Course Syllabus

1   Program

Title of the study programme: B.Sc. of Forest Resource

2   Course details

Course name: Environmental Pollution

Course code: 10 2210

Number of credits (hours/week):   2(1-2-3), Total 96 Hours, Lecture 16, Practice 32 and Assignment 48 hours.

Course type (tick the appropriate box):   ☒ Required, ☐ Elective, ☐ Other, if other please explain:

Prerequisites courses: Basic of Environment, ecology, Biology, General Chemistry

Semester, in which the course is taught: *tick the appropriate box below*

Year 1		Year 2	
Semester 1	**Semester 2**	**Semester 1**	**Semester 2**
☐	☐	☒	☐

3   Responsible unit

3.1   Department:

Names and affiliations of lecturer(s):

Lecturer: Phaivanh PHETDONMO

Affiliation: Department of Forest Resources, Faculty of Agriculture and Forest Resources.
Souphanouvong University

4   Course description

All students will learn and understand in environmental issues including the causes of pollution, the challenges of trending environmental issues. This affects to environment degradation in gradually. In the course will offer the road of addressing for pollution by organization cooperation, adaptive and solve its issues for sustainable environmental conservation, monitoring and water quality test in the field including organic compost, waste management in household.

5   Course objectives

To enable students to understand and apply knowledge in household and communities effectively and to have ideas on how to protect the environment.

Knowledge: Students will have knowledge about basic lessons on environmental pollution, the main causes of pollution, and ways to address the problem   .

Skills: Students will know how to analyses water quality, and make compost using household waste for the benefit of living and the environment.

Application of theories to practice: Students can apply the knowledge and experience from learning to practice in household and communities, such as composting, waste management.

Social knowledge and skills: Students can guide/lead environmental impact mitigation at the household and   community level.

5.1   Learning objectives of particular modules

If the course is divided into sections or modules, please state the learning objectives for the specific sections/modules taught within the course

6   Course teaching methods

Classroom lectures, hands-on practice in equipment use and field testing

7   Teaching plan

Week	Content	Method/activity	Hours
1	Chapter 1: Introduction 1. Understanding the environment 2. Definition of environmental 3. Main causes of environmental problems	- Lecture - Group discussion - Q&A	2
2	Chapter 2: Monitoring, management and inspection of existing water quality	- Lecture - Group discussion	2

	Section 1 Water and the properties of water 2. Water pollution 3. Sources of water pollution	- Q&A	
3	Chapter 2 (Continued) 5. Physical characteristics water 6. Chemical properties water 7. Biological characteristics 8. Wastewater monitoring.	- Lecture - Group discussion - Q&A	2
4	Group work in water quality analysis	Field work with water quality testing	12
5	Have each group present a data report	- Group discussion - Q&A	2
6	Chapter 3: Soil and soil pollution 1. Soil characteristics and soil pollution 2. Soil composition and soil structure 3. Pollution of soil pollution 4. Causes of soil pollution 5. Addressing soil pollution 6. Creating an environmental management plan for the family business unit and household waste management.	- Lecture - Group discussion - Q&A	4
7	1. Development of environmental management plan 2. Waste management process. 3. Compost production	- Lecture - Group discussion - Q&A	2
8	Chapter 3 (Continued) 5. Composting care 6. The benefits of compost	- Lecture - Group discussion - Q&A	2
9	Group work on soil composition	Group practice with fertilizer composition	16
10	Group report data	- Lecture - Group discussion - Q&A	2
11	Midterm examination		2
12	Chapter 4: Waste & Waste Management Principles	- Lecture - Group discussion	4

		1. Determining the location of landfills 2. Design and construction of landfills 3. Principles of operation at landfills 4.Waste and waste management	- Q&A	
13		5. Disposal of wastewater and sludge from latrines 6. Protection of health and safety of household and community. 7. Decommissioning a landfill	- Lecture - Group discussion - Q&A	2
15		Groups work in the field	Field study at landfill site	16
16		Group presentation	- Group presentation and discussion - Q&A	4
17		Chapter 5: Environmental impacts of investment projects and activities 1. Principles and processes of environmental impact assessments. 2. Preliminary environmental impact assessment process.	- Lecture - Group discussion - Q&A	2
18		Final Exam		2

8 Material needs

Course equipment: Oxygen meter, EC TDS soil Meter, P.M 2.5 air quality monitor, multifunctional environment meter

9 References

9.1 Compulsory reading list

- Bounxian PHETLAMPHAN, 2011. Environmental Pollution. Souphanouvong University.

9.2 Suggested reading list

National Environmental Standard, No. 81 / MOH, dated 21 February 2017. Journal of Natural Resources and Environment

http://monre.myqnapcloud.com:8080/share.cgi?ssid=08WxEVJ

https://g-drive.gov.la/index.php/s/Rp35RLqjT9E3fF9

10 Assessment of students

10.1 Description of assessment

- Class participation: 10%

- Participation in Q&A: 10 %

- Report: 20%

- Midterm exam 20%

- Final exam: 40%

10.2 Grade distribution and student assessment

Grading scale

Grade		Total score	Scale
Symbol	**Verbal grade**		
A	Excellent	90-100	4.00
B$^+$	Very Good	85-89	3.5
B	Good	80-84	3.00
C+	Fairly Good	75-79	2.50
C	Fair	70-74	2.00
D+	Poor	65-69	1.50
D	Very Poor	60-64	1.00
F	Fail	59	0.00

Place, Date ………/………/………….