# EF3043: ECONOMICS OF SUSTAINABILITY

**Effective Term**
Semester A 2026/27

## Part I Course Overview

**Course Title**
Economics of Sustainability

**Subject Code**
EF - Economics and Finance
**Course Number**
3043

**Academic Unit**
Economics and Finance (EF)

**College/School**
College of Business (CB)

**Course Duration**
One Semester

**Credit Units**
3

**Level**
B1, B2, B3, B4 - Bachelor's Degree

**Medium of Instruction**
English

**Medium of Assessment**
English

**Prerequisites**
CB2400 Microeconomics

**Precursors**
Nil

**Equivalent Courses**
Nil

**Exclusive Courses**
GE1205 Green Economics
SEE3002 Energy and Environmental Economics

## Part II Course Details

**Abstract**

Over past few decades, consumers, corporate and government are getting more concerns and awareness in preserving and protecting the environment. Consumers are shifting their preference towards green product, in which the product design like the use of recyclable materials minimizes the impacts on the environment. Corporate is taking more environmental responsibilities in designing and producing their products. Government is implementing better environmental policy planning to achieve sustainability.

This course aims at equipping students with the essential knowledge in environmental economics. It covers the modelling of environmental problems and discusses different government approaches to tackle the problems. It also looks at how countries coordinate to achieve sustainable development. By the end of this course, students will have a solid foundation in analyzing and proposing solutions to environmental problems.

**Course Intended Learning Outcomes (CILOs)**

| | CILOs | Weighting (if app.) | DEC-A1 | DEC-A2 | DEC-A3 |
|---|---|---|---|---|---|
| 1 | Understand the modelling of environmental problems through externality theory and public goods model. | | x | x | |
| 2 | Identify and analyze the environmental regulatory approaches – command and control and market approach to environmental problems. | | x | x | x |
| 3 | Discuss major environmental problems and evaluate the current policy solutions to it. | | x | x | x |
| 4 | Apply models in environmental economics to analyze real world environment issues. | | | x | x |

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

**Learning and Teaching Activities (LTAs)**

| | LTAs | Brief Description | CILO No. | Hours/week (if applicable) |
|---|---|---|---|---|
| 1 | Seminars and in-class discussions | Students will engage in seminars and in-class discussions to learn real-world environmental problems. | 1, 2, 3, 4 | 3 hours per week |
| 2 | Assignments | Students will solve questions using the models and concepts in environmental economics. | 1, 2, 3, 4 | |

| | | | | |
|---|---|---|---|---|
| 3 | Project | Students will participate in groups to investigate current environmental problems. They will develop solutions and evaluate current policy to the problem. | 1, 2, 3, 4 | |

**Assessment Tasks / Activities (ATs)**

| | ATs | CILO No. | Weighting (%) | Remarks ("-" for nil entry) | Allow Use of GenAI? |
|---|---|---|---|---|---|
| 1 | Participation | 1, 2, 3, 4 | 5 | - | No |
| 2 | Assignments | 1, 2, 3, 4 | 15 | - | Yes |
| 3 | Project | 1, 2, 3, 4 | 30 | - | Yes |

**Continuous Assessment (%)**

50

**Examination (%)**

50

**Examination Duration (Hours)**

2

**Assessment Rubrics (AR)**

**Assessment Task**

Coursework (such as, case assignments, problem sets, etc.)

**Criterion**

Ability to demonstrate critical understanding of the course material

**Excellent (A+, A, A-)**

Outstanding

**Good (B+, B, B-)**

High

**Fair (C+, C, C-)**

Moderate

**Marginal (D)**

Basic

**Failure (F)**

Not reaching marginal level

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**Assessment Task**

Final examination

**Criterion**

1. Ability to present material in a logical manner

2. Ability to apply theories introduced in class
3. Ability to understand financial reports

**Excellent (A+, A, A-)**
Outstanding

**Good (B+, B, B-)**
High

**Fair (C+, C, C-)**
Moderate

**Marginal (D)**
Basic

**Failure (F)**
Not reaching marginal level

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# Part III Other Information

**Keyword Syllabus**

Natural resources, material balance model, management strategy, pollution prevention, environmental Kuznets curve, sustainability, biodiversity, market efficiency, allocative efficiency, cost effectiveness, isocost line, isoquant curve, cost minimization, perfect competition, incentive mechanism, market failures, externality, public goods, open access common resource, command and control approach, uniform abatement, effective abatement, market approach, polluter pays principle, marginal tax, Coase theorem, game theory, Nash equilibrium, pollution permit trading system, behavioral economics, status quo bias, contribution game, Kyoto protocol in 1997, Paris agreement in 2015.

**Reading List**

**Compulsory Readings**

| | Title |
|---|---|
| 1 | S. J. Callan and J. M. Thomas, Environmental economics & management: theory, policy, and applications, 6th Edition, South-Western, Cengage Learning. |
| 2 | T.M. Ho and R. Man, Microeconomics: Concept Mapping, 3rd Edition, Pearson Prentice Hall. |

**Additional Readings**

| | Title |
|---|---|
| 1 | R. Perman, Y. Ma, M. Common, and D. Maddison, Natural Resource and Environmental Economics, 4th Edition, Pearson. |
| 2 | J. M. Harris and B. Roach, Environmental and Natural Resource Economics: A Contemporary Approach, 4th Edition, Routledge. |
| 3 | T. Tietenberg and L. Lewis, Environmental and Natural Resource Economics, 10th Edition, Pearson. |