(s)	Dr. Rarastoeti Pratiwi, M.Sc
Lecture(s)	1. Dr. Rarastoeti Pratiwi, M.Sc 2. Prof. Dr. Sukarti Moeljopawiro, M.App.Sc 3. Dr. Yekti Asih Purwestri, M.Si 4. Dr. Tri Rini Nuringtyas, M.Sc 5. Dr. Woro Anindito Sri Tunjung, M.Sc
Language	Bahasa Indonesia and English
Classification within the Curriculum	Compulsory Course for Specific Field of Interest
Teaching format/class hours per week during the semester	This course is organized into one class and planned to have 14 teaching weeks and 2 weeks of examination. This course also has laboratory works credits.
Workload	Estimated working hour: 7,0 hours/week.
Credit	1-1 credits
Requirements	Biochemistry (BIO-60101)
Course Learning Outcome	1. Able to explain the concepts, principles and theory of laboratory instruments used in the separation and analysis of biological compounds 2. Able to isolate and analyze biomolecules, calculate enzyme activity, and evaluate the validity of data obtained 3. Able to make reports on biochemistry experiments and analysis
Syllabus	The course will cover the importance of accuracy and precision in carrying out research experiments. The topics will cover about acids, bases, pH, buffer solutions, cell destruction and homogenization, isolation and analysis of biomolecules (centrifugation, spectroscopy, fractionation, chromatography, electrophoresis). Besides that, also discussed about radioisotopes. Practical will train skills in making reagents, isolation and analysis of biomolecules, and measurement of enzyme activity.
Study/exam achievements	a. Midterm: 50% b. Final examination: 50%
Forms of media	White board, notebook, LCD

Reference	1. Holme, D.J. and Peck, H. 1998. Analytical Biochemistry, Third Edition. Longman. 2. Bintang, M. 2010. Biokimia: Teknik penelitian. Penerbit Erlangga. 3. Nigam, A and Ayyagari, A. 2007. Lab Manual in Biochemistry, Immunology and Biotechnology. Tata McGraw Hill Education Private Limited. 4. Plummer, D.T. 1971. An Introduction to Practical Biochemistry. TATA McGraw-Hill Publishing Company, LTD. 5. Sambrook, J., Fritsch and Maniatis, T. 1989. Molecular Cloning : A Laboratory Manual. 2nd Edition Edition 6. Segel, I.H. 1976. Biochemical Calculations, How to Solve Mathematical Problems in General Biochemistry. 2nd Edition. John Wiley & Sons. New York. 7. Wilson, K. And Walker, J. 2011. Principles and Technique of Biochemistry and Molecular Biology. Seventh Edition. Cambridge University Press.