



THE MODULE HANDBOOK

FACULTY OF BIOLOGY

MASTER PROGRAMME

Cell and Molecular Biology

Module code	BIO-60002
Module level	3 rd Semester of Master Program in Biology
Abbreviation, if applicable	-
Courses related	-
Semester	Odd
Course coordinator(s)	Dr. Endang Semiarti, M.S., M.Sc.
Lecture(s)	1. Dr. Endang Semiarti, M.S., M.Sc. 2. Dra. Rarastoeti Pratiwi, M.Sc., Ph.D.
Language	Bahasa Indonesia and English
Classification within the Curriculum	Elective Course
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.
Workload	Estimated working hour: 7 hours/week.
Credit	2-0 credits
Requirements	-
Course Learning Outcome	<ol style="list-style-type: none">1. Knowledge and understanding in the concept of structure, function, and evolution of biological system at molecular level2. Ability and intellectual skill to analyze problem in molecular biology3. Practical skill to analyze biological experiments
Syllabus	This course describes cell evolution, the basic concept of cells, in both prokaryotes and eukaryotes, the hierarchy of cell organization, plasma membrane: model; structure and function, cytoplasm: cytosolic structure and function; the cytoskeleton and organelles contained in it, the nucleus: the structure and function of the nucleus sheath; genetic material; genes, expressions and regulations; chromosome; nucleolus; nucleoplasm / nucleosol, cell cycle and paraplasm: cell wall and extra cell matrix. Coupled with the introduction of several techniques used for research with examples of developments in current research in the field of cell and molecular biology. This course is closely related to other disciplines in the field of biology (including genetics, enzymology, tissue culture) or across fields (agriculture, agricultural technology, pharmacy, medicine).
Study/exam achievements	<ol style="list-style-type: none">a. Quiz: 5%b. Activity: 30%



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	c. Midterm: 30% d. Final Exam: 35%
Forms of media	White board, notebook, LCD
Reference	<ol style="list-style-type: none">1. Alberts, B., Bray, D., Lewis, J., Raff, M., Roberts, K., Watson, J.D. (2008). <i>Molecular Biology of The Cell</i>. 5th ed. Garland Publ. Inc., New York.2. Alberts, B., Bray, D., Johnson, A., Lewis, J., Raff, M., Roberts, K., and Walter, P. (1998). <i>Essential Cell Biology. An Introduction to the Molecular Biology of the Cell</i>. Garland Publ. Inc., New York.