

## COURSE CONTENT

<b>Academic Year</b>	2021/22	<b>Semester</b>	2
<b>Course Coordinator</b>	Asst Prof FEI Xunchang		
<b>Course Code</b>	EM5101		
<b>Course Title</b>	Environmental Quality		
<b>Pre-requisites</b>	Nil.		
<b>No of AUs</b>	3 AU		
<b>Contact Hours</b>	Lecture: 39 hr ; Tutorial: 0 hr ; Lab: 0 hr		
<b>Proposal Date</b>	October 2021		

### **Course Aims**

The fundamental objective of the course is to provide an understanding of the environment and the importance of maintaining environmental quality. It is intended that you would be able to have general views of global environmental issues after attending the course.

This course therefore focuses on three areas of student learning:

- A comprehensive picture of environmental sustainability
- Basic knowledge of global environmental changes, and their impacts on human beings
- Pollution control and resource management in various environmental systems

### **Intended Learning Outcomes (ILO)**

After successfully completing the course, you will be able to:

1. Explain the concept of environmental sustainability.
2. Discuss global environmental changes and their impacts on human beings.
3. Identify energy demand and associated with that environmental challenges and prospects.
4. Discuss the quality of land and the air and associated with that environmental issues.
5. Provide and discuss the solid waste management practices.
6. Explain the concept and use of environmental risk assessment.
7. Provide and discuss the water quality control challenges and practices.
8. Identify environmental challenges and propose counter measures to assure environmental quality.

### **Course Content**

	Topic	Lecture (hours)

1.	Energy, mining and environment	6
2.	Air quality control	3
3.	Agriculture and environment	3
4.	Solid waste management	6
5.	Land quality control	3
6.	Water quality control	9
7.	Environmental risk assessment	3
8.	Environmental sustainability	6

**Assessment (includes both continuous and summative assessment)**

Component	Course ILO Tested	Related Programme LO or Graduate Attributes	Weighting	Team/ Individual	Assessment rubrics
1. Final Examination	1-8	NTU's 5Cs: Character, Creativity, Competence, Civic-mindedness	60%	Individual	
2. Quiz 1	1-5		20%	Individual	
3. Quiz 2	6-8		20%	Individual	
Total			100%		

**Related Programme LO or Graduate Attributes**

NTU's 5Cs

Character – ethical reasoning, integrity and moral character

Creativity – entrepreneurship, innovation and interdisciplinary synthesis

Competence – self-discipline, disciplinary depth and lifelong learning

Communication – leadership, teamwork, mutual respect and communication skills

Civic-mindedness – professionalism, public service, social engagement and global citizenship

### **Formative feedback**

Instructors take questions during and at the end of lectures, and provide on-the-spot clarifications. You can also confer with the instructors via appointed consultations or email.

You are assessed on a final exam and two quizzes. Feedbacks for both quizzes will be provided upon the completion of grading. You will also be informed of your grades.

### **Learning and Teaching approach**

<b>Approach</b>	<b>How does this approach support students in achieving the learning outcomes?</b>
Lectures	Weekly lectures to provide you with the specific knowledge and techniques to achieve the learning outcome stated above.

### **Reading and References**

Readings are revised year to year to keep up with the latest development in the subject. Other more classic readings are mostly from the following books:

1. Davis ML and Masten SJ (2004) Principles of Environmental Engineering and Science. International Edition, McGraw Hill.

### **Course Policies and Student Responsibilities**

#### **(1) General**

You are expected to take responsibility to follow up with course notes, assignments and course related announcements. You are also expected to participate in class discussions.

#### **(2) Absenteeism**

Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. There will be no make-up opportunities for in-class activities.

#### **Academic Integrity**

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not

knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the [academic integrity website](#) for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

### Course Instructors

Instructor	Office Location	Phone	Email
Dr FEI Xunchang	N1-01c-70	6790-5249	xcfei@ntu.edu.sg
Dr Grzegorz LISAK	N1-01c-77	6790-4737	g.lisak@ntu.edu.sg
Dr. ZHOU Yan	N1-01c-90	6790-6103	zhouyan@ntu.edu.sg
Dr. NG Wun Jern	N1-01a-13	6790-4736	wjng@ntu.edu.sg
Dr Tuti Mariana LIM	N1-01b-39	6790-5269	tmlim@ntu.edu.sg

### Planned Weekly Schedule

S/N	Topic	Lecture hours	Instructor	Week
1	Energy, mining and environment 1	3	GL	1
2	Energy, mining and environment 2	3	GL	2
3	Air quality control	3	TML	3
4	Agriculture and environment	3	FXC	4
5	Solid waste management 1	3	FXC	5
6	Solid waste management 2	3	FXC	6
7	Land quality control <b>Quiz 1: topics 1-6 (20%, 1 hour)</b>	3	FXC	7
<b>Recess week (2-6 March 2020)</b>				
8	Water quality control 1	3	ZY	8
9	Water quality control 2	3	ZY	9
10	Water quality control 3	3	ZY	10
11	Environmental risk assessment	3	FXC	11
12	Environmental sustainability 1	3	NWJ	12
13	Environmental sustainability 2 <b>Quiz 2: topics 7-12 (20%, 1 hour)</b>	3	NWJ	13
	Total	39		