

Module Description

Module name	Basic Biology
Module level, if applicable	Bachelor of Physics
Code, if applicable	18Y02111103
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	1 st
Person responsible for the module	Dr. Ambeng, M.Si.
Lecturer	Dr. Ambeng, M.Si. and Team
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	Undergraduate degree program, mandatory, 1 st semester
Type of teaching, contact hours	Teaching methods : [group discussion], [problem-based learning]. Teaching forms : [lecture], [tutorial], [practicum] Schedule : Monday, 07.30 - 09.30 and Tuesdays, 07.30-10.30
Workload	For this course, students are required to meet a minimum of 144 hours in one semester, which consist of: - 28.00 hours for lecture, - 24.00 hours for laboratory, - 44.00 hours for structured assignments, - 48.00 hours for private study
Credit points	3 credit points (equivalent with 5.1 ECTS)
Requirements according to the	A student must have attended at least 80% of the lectures to sit on the final examination.

examination regulations	
Mandatory prerequisites	-
Module objectives/intended learning outcomes	After completing the course, Students are able: Intended Learning Outcomes (ILO): ILO 3 : Students are able to use the basic principles of physics in technology application. [ILO 1] - Kn ILO 7 : Students are able to identify the physical problems based on the experimental results. [ILO 7] - Sk Course Learning Objective (CLO): After completing this course, students are expected to be able to ILO 3 $\Rightarrow$ CLO 1 : Students are able to analyze basic concepts in organisms and interactions with their environment. ILO 7 $\Rightarrow$ CLO 2 : Students are able to analyze the concepts of metabolism, reproduction, coordination of organisms and the application of biotechnology in the development of science in their respective fields.
Content	Students will learn about : 1. Basic Biology Courses Cover The Basic Concepts of Biology 2. Basic Units of Life 3. Metabolism 4. Cell Division 5. Inheritance of Traits 6. Reproduction in Organisms 7. Coordination Systems in Organisms 8. Homeostatis as Well as Knowledge of Ecology 9. Classification and Basics in Biotechnology
Forms of Assessment	Assessment techniques: [observation], [participation], [written test] Assessment forms: [quiz], [midterm exam], [final term exam], [presentation] Discussion and Presentation = 30%, Quiz = 10%, Laboratory work = 20%, Mid term exam = 20% Final term exam = 20%

	CLO 1 => ILO 3: 15% (Discussion and Presentation: participation) CLO 1 => ILO 3: 5% (Quiz: written test) CLO 1 => ILO 3: 10% (Laboratory work: observation) CLO 1 => ILO 3: 20% (Midterm exam: written test) CLO 2 => ILO 7: 15% (Discussion and Presentation: participation) CLO 2 => ILO 7: 5% (Quiz: written test) CLO 2 => ILO 7: 10% (Laboratory work: observation) CLO 2 => ILO 7: 20% (Final term exam: written test)
Study and examination requirements and forms of examination	Study and examination requirements: - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc. - Students must submit all class assignments before the deadline. - Students must attend the exam to get final grade. Form of examination: Written exam: Essay
Media employed	Laboratory, LCD Projector, Whiteboard, Learning Management System (SIKOLA)
Reading list	Main : ● Bahan Ajar/ Materi Biologi dasar pada Sikola. ● Campbell, et al. 2003. Biologi Jilid 1. Jakarta: Erlangga. ● Campbell, et al. 2003. Biologi jilid 2. Jakarta: Erlangga. ● Campbell, et al. 2003. Biologi jillid 3. Jakarta: Erlangga. ● Barrett, J, M., 1986. Biologi. Prentice-Hall, Englewood Cliffs, New Jersey. ● Odum, E, P., 1998. Dasar-Dasar Ekologiedisi ketiga. UGM Press: Yogyakarta ● Rompas, Y., Rampe, H.L., dan Rumondor, M.J. 2011. Struktur Sel Epidermis dan Stomata Daun Beberapa Tumbuhan Suku Orchidaceae. Jurnal Bioslogos. 1(1): 13-19.

	● Novitasari, R. 2017. Proses Respirasi Seluler pada Tumbuhan. Prosiding Seminar Nasional Pendidikan Biologi dan Biologi. UNY: FMIPA Biologi. ● Wolf, J.B., Smith, A. C.F., dan Lorenz, A. 2022. Mendel's laws of heredity on his 200th birthday: What have we learned by considering exceptions? Heredity. 129: 1-3. ● Pereira, A. M., dan Coimbra, S. 2019. Advances in plant reproduction: from gametes to seeds. Journal of Experimental Botany. 70(11): 2933-2936. ● Moore, S.G. dan Hasier, J.F., 2017. A 100-Year Review: Reproductive Technologies in Dairy Science. Journal of Dairy Science. 100(12): 10314-10331. ● Afrilianti, C., Sataral, M., Eljonnahdi, dan Fahri, F. 2019. Deskripsi Dan Habitat Mycalesis Perseus Fabricius, 1775 (Rhopalocera: Nymphalidae) Spesies. ● Kusmana, C., and Hikmat, A. 2015. Keanekaragaman Hayati Flora di Indonesia. Jurnal Pengelolaan Sumber Daya Alam dan Lingkungan. 5(2): 187-198. ● Mauerhofer, L.M., Pappenreiter, P., Paulik, C., Selfert A.H., Bernacchi, S., dan Rittmann, S.K.M.R. 2019. Methods for quantification of Growth and Productivity in anaerobic Microbiology and Biotechnology. Folia Microbiologica. 64: 321-360.
--	--