



# 2023 MODULE DESCRIPTION

BACHELOR PROGRAM  
AGRICULTURAL ENGINEERING  
FACULTY OF AGRICULTURE  
HASANUDDIN UNIVERSITY  
2023



## Biology Semester 2

Module designation	Biology
Semester(s) in which the module is taught	II
Person responsible for the module	Ambeng
Language	<i>Indonesia</i>
Relation to curriculum	<i>Compulsory</i>
Teaching methods	<i>Lecture</i>
Workload (incl. contact hours, self-study hours)	<p><i>(Estimated) Total workload:</i>  <i>2 SKS = 3.4 ECTS = 91.8 hours</i>  <i>&gt; Lecture = 23.3 hours</i>  <i>&gt; Exercise = 28 hours</i>  <i>&gt; Sel Study = 28 hours</i>  <i>&gt; Exam = 4 hours (MID term and final)</i>  <i>&gt;Exam preparation= 8.5 hours</i></p>
Credit points	Lecturer assessment: assignment 10%, Presentation 50%, Laboratory work 20%, examination
Required and recommended prerequisites for joining the module	
Module objectives/intended learning outcomes	1. Having a comprehensive understanding on the theoretical concept and principle of food science and technology in a broad sense (humanity, basic, and applied science) to support their expertise in food science and technology. 2. Be able to identify microorganism in foodstuff and processed food including applying in biotechnology.
Content	Concept of biology basic unit of life, virus, cell, metabolism (catabolism and anabolism), cell division and inheritance, plan reproduction system, animal reproduction system, coordination system (plan and animal), homeostasis, ecology, evolution, classification of living beings, basic biotechnology.
Examination forms	
Study and examination requirements	Study form are group project, laboratory sessions, lectures, and lessons. Examination form is written exam, project work, laboratory session or essay writing. During written exam, student is not allowed to use textbooks. During laboratory session, a student must available logbook and showed written report of practical experiments of what has been taught in lecture or what has been done in laboratory.

Reading list	<ol style="list-style-type: none"><li>1. Barrett, J.M. 1986. BIOLOGY. Prentice-Hall, Englewood Cliffs, New Jersey</li><li>2. Campbell, N.A., Reece, J.B., Urry, L.A., Cain, M.L., Wasserman, S.A., Minorsky, P.V., Jackson, R.B. 2010., Biology. Edisi kedelapan Jilid 1. Erlangga, Jakarta.</li><li>3. Campbell, N.A., Reece, J.B., Urry, L.A., Cain, M.L., Wasserman, S.A., Minorsky, P.V., Jackson,</li><li>4. R.B. 2010., Biology. Edisi kedelapan Jilid 2. Erlangga, Jakarta.</li><li>5. Campbell, N.A., Reece, J.B., Urry, L.A., Cain, M.L., Wasserman, S.A., Minorsky, P.V., Jackson,</li><li>6. R.B. 2010., Biology. Edisi kedelapan Jilid 3. Erlangga, Jakarta.</li><li>7. Nurcahyo, H. 2011. Diktat Bioteknologi. Jurusan Pendidikan Biologi Fakultas Matematika dan</li></ol>
--------------	--