

COURSE SPECIFICATION

Name of Institution Mahidol University
Campus/Faculty/Program ASEAN Institute for Health Development

Section 1 General Information

1. **Code and Course Title:** ADPM 622 Management of Environmental Health for Sustainable Development
สอสม ๖๒๒ การจัดการอนามัยสิ่งแวดล้อมเพื่อการพัฒนาที่ยั่งยืน
2. **Total Credits:** 3 (3-0-6) credits (Lecture - Practice - Self Study)
3. **Curriculum and Course Category**
Master of Primary Health Care (International Program) (Required Course)
4. **Course Coordinator/Course Instructors**
 - 4.1 **Course Coordinator**
Assoc.Prof.Dr.Cheerawit Rattanapan
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Tel. 02 441 9040 ext 62
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Lect.Dr.Tarinee Buadit
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 - 4.2 **Course Instructors**
Assoc.Prof.Dr.Cheerawit Rattanapan
Assoc.Prof.Dr.Thuwadee Suksaroj
Lect.Dr.Tarinee Buadit
Dr.Kinga Biro
5. **Semester / Academic Year of Study:** 2/2024
6. **Pre-requisite:** There are no specific prerequisite courses, but learners must be able to work with equations and perform basic mathematical calculations.
7. **Co-requisite:** none
8. **Venue:** ASEAN Institute for Health Development, Mahidol University
9. **Latest Date of Course Specification Development or Modification:** 1 September 2024

Section 2 Aims and Objectives

1. Course Aims

Upon successful completion of this course, the learners will be able to:

1. To perform the discipline, honesty, ability to work with other responsible persons assign.
2. To understand the principle and approach of environmental health management, factor affecting with the health performance change in both urban and rural areas and the integration concept of sustainable development and environmental health management for problem solving.
3. To perform how to syntheses and analysis and synthesis of literature review, statistic data and then apply for environmental health management with the literature and case study.

2. Objectives of Course Development/Modification

This course is develed and designed to investigate the sutiable and update concetent for the current suitation. The couse topic will be delivered by the module approach with the case study and critical appraisal for each topic. In additional, the the expert will be invited as guest speaker for transferring the new knowledge. This revsion course primarily aims to equip learners with the environmental project implementation toward sustaible development.

Section 3 Course Description and Implementation

1. Course Description

หลักการและแนวทางการจัดการอนามัยสิ่งแวดล้อม ประเด็นต่าง ๆ ที่เกี่ยวข้อง แนวโน้มและผลกระทบของปัญหาอนามัยสิ่งแวดล้อมทั้งในเขตเมืองและเขตชนบท การใช้เทคนิคและวิธีการที่เหมาะสมและการบูรณาการในการจัดการเพื่อแก้ไข การควบคุมปัญหาอนามัยสิ่งแวดล้อมบนพื้นฐานของแนวคิดการพัฒนาอย่างยั่งยืน

Concept and principle of environmental health management the related issues; trend and impact of environmental health problems in both urban and rural areas; using appropriate and integrated technique and method of management for solving; controlling environmental health problems toward sustainability concept

2. Number of Hours per Semester

Lecture	45	Hours
Tutorial	0	Hour

Practice / Field Experience /Practicum	0	Hour
Self-Study	90	Hours

3. Number of hours provided for academic advice and guidance to an individual student

Every Tuesday 9.00-12.00 at Building 1, 2nd floor ASEAN Institute for Health Development; Office hours (at least 2 hours/week)

Section 4 Development of the expected learning outcomes

1. A brief summary of the knowledge or skills expected to develop in students; the course-level expected learning outcomes (CLOs)

On completion of the course, students will be able to:

CLO1 Describe the principle and approach of environmental health management and factor affecting with the health performance.

CLO2 Intergrate concept of sustainable development and environmental health management for problem solving.

CLO3 Perform the discipline, honesty, ability to work in the environmental health management with other responsible persons assign.

CLO4 Perform the analysis and interpret from literature review, statistic data for environmental health management.

2. How to organize learning experiences to develop the knowledge or skills stated in number 1 and how to measure the learning outcomes

CLOs	Teaching and learning experience management			Learning outcomes measurements			
	Lecture	Individual Work	Group Work	Test	Assignment quality	Individual Reports	Group Reports
CLO1	x			x	x		
CLO2	x	x	x	x	x	x	x
CLO3	x	x	x		x	x	x
CLO4	x	x	x		x	x	x

Section 5 Teaching Plan and Evaluation Plan

1. Teaching Plan

Week No.	Topic	Hrs.			Teaching and Learning Activities	Instructor(s)	
		Lecture	Practice	Self-study			
1	Principle Concept of Eco-Health	3	0	6	Lecture, Discussion	Assoc.Prof. Dr.Thunwadee Suksaroj	
2	Introduction to Environmental Health	3	0	6	Lecture, Class activities, Assignments	Assoc. Prof. Dr. Cheerawit Rattanapan/ Lect. Dr. Tarinee Buadit	
3	Concept and Goal of Sustainable Development	3	0	6		Dr.Kinga Biro	
4	Water Quality Management	3	0	6		Lecture, Class activities, Assignments	Assoc. Prof. Dr. Cheerawit Rattanapan/ Lect. Dr. Tarinee Buadit
5	Wastewater Management	3	0	6	Dr.Kinga Biro		
6	Solid Waste Management	3	0	6			
7	Food Safety and Sanitation	3	0	6			
8	Air Quality Management	3	0	6			
9	Means and Methods of Environmental Regulations/ Theory of Environmental Regulation	3	0	6			
10	Health Risk Assessment	3	0	6			Assoc.Prof. Dr.Thunwadee Suksaroj
11	Global Health and Environmental Problems as Externalities	3	0	6			Dr.Kinga Biro
12	The Impact of Environmental Issues and Environmental Evaluation	3	0	6			Assoc. Prof. Dr. Cheerawit Rattanapan/ Lect. Dr. Tarinee Buadit
13	Global warming and its impact	3	0	6			
14	Group work presentation	3	0	6		Presentation and discussion	Assoc. Prof. Dr. Cheerawit Rattanapan/
15	Group work presentation	3	0	6			

Week No.	Topic	Hrs.			Teaching and Learning Activities	Instructor(s)
		Lecture	Practice	Self-study		
					Class activities	Lect. Dr. Tarinee Buadit
	total	45	0	90		

2. Evaluation Plan

No.	Learning Outcomes	Evaluation Method	Week of Evaluation	Evaluation Allotment
1.	Understand the principle and approach of environmental health management and factor affecting with the health performance.	Assignments	Week 1,2,3	10%
		Individual Reports	Week 1,2,3	10%
2.	Intergrate concept of sustainable development and environmental health management for problem solving.	Assignments	Week 4,5,6,7,8	10%
		Individual Reports	Week 4,5,6,7,8	10%
3.	Perform the discipline, honesty, ability to work in the environmental health management with other responsible persons assign.	Assignments	Week 9,10,11	15%
		Individual Reports	Week 9,10,11	15%
		Group Report	Week 12,13	10%
4.	Perform the analysis and interpret from literature review, statistic data for environmental health management.	Assignments	Week 14,15	10%
		Group Report	Week 14,15	10%

1. Measurement and evaluation of student achievement

A = 85 – 100 %

B+ = 75 – 84 %

B = 65 – 74 %

C+ = 55 – 64 %

C = 45 – 54 %

F = 0 – 44 %

Section 6 Teaching Materials and Resources

1. Main Textbook and Course Materials

- Nakhon Pathom: ASEAN Institute for Health Development, Mahidol University, 173 p.
- Dade W. Moeller. 2005. Environmental Health. 3th ed. United States of America.
- Howard Frumkin. 2010. Environmental Health From Global to Local. 2nd ed. Jones & Bartlett Learning.
- Laboy-Nieves E.N, Goosen MFA. Emmanuel E. 2010. Environmental and Human Health– Risk Management in Developing Countries. Great Britain by Antony Rowe.
- Robert H. Friis. 2012. Essential of Environmental Health. 2nd ed. Jones & Bartlett Learning.
- Giovannoni, Elena & Fabietti, Giacomo. 2013. What Is Sustainability? A Review of the Concept and Its Applications. Integrated Reporting: Concepts and Cases that Redefine Corporate Accountability. 21-40. 10.1007/978-3-319-02168-3_2.
- Robert, K. W., Parris, T. M., & Leiserowitz, A. A. 2005. What is Sustainable Development? Goals, Indicators, Values, and Practice. Environment: Science and Policy for Sustainable Development, 47(3), 8–21. <https://doi.org/10.1080/00139157.2005.10524444>
- Jeff and Pan Fadem. 2008. A Community Guide to Environmental Health. Canada on recycled paper.
- Herman Koren and Michael Bisesi. 2003. Handbook of Environmental Health: Pollutant interactions in Air, Water, and Soil. Lewis Publishers.
- Paolo F. Ricci. 2006. Environmental and Health Risk Assessment and Management Principles and Practices. Springer, Netherlandsm.
- Dais J and Bakken P. 2005. Solid waste management. United nation environment program.
- Marshall RE and Farahbakhsh K. 2013. Systems approaches to integrated solid waste management in developing countries. Waste Management 33(4): 988-1003.
- Tchobanoglous G, Theisen H, Vigil S. 1993. Integrated solid waste management: engineering principles and management issues: McGraw-Hill, Inc.
- Teodorita AS, Owen N, Hellström H, et al. 2013. Source separation of MSW. International Energy Agency (IEA) Bioenergy.
- Van de Klundert A, Anschütz J, Scheinberg A. 2001. Integrated sustainable waste management: the concept. Tools for decision-makers. experiences from the urban waste expertise programme (1995-2001): WASTE.
- Visvanathan C and Trankler J. 2003. Municipal solid waste management in Asia: a comparative analysis. Workshop on Sustainable Landfill Management.
- Norman G. Marriott. 1997. Essentials of Food Sanitation. Gill Robertson.

Rattanapan et al. Health Risk Assessment of Hydrogen Sulfide Exposure among Workers in a Thai Rubber Latex Industry. *Environment Asia* 7(1), 25-31, 2014.

WHO/ILO joint estimates of the work-related burden of disease and injury, 2000-2016: global monitoring report: Geneva: World Health Organization and the International Labour Organization, 2021. Licence: CC BY-NC-SA 3.0 IGO.

Zurbrugg C. 2003. Solid waste management in developing countries. SWM introductory text on www.sanicon.net.

2. Important Documents and Information

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3. Suggested Learning Resources

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Section 7 Course Evaluation and Improvement

1. Evaluation Strategies for Course Effectiveness by Students

Strategies for effective course evaluation by students

1.1 Evaluation of students by peer students to be done by the Faculty of Graduate Studies (Education Services Section)

1.2 Student evaluation to be done by Course Directors at the end of the course

- Course content
- Course management
- Suggestions
- Overall opinion

2. Teaching Evaluation Strategies

- Observation of student behaviors, attitudes, and academic contents during activities of class participation
- Students self-assessments and analysis
- Peer assessments and feedback
- Question and answer
- Volunteering in class organization and designing in summarization of class activities

3. Teaching Improvement

Presentation of course development, techniques used in teaching, and improvement with the participation of program management committee members of AIHD at program management committee meetings.

4. Verification of Students Achievements in the Course

- Analysis of students' learning outcomes using scores from class attendance, individual report activity and presentation
- Observing changes in perception and attitude of individual students and development i.e. personality, presentation, participation in working group, participatory action

5. Course Revision and Improvement Plan

- Meeting with all lecturers teaching the course to discuss and review the course before the semester starts and before each period of teaching
- Teaching materials sharing among lecturers for mutual learning, understanding, and development
- Meeting with all lecturers teaching the course to discuss and review after the course closed to consider requests, feedback, and suggestions of students and make minor improvements to the course syllabus and materials before the next academic year.

Appendix

Relations between the Course and the Program

Program Learning Outcomes

PLO1 Exhibit responsibility, discipline, and honesty according to organizational rules, academic and professional ethics, and morality.

PLO2 Explain the interconnection of multidisciplinary knowledge associated with primary health care management.

PLO3 Design research in primary health care management based on systematic process.

PLO4 Defend in significant ways with questions or points of view or controversies about the area of the primary health care system.

PLO5 Interact professionally when working as a team as both leader and member for solving and managing work assigned.

PLO6 Perform statistical data analysis as they support evaluating, planning, and managing the primary health care system.

PLO7 Communicate clearly and effectively to an array of audiences for a range of purposes.

PLO8 Use information technology effectively to support the study, research, and their efforts to accomplish a specific purpose.

Course	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
Elective course								
ADPM 622 Management of Environmental Health for Sustainable Development 3 (3-0-6)	R	A	R	R	I	R	R	R

I = ELO is introduced & assessed P = ELO is practiced & assessed

R =ELO is reinforced & assessed M = Level of Mastery is assessed

Curriculum Mapping

● Primary responsibility

○ Secondary responsibility

Course Learning Outcomes (CLOs)	Program learning domains												
	1. Morality and ethics			2. Knowledg e		3. Intellectual skills			4. Interperson al Skills and Responsibili ty		5. Numeral Analysis Skills, Communication and Use of Information Technology		
	1.1	1.2	1.3	2.1	2.2	3.1	3.2	3.3	4.1	4.2	5.1	5.2	5.3
1. Understand the principle and approach of environmental health management and factor affecting with the health performance.	●	○	●	○	●	●	○	○	○	●	○	○	○
2. Intergrate concept of sustainable development and environmental health management for problem solving.	○	○	○	○	●	○	●	●	●	●	○	○	●
3. Perform the discipline, honesty, ability to work in the environmental health manahement with other responsible persons assign.	●	○	○	●	●	○	●	●	●	○	●	○	●

Course Learning Outcomes (CLOs)	Program learning domains												
	1. Morality and ethics			2. Knowledg e		3. Intellectual skills			4. Interperson al Skills and Responsibili ty		5. Numeral Analysis Skills, Communication and Use of Information Technology		
	1.1	1.2	1.3	2.1	2.2	3.1	3.2	3.3	4.1	4.2	5.1	5.2	5.3
4. Perform the analysis and interpret from literature review, statistic data for environmental health management.	○	○	○	○	●	○	●	○	●	○	●	●	●

Expected Outcome (TOF.2)

1. Morality and Ethics

- 1.1 Exhibits discipline, honesty, and punctuality
- 1.2 Behave according to morals and ethics of academic and professional practice
- 1.3 Avoid academic plagiarism

2. Knowledge

- 2.1 Explain the theoretical and practical knowledge associated with primary health care management
- 2.2 Explain the interconnection of various fields of knowledge in primary health care management

3. Intellectual skills

3.1 Perform the manners of continuously seeking knowledge

3.2 Design the research to solve the problem identified in the primary health care management system

3.3 Defend in significant ways with questions or points of view or controversies in related fields.

4. Interpersonal Skill and Responsibility

4.1 Perform interpersonal communication skills to establish and enhance personal and work-based relationships.

4.2 Perform the role of a leader and working team member appropriately

5. Numeral Analysis Skills, Communication, and Use of Information Technology

5.1 Demonstrate the statistical analysis and its interpretation

5.2 Communicate clearly and effectively to an array of audiences for a range of purposes.

5.3 Use information technology effectively to support the study, research, and efforts to accomplish a specific purpose

Relations between CLOs and PLOs

Course Objectives (PLOs)	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
1. Understand the principle and approach of environmental health management and factor affecting with the health performance.	X							
2. Intergrate concept of sustainable development and environmental health management for problem solving.		X						
3. Perform the discipline, honesty, ability to work in the environmental health manahement with other			X					

Course Objectives (PLOs)	PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8
responsible persons assign.								
4. Perform the analysis and interpret from literature review, statistic data for environmental health management.								X

Program Learning Outcomes

PLO1 Exhibit responsibility, discipline, and honesty according to organizational rules, academic and professional ethics, and morality.

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PLO4 Defend in significant ways with questions or points of view or controversies about the area of the primary health care system.

PLO5 Interact professionally when working as a team as both leader and member for solving and managing work assigned.

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PLO7 Communicate clearly and effectively to an array of audiences for a range of purposes.

PLO8 Use information technology effectively to support the study, research, and their efforts to accomplish a specific purpose.