

**ASSUMPTION UNIVERSITY  
THEODORE MARIA SCHOOL OF ARTS  
DEPARTMENT OF GENERAL EDUCATION  
COURSE OUTLINE 1/2026**

**Course** : GE 1302 Ecology and Sustainability  
**Credit** : 3 (3-0-6)  
**Status** : General Education Requirement  
**Prerequisite:** None  
**Lecturers** : A. Sasiluk S.                      A. Watcharee N.\*, Ph.D

**Course Description:**

General science, scientific approaches, understanding the interrelationships of the nature, identification and analysis of environmental problems, application and alternative solutions for preventing and solving the environmental problems.

**Course Objectives:**

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

- understand the interrelationship of human beings, science, technology, and the environment
- be aware of environmental problems
- analyze the causes and effects of environmental problems
- apply the fundamentals of environmental science to realize the importance of local and/ or regional environmental problems through conservation activity

**Teaching-Learning Activities:**

1. Discussions
2. Lectures
3. Presentations
4. Self-directed Learning
5. Environmental Conservation Activity

**Course Components and Mark Allocation:**

Attendance	10%
Class Participation	5%
Five Assignments	30%
One Environmental Conservation Activity	25%
Final Examination	<u>30%</u>
<b>Total</b>	<b>100%</b>

**Course Requirements and Policies:****Attendance**

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

**Class Participation**

Actively contributes to class discussions during lectures and recitations. A perfect score will be graded.

**Assignments**

All assignments should be submitted by the given deadline.

**Environmental Conservation Activity**

The environmental conservation activity (ECA) should be submitted by the allocated timeline. The proposal and typewritten report will be submitted by the given deadline, or special permission must be obtained from the instructor before the due date. Being Late or missing the Environmental Conservation Activity will affect the student's grade.

**Important note**

For more information on the Environmental Conservation Activity, please study the ECA's outline. If there is any trouble keeping up with assignments and/or other aspects of the course, students could proactively inform the instructor as early as possible.

\* Course coordinator

**Evaluation:**

The grading system is as follows:

Grade	Mark
A	80-100 %
A <sup>-</sup>	78-79 %
B <sup>+</sup>	73-77 %
B	70-72 %
B <sup>-</sup>	68-69 %
C <sup>+</sup>	63-67 %
C	60-62 %
C <sup>-</sup>	58-59 %
D	50-57 %
W	< 50 %

**References**

Textbook:

Miller, G. Tyler & Spool man, Scott (2021). *Living in the Environment*, 20<sup>th</sup> ed., Cengage Learning, Singapore.

Additional Reading Books:

Cunningham, W. P. & Cunningham, M. A. (2020). *Environmental Science: A Global Concern*. 15<sup>th</sup> ed. New York: McGraw-Hill Companies.

Cunningham, W. P. & Cunningham, M. A. (2025). *Principles of Environmental Science: Inquiry & Application*. 10<sup>th</sup> ed. New York: McGraw-Hill.

Emily, P.H. (2023). *Introduction to Environmental Sciences and Sustainability*, 2<sup>nd</sup> ed., Florida: University of West Florida Pressbook.

Parul, R. (2022). *Managing Climate Change and Sustainability through Behavioral Transformation*. Palgrave Macmillan, Singapore.

Reference Coursera:

Archer, D. *Global Warming I: The Science and Modeling of Climate Change* (MOOC). Coursera. <https://www.coursera.org/learn/global-warming>

Friedland, A. *Environmental Science* (MOOC). Coursera. <https://www.coursera.org/learn/environmental-science>

Moore, M. *Environmental Economics* (MOOC). Coursera. <https://www.coursera.org/learn/environmental-economics>

**Study Plan and Schedule:**

Lecture No.	Contents
1-3	<b>Humans and Sustainability</b> <ul style="list-style-type: none"> <li>• The Environment and Sustainability</li> <li>• Environmental Science Concept</li> <li>• Principles of Sustainability (1.1)</li> <li>• Environmental Worldviews, and Ethics (1.3,25.1)</li> <li>• Self-directed Learning               <ul style="list-style-type: none"> <li>○ Sustainable Practice for University Students</li> </ul> </li> </ul>
4-7	<b>Human Population</b> <ul style="list-style-type: none"> <li>• Human Population Growth (1.3, 6.1)</li> <li>• Factors Affecting Human Population Growth (6.2)</li> <li>• Problems Associated with Population Growth</li> <li>• Ecological Footprint and IPAT Model (1.2)</li> <li>• Self-directed Learning               <ul style="list-style-type: none"> <li>○ World Population Growth and Sustainability</li> </ul> </li> </ul>

8-10	<p><b>Ecology</b></p> <ul style="list-style-type: none"> <li>• Ecosystems Components (3.2)</li> <li>• Energy in an Ecosystem (3.3)</li> <li>• Matter in an Ecosystem (3.4)</li> <li>• Species Interactions (5.1)</li> <li>• Self-directed Learning             <ul style="list-style-type: none"> <li>◦ Human Impacts on a Natural Ecosystem</li> </ul> </li> </ul>
11-12	<p><b>Biodiversity</b></p> <ul style="list-style-type: none"> <li>• Biodiversity Concepts</li> <li>• Importance of Biodiversity (4.2)</li> <li>• Endangered Species and Extinction (9.3)</li> <li>• Self-directed Learning             <ul style="list-style-type: none"> <li>◦ Sustaining Biodiversity and Ecosystem Service</li> </ul> </li> </ul>
13-14	<p><b>Energy Resources</b></p> <ul style="list-style-type: none"> <li>• Energy Resources (15.1)</li> <li>• Nonrenewable Energy (15.2-15.5)</li> <li>• Renewable Energy (16.3-16.7)</li> <li>• Self-directed Learning             <ul style="list-style-type: none"> <li>◦ Sustainable Energy Transition</li> </ul> </li> </ul>
15-17	<p><b>Environmental Conservation Activity (ECA)</b></p> <ul style="list-style-type: none"> <li>• ECA's Proposal Discussion</li> </ul>
18-20	<p><b>Air Pollution</b></p> <ul style="list-style-type: none"> <li>• The Atmosphere (18.1)</li> <li>• Major Air Pollutants (18.2, 18.3)             <ul style="list-style-type: none"> <li>◦ Primary air pollutants</li> <li>◦ Secondary air pollutants</li> </ul> </li> <li>• Secondary Air Pollution             <ul style="list-style-type: none"> <li>◦ Photochemical Smog/ Acid deposition</li> </ul> </li> <li>• Ozone Layer Depletion (18.7)</li> <li>• Self-directed Learning             <ul style="list-style-type: none"> <li>◦ Adapting to Ozone Layer Depletion</li> </ul> </li> </ul>
21-22	<p><b>Climate Change</b></p> <ul style="list-style-type: none"> <li>• Climate Change (19.1)             <ul style="list-style-type: none"> <li>◦ Global Warming</li> <li>◦ Global Warming Management</li> </ul> </li> <li>• Self-directed Learning             <ul style="list-style-type: none"> <li>◦ Adapting to Climate Change</li> </ul> </li> </ul>
23-25	<p><b>Water Resources and Pollution</b></p> <ul style="list-style-type: none"> <li>• Earth's Water Resources (20.1)</li> <li>• Water Pollution (20.1, 20.5)</li> <li>• Self-directed Learning             <ul style="list-style-type: none"> <li>◦ Using Water More Sustainably</li> </ul> </li> </ul>
26-27	<p><b>Solid Waste</b></p> <ul style="list-style-type: none"> <li>• Solid Waste Problems (21.1)</li> <li>• Solid Waste Management (21.2, - 21.4)</li> <li>• Self-directed Learning             <ul style="list-style-type: none"> <li>◦ Transitioning to Zero-waste Living</li> </ul> </li> </ul>
28-30	<p><b>Environmental Conservation Activity (ECA)</b></p> <ul style="list-style-type: none"> <li>• ECA's Report Presentation</li> </ul>
<p style="text-align: center;">.....<b>FINAL EXAMINATION</b>.....</p> <p style="text-align: center;"><b>Date: October 5, 2026 Time: 13:00-16:00 Hrs.</b></p> <p style="text-align: center;"><b>*Check and confirm with registrar's office*</b></p>	

**September 18, 2026: Last Day to withdraw with “W”**

**LOCATION AND CONTACT INFORMATION****General Education Department**

Office Hours: Monday – Friday, 8.30 a.m. – 4.30 p.m.  
 Office Location: CL10  
 Phone: 02-7832222 Ext.2485  
 Email Address: [general\\_education@au.edu](mailto: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 MISSION**

Assumption University, an International Catholic University, is committed to be the light that leads learners and its stakeholders from all parts of the world towards wisdom, Truth, and Christian values and to discover “Treasure Within” themselves. Via effective teaching and research pedagogies of international standards as well as community engagement, the University aims to form individuals to be intellectually competent, morally sound, and spiritually enriching, accountable, righteous, and service-minded citizens; excelling in serving communities comprising of diverse cultures.

**Au UNIQUENESS**

“An International Catholic University”

**Au IDENTITY**

- Ethics
- English Proficiency
- Entrepreneurial Spirit

**THEODORE MARIA SCHOOL OF ARTS**

([www.arts.au.edu](http://www.arts.au.edu))

**VISION AND MISSION****Vision**

An international community of business communicators in Thailand

**Mission**

Theodore Maria School of Arts will ensure that: the School will...

1. Enhance business language skills
2. Promote cultural awareness
3. Foster academic networking
4. Encourage ethical standards and practices

**TAGLINE**

เติมเต็มศิลป์ภาษา พัฒนาศาสตร์ธุรกิจ

**Language Education, Business Inspiration**

**ARTS ORGANIZATIONAL CULTURE: More than faculty, we are family**

- Open communication
- Mentoring system
- Dedication
- Caring
- Teamwork
- Commitment
- Resource sharing

**Core Values**

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

**Core Competencies**

Employability  
 Multiculturalism  
 Internationalization

**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.

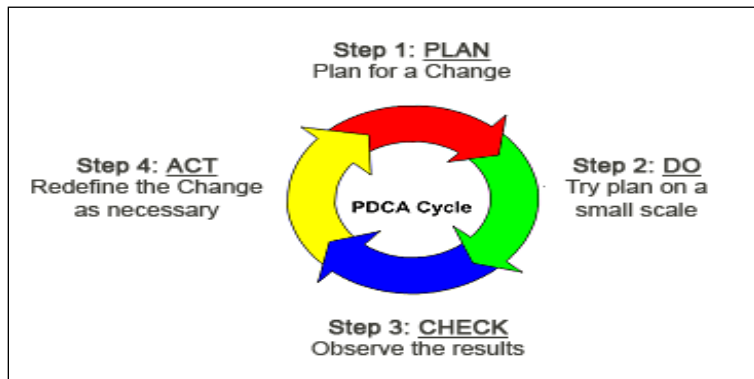


Figure 1: PDCA Cycle (<http://www.swopehealth.org>)

**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.

**THEODORE MARIA SCHOOL OF ARTS**  
**Advising and Counseling 1/2026**

All Arts students (Business English, Business French, Business Chinese, Business Japanese, and English - Chinese for Digital Communication) must meet with their advisors before they pre-register for the 2/2026 semester. Students who fail to come for their advising and counseling session will not be allowed to register for 2/2026 during the pre-registration period.

Names of advisors for semester 1/2026 will be posted on the faculty website ([www.arts.au.edu](http://www.arts.au.edu)), at CL 11 and on the Department Boards at SM Bldg. Arts students are required to check their advisors' names every semester and meet with them before the pre-registration.