



# THE MODULE HANDBOOK

## FACULTY OF BIOLOGY

### Phycology

<b>Module code</b>	BIO 21002
<b>Module level</b>	1 <sup>st</sup> year of Undergraduate Program in Biology
<b>Abbreviation, if applicable</b>	-
<b>Sub-heading, if applicable</b>	-
<b>Courses included in the module, if applicable</b>	-
<b>Semester/term</b>	Odd
<b>Module coordinator(s)</b>	Rina Sri Kasiamdari, S.Si., Ph.D.
<b>Lecture(s)</b>	1. Rina Sri Kasiamdari, S.Si., Ph.D. 2. Dr. Eko Agus Suyono, M.App.Sc.
<b>Language</b>	Indonesia
<b>Classification within the Curriculum</b>	Elective course
<b>Teaching format/class hours per week during the semester</b>	This course is organized into one class and planned to have 14 teaching weeks and 2 weeks of examination.
<b>Workload</b>	Estimated working hour: 10,5 hours/week.
<b>Credit points</b>	2-1 credits
<b>Requirements</b>	General Biology (BIO 10001)
<b>Learning goals/ competencies</b>	<ol style="list-style-type: none"><li>1. Students have the scientific capability covering basic concepts, principles and theories related to phycology.</li><li>2. Students are able to analyze the results and determine the validity and truth in groups or independently.</li><li>3. Students have the ability to use scientific literature and make notes effectively.</li><li>4. Students are able to create and present scientific reports and communicate in accordance with the development of science in Biology.</li><li>5. Students have an attitude of great curiosity, able to appreciate the views and opinions of others.</li><li>6. Students have a responsible attitude in developing phycology creative, innovative and promote ethics.</li></ol>
<b>Content</b>	This course provides an understanding of the phycological science, characteristics of organisms belonging to Algae. Cellular organization: prokaryotik and eukaryotik. Classification, reproduction and life cycles, as well as the morphology of the talus. Algae prokaryotik: Cyanophyta



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	(Cyanobacteria). Algae Eukaryotik: glaucophyte, Chlorophyta, Phaeophyta, Rhodophyta. Nutrition and Environmental Physiology. Sterilization and manufacture of culture media. Isolation and purification techniques. Culture in door and out door. Analysis of growth, biochemistry and physiology. Application and development for the culture and engineering of algae.
<b>Study/exam achievements</b>	<b>1. Theory</b> <ol style="list-style-type: none"><li>Midterm: 40%</li><li>Final examination: 40%</li><li>Assignments: 20%</li></ol> <b>2. Laboratory work</b> <ol style="list-style-type: none"><li>Pretest: 30%</li><li>Group activity: 30%</li><li>Weekly reports: 40%</li></ol>
<b>Forms of media</b>	White board, specimen, computer, LCD
<b>Literature</b>	<b>Text Books</b> <ol style="list-style-type: none"><li>Andersen, R.A. 2005. Algal Culturing Techniques. Elsevier Academic Press</li><li>Lee, R.E. 1995. Phycology. Cambridge University Press. Sidney.</li><li>Sze, P. 1993. A Biology of The Algae. Wm.C.Brown Publisher. Dubuque.</li><li>Van den Hoek, C., D.G. Mann, and H.M. Jahns. 1998. Algae : An Introduction to Phycology. Cambridge University Press. Cambridge.</li><li>Richmond, A. 2014. Handbook of Microalgal Culture : Biotechnology and Applied Phycology</li><li>Becker, W.E. 1995. Mikroalgae : biotechnology and microbiology. Cambridge University Press. New York. USA</li><li>Stein, J.R. 1973. Handbook of Phycological Methods. Cambridge University Press. Cambridge. United Kingdom</li></ol> <b>Journals</b> <ol style="list-style-type: none"><li>Systematic Botany</li><li>Phycologia</li><li>Plant Systematics and Evolution</li><li>Journal of Applied Phycology</li><li>Journal of Phycology</li></ol>