



Course Outline

TU103 Life and Sustainability

Semester 2/2024 (January 20 - May 14, 2025)

1. Lecturer and course administrator with contact information

1.1 Dr. Nuttavikhom Phanthuwongpakdee

Lecturer and course coordinator
(nuttavikhom.p@psds.tu.ac.th)

1.2 Instructor Rick Levinthal

Lecturer
(ricklev@hotmail.com)

2. Class Date and Time: Tuesday at 1:00PM - 4:00PM

Classroom: 204 (Tha Prachan Campus)

3. Course Objectives

This course explores the dynamic inter-connectedness between nature, consumerism, lifestyles, the built environment, and energy consumption, examining global and Thai environmental trends, environmental conflicts, and pathways for transformation towards sustainable living, aligned with the Sustainable Development Goals (SDGs). It introduces the importance of systems perspectives in addressing major challenges and solutions for achieving more sustainable societies in a changing world. Students will learn about the relationship between mankind and the environment in the context of energy and resource use, consumption and development, and environmental constraints. The course also incorporates Environmental, Social, and Governance (ESG) concepts and examines social conflict and change to develop an understanding of potential solution pathways for sustainable lifestyle modifications.

Students are expected to understand the concept of sustainable development in the context of rapid disruptive forces, including climate change, biodiversity loss, and urbanisation. The course is structured to cover three key areas: Environment, Society and Economy (focusing on social science and the intersection of human behaviour, society, and economic systems), Environmental Science, and the Built Environment.

The course begins with Environmental Science, introducing fundamental concepts of ecology, water, food, and energy consumption, and their roles in creating imbalances in a sustainable world. It then progresses to Environment, Society and Economy, examining the interplay between societal behaviour, economic systems, and environmental challenges, and incorporating design thinking to critically assess and address these issues. Finally, the course concludes with the Built Environment, focusing on the Anthropocene era and exploring sustainability at different scales, from buildings to cities

To accomplish this course, students are expected to:

- 1) Understand the complexity of sustainable development based on the environmental, social, and economic dimensions.
- 2) Know causes and effects of current unsustainability issues especially climate change.
- 3) Improve analytical and systematic thinking and problem-solving skills to create possible solutions.
- 4) Realize the relevance of how we are partly influencing to the causes and the solutions.
- 5) Understand dynamic context of times and places to specify clearly challenges and to offer suitable solutions.

4. Programme Learning Outcomes

Morals and Ethics						Knowledge				Cognitive Skills				Interpersonal skills & responsibilities					Numerical, Communication and IT skills			
1	2	3	4	5	6	1	2	3	4	1	2	3	4	1	2	3	4	5	1	2	3	4
•	•	•	•	•	•	○	•	•	•	•	•	•	•	•	•	•	•	•	○	x	x	x

Other skills	Other attitudes
S1: Systematic thinking	A1: Awareness for the public and awareness of the external impact that they may cause to society.
S2: Well-rounded thinking	A2: Seeing that sustainability is near and one of the main reasons is the behavior of students in everyday life.

This course is (you may choose more than one)

- ✓ **Active learning:** instruction approach that involves actively engaging students by allowing them to question, contemplate, crystallize ideas and teaching students to be able to apply acquired experiences and knowledge effectively
- ✓ **Lecture-based:** traditional instruction model where the instructor delivers information to students verbally

5. Course rules, Grading criteria

- 1) Projects and Assignments
 - Projects and assignments' submission shall be EXPECTED AT EXACT APPOINTED TIME.
 - Late submission will be reduced at least half grade, or not be accepted.
 - Quiz may be provided at any time.
- 2) Avoid Plagiarism! Use your original ideas. Cite and give somebody else credits if it is not your ideas.
- 3) Withdraw from class can only be done within the schedule issued by the university. Special request for withdraw at the end of semester is not possible.

Note: Students who arrive at the class later than 13:15 are considered absent. Students who have been absent for more than 3 times without appropriate reasons and supporting evidence will not have the rights to take the final examination or presentation. No excuses and negotiation.

Expected Class Contact:

Lectures:	45 hours
Self-Study:	90 hours
Total of the semester:	135 hours

Assessment:

Activities	Proportion
Week 1 to 7 Quizzes / Assignment	40%
Week 8 to 14 Quizzes / Assignment	40%
Final Report / Presentation	20%
Total	100%

The final grade will be evaluated as follows:

Grade	Score
A*	≥85
B+	80.00 – 84.99
B	75.00 – 79.99
C+	70.00 – 74.99
C	60.00 – 69.99
D+	55.00 – 59.99
D	50.00 – 54.99
F	< 50

A=4.0 B+=3.5 B=3.0 C+=2.5 C=2.0 D+=1.5 D=1.0 F=0

*Please note that the final grade may be curved.

Add-Drop Policy:

The time to withdraw the course with "W" is during 29th January- 23rd March 2025.

6. Reference material

Slides, notes, and required readings will be provided via Google Classroom / Microsoft Team.

7.Course plan

Week	Date	Topic	Lecturer
1	22 Jan 2025	Introduction to Life and Sustainability	Rick
2	29 Jan 2025	The Science of Climate Change	Rick
3	5 Feb 2025	International Approaches to Climate Change Policy Successes and Failures – Classroom Debate	Rick
	12 Feb 2025	Makha Bucha Day (No Class)	
4	19 Feb 2025	Quiz 1 on Weeks 1-3 Introduction to Ecology: Environmental Interrelationships	Rick
5	26 Feb 2025	Energy Production: Fossil Fuels and Alternative Energy	Rick
6	5 Mar 2025	The Product Lifecycle and Sustainability Food and Water Consumption and Conservation	Rick
	12 Mar 2025	Midterm week (No Class)	
7	19 Mar 2025	Quiz 2 on Weeks 4-6 Group Presentations on Assigned Topics	Rick
8	26 Mar 2025	Introduction to Sustainable Development & Sustainable Development Goals	Nuttavikhom
9	2 Apr 2025	History of (Un)Sustainable Development	Nuttavikhom
10	1 Apr 2025	Economic Aspect of Sustainable Development	Nuttavikhom
11	9 Apr 2025	Sustainability and the Business Sector	Nuttavikhom
	16 Apr 2025	Songkran Holidays	
12	23 Apr 2025	Introduction to Sustainability and the Built Environment	Nuttavikhom
13	30 Apr 2025	Design for Sustainability	Nuttavikhom
14	7 May 2025	Sustainable Cities	Nuttavikhom
15	14 May 2025	Final Presentation	Nuttavikhom
	21 May 2025	Final Exam Week (No Class)	

*****Midterm Examination:** 9-16 Mar 2025
*****Final Examination:** 16-30 May 2025
*****Songkran Holidays:** 16 Apr 2025

8. Learning in the Context of Achieving Sustainable Development Goals (SDGs)

The course content and learning activities are designed in the context of achieving the following Sustainable Development Goals (SDGs):

- Goal 1: End poverty in all its forms everywhere
- Goal 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture
- Goal 3: Ensure healthy lives and promote well-being for all at all ages
- Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal 5: Achieve gender equality and empower all women and girls
- Goal 6: Ensure availability and sustainable management of water and sanitation for all
- Goal 7: Ensure access to affordable, reliable, sustainable, and modern energy for all
- Goal 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all
- Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation
- Goal 10: Reduce inequality within and among countries
- Goal 11: Make cities and human settlements inclusive, safe, resilient, and sustainable
- Goal 12: Ensure sustainable consumption and production patterns
- Goal 13: Take urgent action to combat climate change and its impacts
- Goal 14: Conserve and sustainably use the oceans, seas, and marine resources for sustainable development
- Goal 15: Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation, and halt biodiversity loss
- Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels
- Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development