

Module Descriptions “Compulsory BAS”

Module designation	<i>PTK61103 Biology</i>
Semester(s) in which the module is taught	<i>1</i>
Person responsible for the module	<i>1. Dr. Lendrawati, S.Pt., M.Si</i> <i>2. Dr. drh. Yulia Yellita, M.P.</i> <i>3. Dr. Reswati, S.Pt., M.P.</i> <i>4. Ananda, S.Si., M.Si.</i>
Language	<i>Indonesia and English</i>
Relation to curriculum	<i>Compulsory</i>
Teaching methods	<i>Lecture, lesson (small group discussion), project base learning.</i>
Workload (incl. contact hours, self-study hours)	<i>(Estimated) Total workload: 90.65 hours</i> <i>Contact hours: 26.65 hours (lecture)</i> <i>Private study including examination preparation, specified in hours: 64.00 hours</i>
Credit points	<i>3.02 ECTS</i>

Required and recommended prerequisites for joining the module	-
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Module objectives/intended learning outcomes	<i>ILO 1: Internalize the university's core values, code of ethics, and scientific ethics</i> <i>PI 4: Able to demonstrate a fully responsible attitude towards assigned tasks.</i> <i>ILO 4: Use logical thinking, creative thinking, critical thinking, and collaborative thinking.</i> <i>PI 2: Able to identify problems in the livestock sector.</i> <i>ILO 5: Communicate effectively orally and/or in writing in both Indonesian and a foreign language.</i> <i>PI 1: Able to demonstrate leadership qualities, responsive to problems in the livestock sector.</i> <i>ILO 6: Master and utilize the latest information technology in the field of animal husbandry or other fields of study.</i> <i>PI 2: Able to write reports according to scientific writing rules.</i> <i>ILO 7: Have a lifelong learning attitude through further study to develop their professional career</i> <i>PI 2: Demonstrate an attitude as a lifelong learner.</i> <i>Course Learning Outcomes:</i> <i>1. Analyze the scope of biology as a science and apply it to understanding several current biological issues.</i> <i>2. Students are able to explain and understand the differences in the structure of animal and plant cells, assessed through assignments and presentations.</i> <i>3. Students are able to explain the classification and morphology of plants, assessed through assignments and presentations.</i>
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	4. <i>Students are able to identify and classify forage plants around campus, assessed through projects (20).</i> 1. <i>Students are able to identify and differentiate the morphology and anatomy of Pisces, amphibians, reptiles, birds, and mammals, assessed through projects (2). 30</i>
Content	<i>This course examines the basics of anatomy, physiology, and morphology of plants and animals. For animals, the physiology and comparative anatomy of Pisces, amphibians, reptiles, birds, and mammals are further explored using project-based learning methods.</i>
Examination forms	<i>Project 1, project 2, quiz, mid-term exams, and final exams.</i>
Study and examination requirements	1. <i>Project 1 : 25%</i> 2. <i>Project 2 : 35%</i> 3. <i>Kuis : 10%</i> 4. <i>Mid-Term Exams: 15%</i> 5. <i>Final Exams: 15%</i>

Reading list	1. <i>Campbell NA, Reece JB, Mitchell LG. Biology. Volume 1. 8th Edition. Damaring Tyas Wulandari. Jakarta: Erlangga; 2008. Translated from: Biology.</i> 2. <i>Campbell NA, Reece JB, Mitchell LG. Biology Volume 2. 5th Edition. Wasmen Manalu, translated; Jakarta: Erlangga; 2003. Translated from: Biology.</i> 3. <i>Campbell NA, Reece JB, Mitchell LG. Biology Volume 3. 8th Edition. Translated; Damaring Tyas Wulandari, translated; Jakarta: Erlangga; 2008. Translated from: Biology.</i> 4. <i>Situmorang, M.V. 2020. Basic Biology. Widina Publisher. 110 pages.</i> 5. <i>Renato A. Dela Pena. 2016. Biology. JFS Publishing Services; 1st edition.</i> 6. <i>Wijana, N. 2015. Basic Biology. Innosain Publisher.</i>
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	Module Description/Course Syllabi Study Programme : Bachelor of Mathematics Faculty of Animal Science Universitas Andalas
1. Course number and name	
PTK61103 Biology	
2. Credits and contact hours/Number of ECTS credits allocated	
3,02 ECTS	
3. Instructors and course coordinator	
Dr. Lendrawati, S.Pt., M.Si; Dr. drh. Yulia Yellita, M.P.; Dr. Reswati, S.Pt., M.P.; Ananda, S.Si., M.Si.	
4. Text book, title, author, and year	
1. Campbell NA, Reece JB, Mitchell LG. Biology. Volume 1. 8th Edition. Damaring Tyas Wulandari. Jakarta: Erlangga; 2008. Translated from: Biology. 2. Campbell NA, Reece JB, Mitchell LG. Biology Volume 2. 5th Edition. Wasmen Manalu, translated; Jakarta: Erlangga; 2003. Translated from: Biology. 3. Campbell NA, Reece JB, Mitchell LG. Biology Volume 3. 8th Edition. Translated; Damaring Tyas Wulandari, translated; Jakarta: Erlangga; 2008. Translated from: Biology.	
5. Recommended reading and other learning resources/tools	
1. Situmorang, M.V. 2020. Basic Biology. Widina Publisher. 110 pages. 2. Renato A. Dela Pena. 2016. Biology. JFS Publishing Services; 1st edition. 3. Wijana, N. 2015. Basic Biology. Innosain Publisher.	
6. Specific course information	
A. Brief description of the content of the course (catalog description)	
This course examines the basics of anatomy, physiology, and morphology of plants and animals. For animals, the physiology and comparative anatomy of Pisces, amphibians, reptiles, birds, and mammals are further explored using project-based learning methods.	
B. Prerequisites or co-requisites	
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C. Indicate whether a required or elective course in the program	

Required
<i>D. Level of course unit (according to EQF: first cycle Bachelor, second cycle Master)</i>
first cycle Bachelor
<i>E. Year of study when the course unit is delivered (if applicable)</i>
1 st year
<i>F. Semester when the course unit is delivered</i>
Odd Semester

<i>G. Mode of delivery (face-to-face, distance learning)</i>
Face-to-face
<i>7. Intended Learning Outcomes</i>
ILO 1: Internalize the university's core values, code of ethics, and scientific ethics PI 4: Able to demonstrate a fully responsible attitude towards assigned tasks. ILO 4: Use logical thinking, creative thinking, critical thinking, and collaborative thinking. PI 2: Able to identify problems in the livestock sector. ILO 5: Communicate effectively orally and/or in writing in both Indonesian and a foreign language. PI 1: Able to demonstrate leadership qualities, responsive to problems in the livestock sector. ILO 6: Master and utilize the latest information technology in the field of animal husbandry or other fields of study. PI 2: Able to write reports according to scientific writing rules. ILO 7: Have a lifelong learning attitude through further study to develop their professional career PI 2: Demonstrate an attitude as a lifelong learner.

8. Course Learning Outcomes <i>ex. The student will be able to explain the significance of current research about a particular topic.</i>
1. Analyze the scope of biology as a science and apply it to understanding several current biological issues. 2. Students are able to explain and understand the differences in the structure of animal and plant cells, assessed through assignments and presentations. 3. Students are able to explain the classification and morphology of plants, assessed through assignments and presentations. 4. Students are able to identify and classify forage plants around campus, assessed through projects (20). 5. Students are able to identify and differentiate the morphology and anatomy of Pisces, amphibians, reptiles, birds, and mammals, assessed through projects (2).
9. Brief list of topics to be covered
Study Contract, Introduction/Preliminary, Description of assignments and projects for one semester; Scope of biology: Scope of biology, Origin of life, Diversity of living things; Cell Structure and Physiology: Cell Theory, Functions of Cell, Organelles (Animal and Plant), Prokaryotic and Eukaryotic Cell Structure, Animal Cell Structure, Plant Cell Structure, Cellular Respiration; Plant morphology and plant classification; Plant World 1: Characteristics and Grouping of Plants, Plant Morphology; Plant World 2: Plant Anatomy, Plant Reproduction, Nutrient, Transport in Plants, Plant Movement; Animal classification: Invertebrates and Vertebrates; Anatomical morphology and physiology of vertebrate animals (pisces, amphibians, reptiles, aves and mammals); Sistem sirkulasi pada vertebrata; Circulatory system in vertebrates; Reproductive system in vertebrates.
10. Learning and teaching methods
Small group discussion, Directed Learning
<i>Project based learning</i>
11. Language of instruction
Bahasa Indonesia and English
12. Assessment methods and criteria

Summative Assessment :

Project 1 : 25%

Project 2 : 35%

Kuis : 10%

Mid-Term Exams: 15%

Final Exams: 15%

Formative Assessment : -

