Introduction to Life Sciences and Technology

Module name		Introduction to Life Sciences and Technology				
Module level		1st year of Bachelor program				
Abbreviation, if applicable						
Sub-heading, if applicable						
Courses included in the module, if applicable		BI1201 Introduction to Life Sciences and Technology				
Semester/term		2nd Semester				
Module coordinator(s)		Dr. Achmad Sjarmidi				
Lecturer(s)		Prof. Tati S. Syamsudin				
Language		Indonesian				
Classification within the Curriculum		Compulsory courses for Bachelor Program in Biology				
Teaching format/ class hours per week during the semester		Lecture (Face to face lecture): 2 hours x 16 weeks				
Workload	Total Workload	100 hours; 2 CU				
		Face to face teaching	Structured Activities	Independent study	Exam	Total
	Lecture	32	32	32	4	100
Credit points		*Introduction to Life Sciences and Technology (2 CU)*				
Requirements		*Introduction to Engineering and Design*				

Content

This course explains:

- The connection between concept of bio-system, biological resources, system of technology, biomanagement, bioeconomics and social aspects as cornerstones in the field of bioindustrial application
- Reviews of applications in various fields of bioindustry, covering the fields of energy, food, health, and environmental materials
- The aspects of potential, technology, industry, management, market, policy, and social as whole.

This module is for 1st year students, and thus emphasizes the mastery of knowledge rather than skills and competences. It is, therefore, indicated that the learning goals are primarily knowledge-related.

Learning goals/ competencies

After completion of this module students are expected to be able to:

Knowledge:

- Describe the use of science and technology to build a bioindustry which is the problem in the society that they choose to learn.

Skills: --

Competences:

- Apply and Relate the value of life sciences and technology to practices in bioindustry and the society as a whole.

Study/exam achievements

- *Midterm exam (30%)*
- *Final exam (30%)*
- *Assignment (30%)*
- *Attendance (10%)*

Forms of media		
	Classical teaching tools:	*white board/ chalk and talk, power point, tutorial, video streaming, film*
	Integrated teaching tools:	
	Digital teaching tools:	
	Problem based teaching tools:	

Literature

1. Ann Saterbak, Larry V. Mc Intire, Ka-Yiu San. 2007. Bioengineering Fundamentals. Pearson Prentice Hall Bioengineering.
2. Joseph Fiksel. 1996. Design for Environment: Creating Eco-Efficient Products and Processes. McGraw-Hill.
3. Bernard W., Taylor III. 2005. Introduction to Management Science (Sains Manajemen Edisi 8) Buku I dan II. Penerbit Salemba Empat.
4. William W. Keller dan Richard J. Samuels. 2003. Crissis and Innovation in Asian Technology. Cambridge University Press.
5. Related scientific journals and websites.