ASSUMPTION UNIVERSITY
THEODORE MARIA SCHOOL OF ARTS
DEPARTMENT OF GENERAL EDUCATION
COURSE OUTLINE 2/2026

Course: GE 1303 Science for Sustainable Future
Credit: 2 (2-0-4)
Status: General Education Requirement
Prerequisite: None
Lecturers: A. Sasiluk S.

Course Description:
Conceptualize true knowledge through science, scientific approaches, the interrelationship of the nature, natural resources utilization, finding alternative solutions for achieving sustainable future

Course Objectives:
By the end of the course, students should be able to:

- Understand the interrelationship of human beings, science, technology, and nature
- Criticize natural resources utilization on future environmental challenges
- Analyze the importance of natural capital and ecosystem services on sustainability
- Apply knowledge to realize the importance of sustainable natural resources for future

Teaching-Learning Activities:

1. Lecture
2. Discussion
3. Presentation
4. Case study
5. Eco-reflection and action journal
6. Climate change and disaster simulation
7. Smart citizens for a sustainable future project

Course Components and Mark Allocation:

Class participation	10 %
Smart citizens for a sustainable future project	40 %
Case study & presentation	20 %
Eco-reflection and action journal	20 %
Climate change and disaster simulation	10%
Total	**100%**

Course Requirements and Policies:

Attendance

At least **80%** class attendance is mandatory as listed on the course calendar. Absence more than 6 classes will not be allowed to take the final exam. (Students who are 15 minutes late will have their names recorded as late for that class. Three lates will be recorded as 1 absence.)

Smart citizens for a sustainable future project

The project must be completed by the allocated timeline. The proposal and typewritten report will be submitted by the given deadline or special permission must be approved from an instructor prior the due date. Late or missing the project will affect the student's grade.

Evaluation:
The grading system is as follows:

Grade	Mark
A	80-100 %
A^-	78-79 %
B^+	73-77 %
B	70-72 %
B^-	68-69 %
C^+	63-67 %

C	60-62 %
C⁻	58-59 %
D	50-57 %
W	< 50 %

References:

Textbook:

Miller, G. Tyler & Spoolman, Scott. (2021). *Living in the Environment. (*20th ed.). Singapore: Cengage Learning.

Additional Reading Books:

Cunningham, W. P. & Cunningham, M. A. (2018). *Environmental Science: A Global Concern*. (14th ed.). New York: McGraw-Hill Companies.

Enger, E. D. & Smith, B. F. (2016). *Environmental Science: A Study of Interrelationships.* (14th ed.). New York: McGraw-Hill.

Miller, G. Tyler & Spoolman, Scott (2018). *Environmental Science.* (16th ed.). Singapore: Cengage Learning.

Reference Websites:

http://esa.un.org/unpd/wpp/index.htm
http://climate.nasa.gov

Study Plan and Schedule:

Week No.	**Contents** (section number (s))
1	**Module I: Human and Sustainability** The Environment and Sustainability • Principles of Sustainability (1.1) • Environmental Worldviews, Ethics, and Sustainability (1.3, 25.1)
2-3	**Module II: Human Population** • Human Population Growth (1.3, 6.1) • Problems Associated with Human Population Growth (6.4) • Ecological Footprint and IPAT Model (1.2)
4-5	**Module III: Ecology** • Ecosystems Components (3.2) • Energy in an Ecosystem (3.3) • Matter in an Ecosystem (3.4)
6-7	**Module IV: Biodiversity** • Biodiversity Concepts • Importance of Biodiversity (4.2) • Humans and Species Extinction (9.3) • Sustaining Biodiversity and Ecosystem Services
8-9	**Module V: Energy Resources** • Nonrenewable Energy (15.2-15.5) • Renewable Energy (16.3-16.7) • Transitioning to More Sustainable Energy Future (16.1-16.2, 16.9)
10-11	**Module VI: Air Pollutions** • Major Outdoor Air Pollutants (18.2) • Photochemical Smog • Acid deposition (18.3)
12	**Module VII: Climate Change** • Causes and Impacts Climate Change (19.2, 19.3) • Climate Change Mitigation and Adaptation (19.4)
13	**Module VIII: Water Resources and Pollution** • Earth's Water Resources (13.1) • Global Water Issues and Impacts

14	**Module IX: Solid Waste** • Solid Waste Problems (21.1) • Solid Waste Management (21.2, 21.4) • Circular Economy
15	**Module X: Term Project** • Smart Citizens for a Sustainable Future Project Presentation

Feb 19, 2027: Last Day to withdraw with "W"

LOCATION AND CONTACT INFORMATION

GENERAL EDUCATION (GE) office hours are Monday through Friday, 8.30 a.m. – 16.30 p.m.

Office Location: CL10
Phone: 02-7232485
Email Address: general_education@au.edu

AU VISION 2000

Assumption University of Thailand envisions itself as:

- an international community of scholars,
- enlivened by Christian inspiration,
- engaged in the pursuit of Truth and Knowledge,
- serving human society, especially through the creative use of interdisciplinary approaches and cyber technology.

ENVISIONING AU GRADUATES

Assumption University of Thailand envisions its graduates as:

- healthy and open-minded persons, characterized by personal integrity, an independent mind, and positive thinking,
- professionally competent, willing to exercise responsible leadership for economic progress in a just society,
- able to communicate effectively with people from other nations and to participate in globalization.

AU UNIQUENESS

"An International Catholic University"

AU IDENTITY

- Ethics
- English Proficiency
- Entrepreneurial Spirit

THEODORE MARIA SCHOOL OF ARTS
(www.arts.au.edu)
VISION AND MISSION

Vision

Theodore Maria School of Arts, Assumption University of Thailand envisions itself as an *outstanding international school for business language education with:*

- qualified and experienced lecturers
- applicative curriculums
- international teaching and learning environment and
- internship opportunities.

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Mission

For students:

- To acquire and applied business language skills
- To be competent and sound individuals equipped with entrepreneurial spirit

Core Values

A = Adaptability
R = Responsibility
T = Thrivability
S = Sustainability

Quality Assurance Process

Students should understand and apply the Quality Assurance Process in their study. The Plan-Do-Check-Act Cycle (PDCA) provides an easy but effective approach for problem solving and managing change, ensuring that ideas are appropriately tested before the full implementation. It can be used in all sorts of situations and can be clarified as follows:

Plan: Define the current problem, process, and issue and establish objectives and processes required to deliver the desired results.
Do: Implement the plans and new processes developed.
Check: Monitor and evaluate the implemented process by testing the results against the predetermined objectives.
Act: Apply actions necessary for improvement if the results require changes.

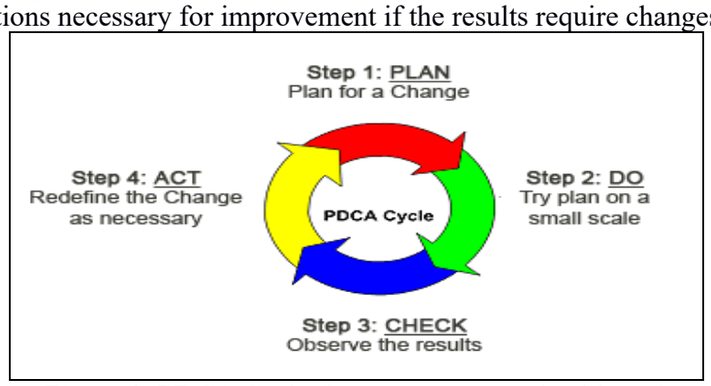


Figure 1: PDCA Cycle (http://www.swopehealth.org)

Plagiarism

Plagiarism is a serious academic offence, a serious breach of ethical conduct and is unacceptable student behavior. Students who plagiarize copying words or ideas without acknowledging the original writer of the words or ideas, will face disciplinary action. This will range from receiving an “F” in the subject to university suspension.