

# ISSUES IN ENVIRONMENTAL HEALTH

and their nature-based solutions

Summer 2022

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## COURSE OVERVIEW

Environmental health is the control of all those aspects in the environment that may have adverse effects on the basic determinants of health vis-à-vis people's physical, mental, or social well-being. Environmental health is the speciality of public health management that deals with the relationships in-between people and their environment; promotes human health and well-being in relation to people's ecological settings; and encourages healthy and safe communities to be stewards of their environment.

All types of pollution and environmental concerns are directly or indirectly grounded in ecological in-balances resulting from short-sighted governance, and are interlinked to influence one another, hence need to be tackled all together as a transdisciplinary endeavor. Various stakeholders along with the community have to work together to reduce the environmental impact on public health and well-being by understanding issues origins and co-define contextualized solutions to sustainably address the root causes of the problem.

In this context, this course examines pernicious environmental issues in Southeast Asia, Thailand in particular, by dissecting their roots, analyzing their evolution, and identifying their consequences on health and well-being. Among key environmental problems, we will cover issues related to Climate change, Plastic Pollution, Deforestation and Biodiversity erosion, Agriculture industrial intensification, Infectious Disease transmission, and their impact on positive health and wellbeing at individual, community and society levels. The health consequences we will be looking into in particular are chronic disorders such as Cardiovascular diseases, Obesity and type 2 diabetes, stress and anxiety, zoonotic diseases and spillover, nature deficit disorder and depression related to loss of natural and social capital.

Recognizing these environmental issues and understanding their consequences on health and wellbeing provides opportunities to also look at practical nature-based-solutions and personal

practices that are used in the region to address these issues and cope with its related impact. During the field research section of the course we will therefore immerse ourselves in locally implemented multisectoral projects that bring together environmental conservation, social innovation, community health development, ecosystem services for health and well-being, sustainability and transformative education that together embody people and nature co-benefits. The solution spaces we will particularly focus on are permaculture and regenerative designs for healthy food production, rewilding for integrated vector control and nature therapy, nature-based solutions for climate change mitigation as well as a range of personal development practices that uses Nature as a catalyst for well-being.

The course will combine open discussions, lectures, hands-on workshops, and field excursions in Southern Thailand to provide students a holistic learning and real-life solutions-oriented experience while studying in Thailand.

## **COURSE OBJECTIVES**

### *Aim*

The “Issues in Environmental Health” course introduces students, at both an academic and experiential level, to the linkages between environmental degradation and human health, exposes them to holistic working definitions of health and provide opportunities to experience real-life nature-based solutions implemented at community and landscape levels to address these issues as well as personal practices to cope with their related impact on individual health and well-being

### *Behavioral objectives*

At the end of the course the participants will be able to:

1. Understand and describe principles and conceptual foundations of integrated Health frameworks such as Planetary Health, One Health, Ecohealth, Nature-based solutions for health etc.,
2. Understand Nature-based solutions for health and well-being as an operational extension of adaptive governance and acquire practical experience from real-life projects implemented in Southern Thailand
3. Critically discuss the connection between Nature and People’s health and well-being, including the role of mindfulness and mindfulness-based therapies in holistic health, primary care settings, self-development approaches and sustainable living

## **TEACHING METHODS**

The course will be roughly divided into Week 1 “class-based” and Week 2 & 3 “field practicum”. To take advantage of our small class size, teaching sessions (mostly during week 1) will include introductory faculty-led presentations followed by informed discussions, interactive workshops, debates and brainstorming and will focus on introducing key concepts and describing key methods that will be used during the following 2 weeks retreat. Week 1 will include formal (lectures, guided workshops, guided discussions, suggested readings, etc.) and less formal (non-directed open discussion outside the classroom environment e.g. outdoor, coffee shop, etc.) learning situations. We will complement “Week 1 conceptual and methodological foundations” with hands-on, immersive sessions during the field practicum in southern Thailand. Over the two weeks of the field practicum there will be 10 days (4.5 hours/day) of effective learning. The retreat focuses on experiential learning by putting into practice the themes discussed during week 1. The field practicum exposes participants to a series of workshops and experiential learning activities in addition to open discussions and seminars and practical immersion into project implementation. In

particular participants will be immersed in ongoing projects such as circular economy to mitigate plastic pollution, agroecology for food security, rewilding for integrated vector control and nature therapy, community-based biodiversity conservation for climate change mitigation

**Additionally** a diverse set of activities and integrated approaches to exercising focusing on Aerobic mechanisms will be offered. This program is composed of seminar discussions and practical applications using mindful-movement, nature-therapy and more as personal modalities to connect with Nature and expand nature mindedness that inherently provide foundations for authentic integrated nature-based solution with Nature at its heart.

**Furthermore**, balancing a healthy diet with the pleasure of sharing and eating food. This program is composed of seminar discussions and a hands-on workshop on:

- Nutritional science
- Eating practices (Diets, Ethics)
- Raw, Vegetarian and Vegan cooking workshop
- Mindful eating
- Medicinal plants and Thai traditional medicine

**Finally**, inspired by the Japanese approach of Shinrin-yoku or Forest Bathing, we will formally and informally experience the healing power of being mindful in nature. Through a series of so-called “invitations” during hikes in the rainforest, near waterfalls and during kayaking in the mangroves we will provide participants tools to become awake in nature.

There will be frequent unstructured time and time to process and reflect during the course as most structured activities during the retreat will take place in the morning with time in the afternoon to rest, reflect.

## **COURSE REQUIREMENTS AND EVALUATION**

Students with background in ecology and sustainability (e.g. Environmental conservation in SEA course), Environmental sciences, Public health, Health development are particularly encourage to enroll.

- **Participation (30%)**: Prior to and after the course, participants will complete a questionnaire to assess their understanding and perceptions of health and wellness (5%). Session 3 during week 1 will have set readings to better focus open discussions. Students will provide 3 questions based on their reading (5%). Participation during practices during week 2 and 3 is essential (20%).
- **Written report (40%)**: “Nature-based solutions for health & wellbeing in SEA” briefing paper - Template and guidelines provided during first day class.
- **Paper presentation (20%)**
- **Personal practice demonstration “cultivating Nature mindedness” (10%)**

In the activity “Nature-based solutions for health & wellbeing” briefing paper, students will develop a comprehensive paper on an environmental degradation particularly significant in one of the ASEAN countries and present their evaluation of the current status and impact severity on people’s health and well-being, as well as describe ongoing nature-based solution being implemented as a

cross-sectoral, integrated intervention to sustainably address the issue. Case examples can be chosen describing grass-root, community-led specific solutions or national-level multi-agency initiatives. The country and the type of case example used for illustration will be selected by the students, and will take into account available health, demographic, social, cultural, economic, environmental and political issues. This will be a continuous activity throughout the course, culminating with the drafting of a comprehensive report handed at the end of the course. At the end of the “field practicum” the students will present their paper” (up to 10 min.) and demonstrate the set of practices they chose among that explored during the course to nurture their “Nature mindedness” and set them up on their path towards authentic leadership for Nature and People.

## **COURSE FRAMEWORK AND CONTENT ORGANIZATION**

### 1. Knowledge on Environmental issues and their impact on health and well-being (lectures & workshops)

The first part of the course held in the Chiang Mai area is intended to provide the knowledge bricks to help understanding environmental degradation originating from profit-optimizing (mis)management strategies and their documented consequences on health and wellbeing. The key themes we will explore through lectures, open discussions and site visits are as follow:

- Climate change and Air pollution
- Agriculture industrial intensification,
- Biodiversity and Health
- Land use and Infectious Disease transmission
- Plastic Pollution and its impact on health

### 2. Personal practices and leadership for Nature as a prerequisite for authentic and inspired Nature-based solutions

Now that complex interlinkages are acknowledged, priority issues identified, and key levers considered, we will be focusing on the type of solutions in place to address the issues outlined. There are two main (nested) levels we are interested in exploring, that we think are relevant and mutually reinforcing. We start with solutions and attitudes at individual level, focusing on mindfulness as a catalyst for both personal health and well-being as well as predisposing individual practitioners to develop and manifest the required interpersonal skills and values that enable ethical collaboration, epistemological pluralism, transdisciplinarity, Inclusiveness and ultimately favor nature-based adaptive management and governance. So in this section we will review and experience the mindfulness-based practices in Nature that build deeper connections with oneself nature, provides sustainable foundations for both health and well-being and expand consciousness towards a unified worldview through self-less values and competencies. The latest being indispensable for the kind of governance that build resilient social-ecological systems.

The specific themes we will explore and practices we will learn are:

- Mindfulness in Nature and for Nature
- Movement-based practices & Flow state in the great outdoors

- System thinking and trade-offs navigation via reflective postures (system practice)
- Building adaptive capacity and genuine engagement for resilience (facilitation skills)

### 3 . Adaptive Governance and Integrated management towards Nature-based Solutions

Remaining mindful and grounded as an individual, being able to navigate world view gaps, cultural divergences, power relations, formal and informal agendas is essential to build partnerships and lasting collaborations. We will explore the following themes through specifically chosen hands-on immersions in the projects we are leading in Southern Thailand.

- SE-CONNECT regional project overview presentation
- Contextualized Technologies and innovations
- Social innovations and entrepreneurship for social-ecological capital building
- Nature-based solutions for climate change mitigation – blue carbon
- Ecosystem restoration for local livelihoods and resilience
- Agroforestry for food safety
- Circularity education for integrated waste management and energy recirculation

ISSUES IN ENVIRONMENTAL HEALTH & THEIR NATURE-BASED SOLUTIONS

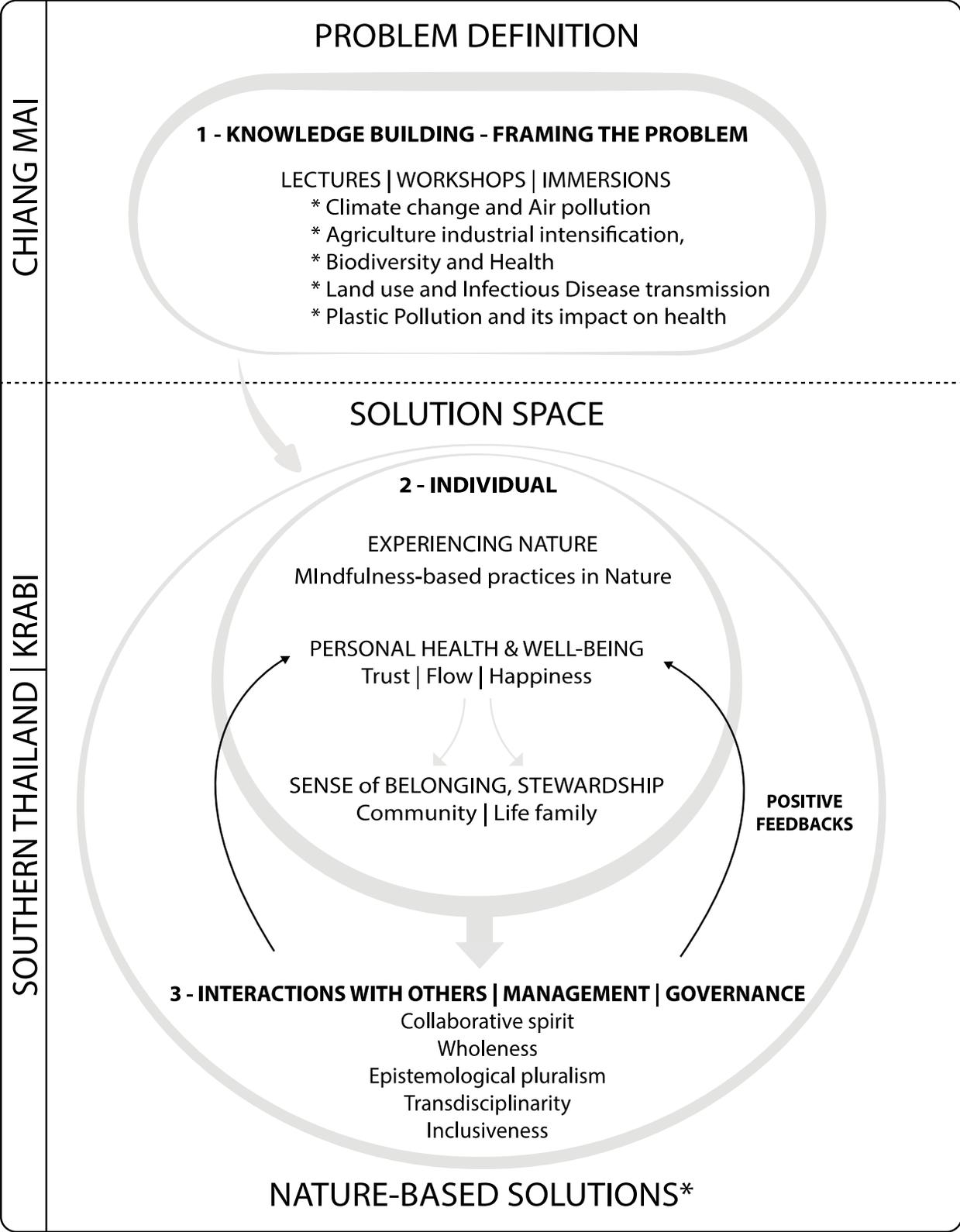


Figure 1. Visual representation of IIEH Course framework and theme organization

## **GRADING SCALE**

A (90-100)

B (80-89)

C (70-79)

D (60-69)

F (<60)

## **ACADEMIC INTEGRITY**

In this class, students will be held to the highest standards of academic integrity, demonstrating where you have learned something and citing it appropriately. You commit plagiarism when you represent other people's language or ideas without attribution, giving the impression that they are your own. If you use a direct quotation (even only part of a sentence) in your own writing, you must put quotation marks around it and cite the source it came from; if you paraphrase an idea from somewhere else (even if you're not using that author's exact language), you must still cite the source this idea came from.

## **COURSE POLICIES**

### *Attendance*

Class size is small in this course and the teaching method is highly interactive. The absence of a single student impacts the learning process for all. Students are expected to arrive on time and stay throughout the class. If you miss a class, you are responsible for all the information covered. Tardiness and absences carry academic penalty. As this is a short intensive course, missing any classes will make it difficult for you to successfully complete the class. One unexcused absence will result in 50% of your class participation grade being deducted while two unexcused absences will cause you to lose 100% of this grade. Three unexcused absences will result in an automatic failure for the course. Generally, late arrival to two classes equals an absence.

### *Technology policy*

You may use laptops during class for taking notes or for accessing the readings. Use of your laptop during class for other purposes (emailing, social media) will result in a 50% reduction in your participation grade for the day. Other devices, including cell phones, music players, etc. must be turned off.