

## SYLLABUS: ENVIRONMENTAL SCIENCE

**Date / Revision** 23 May 2015 / 02 May 2017 / PP  
**Faculty** ALL  
**Study Programm** All study Program

### SUBJECT: Environmental Science

#### 1 Basic Information

<b>1.01</b>	<b>Subject Name</b>	<b>Environmental Science</b>
<b>1.02</b>	<b>Semester</b>	3
<b>1.03</b>	<b>Level</b>	1
<b>1.04</b>	<b>SKS</b>	2
<b>1.05</b>	<b>Mandatory / Curriculum</b>	Mandatory / U-05
<b>1.06</b>	<b>Subject Code</b>	ENVI
<b>1.07</b>	<b>Subject Code</b>	UNI-ENVI-3105
<b>1.08</b>	<b>Year</b>	2017 (7)
<b>1.09</b>	<b>Quality Control</b>	Final Test, see evaluation
<b>1.10</b>	<b>Limitations</b>	Min 12 and Max 32 students in one class
<b>1.11</b>	<b>Combined with</b>	All study Programs
<b>1.12</b>	<b>Perquisite</b>	none
<b>1.13</b>	<b>Responsible</b>	University
<b>1.14</b>	<b>Revision</b>	22-08-2017/MaS

#### 2 Description of Subject

The course focuses upon writing and speaking as listening and reading comprehension are part of their everyday life in IULI. Writing essays does not just require discipline in the use of correct English but also requires the use of logic in structuring essays. Presentations, group work and pair work develop speaking skills and self-confidence.

#### 3 Objectives

- to learn about the world sustainability concept
- introduce the philosophy of science, technology and the basic knowledge of ecology

#### 4 Competency

After having the course, students are expected to:

- Have full understanding about sustainability concept that for the world to survive, all human living and/or production systems need to be designed as close as possible to adopt
- Have full understanding about the three principles of sustainability, which is relying only to solar energy, helping the preservation of biodiversity and balancing all chemical cycle.
- Have the brief understanding about the philosophy of science, technology, and basic knowledge of ecology for supporting whole comprehension of environmental science.
- Have the knowledge about biodiversity concept and its interaction with climate, human population growth and human society. Thus, able to understand the effort for sustaining biodiversity from species approach and ecosystem approach.
- Have full understanding about the concept of capital, resources and services, thus having an understanding about sustaining resources and environmental quality.
- Have ability and sufficient knowledge to develop applicable idea, and thus leads to real actions, that can be an effort to help human action in improving environmental quality, saving the earth.

#### 5 Learning Approach / Methodology

- Lectures/ Class contact (time-tabled) supplemented with interactive questions and answers;
- Tutorial/Practice Classes: preview of materials, revision;
- Student Study Effort: homework/assignment; preparation for test/quizzes/ examination.

#### 6 Evaluation

5.1	<b>Absence maximum</b>	25%
5.2	<b>Participation in Discussion</b>	05 Points
5.3	<b>Homework / Classwork</b>	05 Points
5.4	<b>Presentation /Simulation</b>	10 Poin
5.5	<b>Daily Quiz</b>	20 Points
5.6	<b>Final Examination</b>	60 Points
	<b>Total</b>	100 Points

#### 7 Text Book and Reference

1	<b>Main Text Book:</b> “ <i>Environmental Science</i> ”, (14 <sup>th</sup> edition) – <b>Authors:</b> G. Tyler Miller and Scott E Spoolman – Brooks/Cole <b>Publisher:</b> Cengage Learning, ISBN: 97898147321
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<b>8</b>	<b>Content / Topics of Lecture</b>
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Week	Content/ Topics of Lecturing	Text Book	Remark
1	<b>Introduction to Environmental science:</b> Environmental Science, environmental problems, its causes and the sustainable solutions		
2	<b>Brief philosophy of science:</b> Science, technology, matter, energy and ecosystem		
3	<b>Biodiversity:</b> Details of essay introduction, essay feedback, case study		
4	<b>Sustaining biodiversity:</b> Observing how species interaction with each other and with environment. Human role in conservation		
5	<b>Simulation of developing applied ideas to save earth environment:</b> Case study : biogas production, ecotourism, process digitalization, improvement of solar energy utilization		
6	<b>Brief review in environmental science and biodiversity:</b> Brief review in basic philosophy of environmental science and biodiversity		
7	<b>Sustaining soil resources</b> Food, Soil, and Pest Management		
8	<b>MIDTERM SEMESTER BREAK</b>		
9	<b>Sustaining water resources:</b> The importance of fresh water stocks, water resources and water pollution		
10	<b>Sustaining mineral resource:s</b> Geology and Nonrenewable Minerals. Rock cycle, tectonic movement.		
11	<b>Sustaining energy resources:</b> Laws of energy conservations, energy and fuel category		

12	<b>Sustaining air resources:</b> The importance of fresh air, air pollution and climate disruption		
13	<b>Solid and hazardous waste management:</b> Solid and Hazardous , Municipal waste. Case study of municipal and hazardous waste management in Indonesia		Presentation preparation
14	<b>Sustaining water resources</b> Environmental Hazards and Human Health. biological hazard, chemical hazard, natural hazard, cultural hazard		Revision
15	<b>Brief review in sustaining resources and waste management:</b> Brief review in sustaining resources and waste management		Revision
16	<b>Final Examination</b>		