



Co-funded by the
Erasmus+ Programme
of the European Union



Course Name: CONTROL OF MARINE POLLUTION

Number of credits: 3 ECTS

Period: Fall/spring semester

Coordinator	Faculty of Marine Resources and Management
Credits	3 ECTS
Lecturers	Nguyen Ky Phung, Dang Thi Thanh Le, Tran Thi Kim
Level	BSc.
Host institution	Ho Chi Minh City University of Natural Resources and Environment 1
Course duration	semester (the classes will be scheduled in accordance with the university timetable)
New/revised	New course

Summary

This course will provide students with in-depth knowledge of the environmental field and skills to perform environmental management according to modern development trends. Specifically, the course will provide students with knowledge of measures to prevent and control marine pollution and related legal requirements in the control and monitoring of marine environment.

Target student audiences

BSc. students majoring in Marine Resources Management

Prerequisites

Required courses (or equivalents): NO

Aims and objectives

The main course objective is to equip students with knowledge of:

- Measures for prevent and control of marine pollution
- Monitoring compliance with legal requirements in marine pollution control.
- Work at the individual level and team collaboration to communicate, discuss among individuals in groups to study and report.

The Authentic Tasks are:

The course will provide students with knowledge of measures to prevent and control marine pollution and related legal requirements in the control and monitoring of marine environment.

General learning outcomes:

By the end of the course, successful students will:

- Knowledge • Presenting the issues of the state of marine environment.
- Understanding the role of marine pollution control.
 - Distinguishing sources of marine pollution.
 - Apply professional ethics in designing solutions to prevent and control marine pollution.



Co-funded by the
Erasmus+ Programme
of the European Union



Comprehensive	<ul style="list-style-type: none">• Evaluate the marine pollution control plan• Understanding the role of marine pollution control.• Distinguishing sources of marine pollution.
Application	<ul style="list-style-type: none">• Apply professional ethics in designing solutions to prevent and control marine pollution.
Analysis	<ul style="list-style-type: none">• Evaluating the marine pollution control plan

Overview of sessions and teaching methods

The course will make most of interactive and self-reflective methods of teaching and learning and, where possible, avoid standing lectures and presentations.

Learning methods	<ul style="list-style-type: none">• Video presentations• Interviews, surveys, group work, written articles/essay• Project Based Learning• Literature review• Brainstorming• Puzzles• Query• Mind map• Role-playing method• Problem-based learning• Team work
-------------------------	--

Course outline

Week Topics

Week 1	Introduction + Course project introduction
Week 2	Marine resources and Environmental and issues
Week 3	Legal aspects of marine pollution control
Week 4	Integrated control of marine pollution.
Week 5,6,7&8	Prevent and response to marine environmental incidents
Week 9&10	Project presentation and evaluation

Course Schedule



Co-funded by the
Erasmus+ Programme
of the European Union



Topic 1 - Marine resources and Environmental and issues. This section will start with The State of the global marine environment, and the natural conditions and marine resources.

Topic 2- Legal aspects of marine pollution control. This section will introduce the international Convention for the Prevention of the marine environment; International Maritime Organization (IMO) conventions; International Convention for the Prevention of Pollution from Ships (MARPOL); Laws and policies on Vietnamese marine management

Topic 3 - Integrated control of marine pollution. The topic will focus on the control of marine pollution; Tasks and scientific basis of integrated control of marine pollution; and Ocean control system.

Topic 4: Prevent and response to marine environmental incidents. This topic will demonstrate the prevention of Pollution from land-based sources and from ship.

Topic 5- Group assignment presentation. This section will allow students to have a change for preparing their report, presentation and discussion in class on the integrated knowledge obtained from the course to develop a marine pollution control plan.

Literature

[1] Lecture of Control of marine pollution

Recommended:

[2] John G. Lyon, Lynn Lyon, Geospatial Information Handbook for Water Resources and Watershed Management, Volume 2: Methods and Modelling, CRC Press, 2022.

[3] Amarendra Sahoo, Assessment of Impact of Mining on Water Quality and It's Modelling [1, 1st ed.], NIT Rourkela, 2017.

[4] Luiz Bruner de Miranda, Fernando Pinheiro Andutta, Björn Kjerfve, Belmiro Mendes de Castro Filho (auth.), Fundamentals of Estuarine Physical Oceanography [1 ed.], Springer Singapore, 2017.

[5] Stanisław Ryszard Massel, Ocean Surface Waves: Their Physics and Prediction [3rd ed.], World Scientific, 2017.

[6] S.E. Jørgensen and M.J. Gromiec (Eds.), Mathematical Submodels in Water Quality Systems, Elsevier Science, 2013.

[7] Marcello Benedini, George Tsakiris, Water Quality Modelling for Rivers and Streams, Springer, 2013.

Course Assignments

Course assignments will constitute a multi-part project:

- Assignment #1 - (Home work): will help students understand the role of marine pollution control and various policy, management contexts and common problems in the control of marine pollution.
- Assignment #2 - (Home work): Working in group and preparing one Legal aspects of marine pollution control ls with a very important issue of health and hygienic regulations of air quality
- Assignment #3 - (Home work): Working in group preparing presenting the role



Co-funded by the
Erasmus+ Programme
of the European Union



of marine pollution control

- Assignment #4 - (Home work): Working in group preparing seminar about the topic related Plan and develop prevent and control of marine pollution plan, be aware of information visualization tools and methods

Grading

The students' performance will be based on the following:

Assessment	<ul style="list-style-type: none">• Progress assessment (30%):<ul style="list-style-type: none">- Exercise (10%):- Homework (10%):- Semi- Final examination (10%)• Final assessment (60%):<ul style="list-style-type: none">- Group report (30%): The students will be divided into groups of 4-5 students and choose 1 topic and complete the group project report according to the specific requirements of each topic.- Final examination (30%)
	Evaluation