

Mahidol University
Bioresources and Environmental Biology
Faculty of Science

Course Outline for 2/2022: SCBE 417 Natural Resource and Environmental Management **3 Credits**

Lecturer : Asst. Prof. Dr. Parinda Thayanukul, Department of Biology, Faculty of Science
Dr. Pinida Leelapanang Kamphaengthong, Mekong Programs, Mekong – US
Partnership, Pact, Inc.
Dr. Allan Sriratana Tabucanon, Faculty of Environment and Resource Studies
Mr. Nattapat Teeranathanit, Bureau Veritas Certification (Thailand) Ltd.

Time : Thursday 13.30 – 16.30

Format : Blended Online and **SC1-153**

Course Description

Natural Resource and Environmental Management will introduce students on the characteristics of natural resource and environmental management that need to confront with the limited natural resource and growing demand. Change, complexity, uncertainty and conflict are unavoidable. Planning for sustainable future based on sufficiency economy and adaptive environmental management are the vital parts of this course. Partnership, stakeholders, gender and development, local knowledge systems, implementation, monitoring and evaluation, and environmental justice will be described and discussed in the class. Moreover, alternative dispute resolution, learning organization, and assessing alternatives will be also practiced. The concepts of environmental management including ecosystem approach, environmental impact assessment, life cycle analysis, ecolabeling, industrial ecology, 3R, extended product responsibility, ISO 14001, carbon footprint, climate change and mitigation, pollution prevention, clean technology, cleaner production, and lean production will be explained. Environmental system and environmental regulation are also included in the course.

Objective

1. Understand the characteristics and nature of natural resource and environmental management in the era of limiting resource, full of conflict, and climate change
2. Have ability to explain the environmental regulation and environmental management concepts including ecosystem approach, environmental impact assessment, life cycle analysis, ecolabeling, industrial ecology, 3R, extended product responsibility, ISO 14001, carbon footprint, climate change and mitigation, pollution prevention, clean technology, cleaner production, and lean production.
3. Be able to derive possible strategies to implement the sustainable development plan

Course-level expected learning outcomes (CLOs)

1. CLO1 Describe the characteristics and nature of natural resource and environmental management
2. CLO3 Demonstrate the ability to explain the environmental regulation and environmental management concepts including ecosystem approach, environmental impact assessment, life cycle analysis, ecolabeling, industrial ecology, 3R, extended product responsibility, ISO 14001, carbon footprint, climate change and mitigation, pollution prevention, clean technology, cleaner production, and lean production.
3. CLO2 Apply knowledge to propose the strategies to implement the sustainable development plan

Score

Take-home Midterm	35%
Take-home Final	35%
Assignment/Class activity	15%
Project	15%

Main reference Materials

1. Mitchell, B. Resource and Environmental Management. 2ed. Pearson Education Limited, UK; 1997. ISBN 00130 26532 2
2. Davis and Masten (2016), Principal of Environmental Engineering and Science, McGRAW-HILL

3. Michael Angrick, Andreas Burger, Harry Lehmann (2014), Factor X Policy, Strategies and Instruments for a Sustainable Resource Use, Eco-Efficiency in Industry and Science Vol.29, Springer
4. Chiras, 2013, Environmental Science, Jones&Bartlett Learning
5. Internet and Media Resources, Personal Communication

Course Schedule

Week	Topic	Instructor
1 (12 Jan 66)	Natural resource and Environmental system overview and regulations	Dr.Parinda Thayanukul
2 (19 Jan 66)	Characteristics and challenges of natural resource and environmental management	Dr.Parinda Thayanukul
3 (26 Jan 66)	Looking to the future, Sustainability, Ecosystem approach, Learning organization, and Adaptive environmental management	Dr.Parinda Thayanukul
4 (2 Feb 66)	Governmental roles on natural resource and environmental management	Dr. Pinida Leelapanang Kamphaengthong
5 (9 Feb 66)	Transboundary resource management: Mekong case study	Dr. Pinida Leelapanang Kamphaengthong
6 (16 Feb 66)	Circular economy and environmental standard certification	Mr.Nattapat Teerananthanit
7 (23 Feb 66)	Assessing alternatives, Environmental Impact Assessment, and Life cycle analysis	Dr.Parinda Thayanukul
8 (24 Feb – 17 Mar 66)	Take-home midterm examination	Dr.Parinda Thayanukul
9 (9 Mar 66)	Partnership and stake holders, Local knowledge systems, Gender and development, Environmental justice, and Alternative dispute resolution	Dr.Parinda Thayanukul
10 (16 Mar 66)	Implementation, monitoring, evaluation, and Industrial ecology	Dr.Parinda Thayanukul
11 (23 Mar 66)	Climate change and mitigation	Dr.Allan Tabucanon
12 (30 Mar 66)	Environmental case study	Dr.Allan Tabucanon
13 (20 Apr 66)	Extended product responsibility, Pollution prevention, Cleaner production, and ISO	Dr.Parinda Thayanukul
14 (27 Apr 66)	Lean production, Carbon foot-print, Risk assessment	Dr.Parinda Thayanukul
15 (11 May 66)	Project presentation	Dr.Parinda Thayanukul
16 (21 Apr – 12 May 66)	Take-home final examination	Dr.Parinda Thayanukul