1. **Time and Venue:**
   
   Monday, 18:30-21:20
   
   Venue: LSK 1009

2. **Instructor:**
   
   Dr. YARIME Masaru, Associate Professor, Division of Public Policy
   
   Office: Room 4616E
   
   E-mail: yarime@ust.hk
   
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   Teaching Assistant:
   
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3. **Course Abstract**

   This course aims to introduce students a set of basic concepts to understand managing sustainability issues and to use the concepts to analyze the problems and propose their solutions. They will understand the basic principles and practices behind the use of management and policy instruments, including command-and-control regulation, tax and emission trading, to conserve energy resources and to control environmental impacts. They will be able to apply innovative solutions to tackle sustainability challenges. This course equips students to engage in well-informed and balanced debates on how to develop our sustainable societies in the long run. This course examines the existing management policies and strategies implemented by governments and enterprises across the globe and explores opportunities and challenges in facilitating sustainable development in the future. The students are encouraged to cultivate an understanding of the problems and prospective solutions associated with fostering a transition away from resource-intensive technologies and practices for sustainability.

4. **Intended Learning Outcomes**

   Upon successful completion of the course, students are expected to be able to:
• Articulate environmental problems and resource limitations and constraints. Critically analyze the impact of energy use on the environment. This includes:
  o Introduction to environmental problems and sustainability challenges
  o Issue of non-renewable resources
  o Implications of climate change caused by greenhouse gas emissions
  o Introduction to political economy of sustainability
• Articulate personal and societal value considerations that impact sustainability policies and management strategies affecting people in different countries and of different generations.
• Critically evaluate international policy and management efforts to address climate changes issues.
• Analysis of current policies and management strategies implemented by governments and enterprises across the globe.
• Demonstrate argumentative reasoning and critical thinking in interpersonal dialogues, oral presentations and group reports.

5. Teaching and Learning Activities
Tasks and activities designed to facilitate students’ achievement of the intended learning outcomes:
• Interactive Lectures: Interactive lectures are designed to facilitate application and synthesis of assigned readings.
• Readings: Readings provide students with the knowledge base necessary to participate effectively in interactive lectures.
• Assignments: Students will be asked to work on assignments to ensure that they understand what is discussed in the class.
• Group project: Students are asked to choose an issue concerning sustainability, conduct an analysis of the problem by using the principles and methods discussed in the class, and propose a solution to manage the problem.

6. Course Activities and Grading Criteria
Course grades will be based on class participation (10%), assignments (50%), and group project (40%).
• Class Participation (10%)
  ➢ Students are encouraged to actively participate in discussions with other students in class.
• Assignments (50%)
  ➢ Students will be asked to work on specific themes by applying the concepts and methodologies discussed in the class.
• Group project, presentations, and report (40%)
  ➢ Students will be asked in a group of four students to analyze a specific problem concerning sustainability and to make a proposal to manage the problem.
  ➢ Each group is expected to address the key issues, including
    ◊ Why is the problem important?
What is the basic structure of the problem?
What types of stakeholders are involved?
What kinds of relationships and interactions exist among the stakeholders?
Where can potential interventions be made to tackle the problem?
What kinds of measures are available?
What criteria should be applied to choose an appropriate measure?

- Each group will be asked to make a presentation on mid-term progress and a final presentation each for 10 minutes, followed by questions and answers. Each group member must present.
- Then each group will be asked to submit a final report on problem analysis and a proposal for managing the problem (3,000 – 5,000 words).

7. Core Readings and Additional References

Core Readings
(Core readings are basically required for understanding lectures and participating in class discussions and group projects.)


Additional References
Additional references for students to learn to expand their knowledge about the subject

8. Course Schedule, Topics, and Readings

(Normally class PowerPoint slides will be available by the time the class starts. Additional readings would also be provided as appropriate. Information on the schedule, topics, readings and others can be modified in due course.)

Class 1 – Monday 6 February 2023

Introduction to Sustainability

- Changing Perspectives on the Environment
  - Economic Approaches to the Environment
  - Principles of Ecological Economics
- Resources, Environment, and Economic Development
  - Economic Growth
  - Environmental Trends in Recent Decades
  - Optimists and Pessimists
  - Sustainable Development

Required Readings


Supplementary Readings


Class 2 – Monday 13 February 2023

Policy and Management on Pollution

- Pollution: Analysis and Policy
The Economics of Pollution Control
- Policies for Pollution Control
- The Scale of Pollution Impacts
- Assessing Pollution Control Policies
- Pollution Control Policies in Practice

**Required Reading**


**Supplementary Readings**


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**Class 3 – Monday 20 February 2023**

**Natural Capital and Environmental Accounting**

- Ecological Economics: Basic Concepts
  - An Ecological Perspective
  - Natural Capital
  - Issues of Macroeconomic Scale
  - Long-Term Sustainability
  - Ecological Economics and Policy
- National Income and Environmental Accounting
  - Greening the National Income Accounts
  - Green GDP
  - Adjusted Net Saving
  - The Genuine Progress Indicator
  - The Better Life Index
  - Environmental Asset Accounts
Required Readings


Supplementary Readings


*Class 4 – Monday 27 February 2023*

**Energy and Climate Change**

- Energy: The Great Transition
  - Four Global Energy Challenges
  - Nonrenewable Energy Sources
  - Renewable Energy Sources
  - Energy Economics: Current Analyses and Alternative Futures
  - Policies for the Great Energy Transition
- Global Climate Change: Science and Economics
  - Causes and Consequences of Climate Change
  - Responses to Global Climate Change
  - Economic Analysis of Climate Change

Required Readings


Supplementary Readings


**Class 5 – Monday 6 March 2023**

**Climate Change and the Economy**

- Global Climate Change: Policy Responses
  - Responding to a Climate Emergency
  - Climate Change Mitigation: Economic Policy Options
  - Getting to Net-Zero Emissions
  - Climate Change Policy in Practice
  - Other Climate Issues: Adaptation and Equity
  - Dimensions of Climate Change
- Greening the Economy
  - The Green Economy: Introduction
  - The Relationship between the Economy and the Environment
  - Industrial Ecology
  - Does Protecting the Environment Harm the Economy?
  - Creating a Green Economy

**Required Readings**


**Supplementary Readings**


Class 6 – Monday 13 March 2023

Mid-term Presentation of Group Projects

- Each group makes a presentation on the progress of the group project.
  - Presentation for 10 minutes, followed by questions and answers for five minutes

Class 7 – Monday 20 March 2023

Population, Agriculture, and Food

- Population and the Environment
  - The Dynamics of Population Growth
  - Predicting Future Population Growth
  - The Theory of Demographic Transition
  - Population Growth and Economic Growth
  - Ecological Perspectives on Population Growth
  - Population Policies for the Twenty-First Century
- Agriculture, Food, and Environment
  - Feeding the World: Population and Food Supply
  - Trends in Global Food Production
  - Projections for the Future
  - Agriculture’s Impact on the Environment
  - Sustainable Agriculture for the Future

Required Readings


Supplementary Readings


Class 8 – Monday 27 March 2023

Nonrenewable and Renewable Resources Management

- Nonrenewable Resources: Scarcity and Abundance
  - The Supply of Nonrenewable Resources
  - Economic Theory of Nonrenewable Resource Use
  - Global Scarcity or Increasing Abundance?
Environmental Impacts of Mining
  o The Potential for Minerals Recycling

- Renewable Resource Use: Fisheries
  o Principles of Renewable Resource Management
  o Ecological and Economic Analyses of Fisheries
  o The Economics of Fisheries in Practice
  o Policies for Sustainable Fisheries Management

**Required Readings**


**Supplementary Readings**


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**Class 9 – Monday 3 April 2023**

**Ecosystem and Water Management**

- Forests and Land Management
  o The Economics of Forest Management
  o Deforestation: Trends and Drivers
  o Policies for Sustainable Forest Management
  o The Economic Value of Land Preservation
  o Land Preservation Policies

- Water: Economics and Policy
  o Global Supply and Demand for Water
  o Addressing Water Shortages
  o Water Pricing
  o Water Rights, Water Markets, and Privatization
  o Water as a Common Property Resource

**Required Readings**


**Supplementary Readings**


Class 10 – Monday 17 April 2023

Globalization and Sustainable Development

- World Trade and the Environment
  - Environmental Impacts of Trade
  - Trade and Environment: Policy and Practice
  - Trade Agreements and the Environment
  - Strategies for Sustainable Trade
- Policies for Sustainable Development
  - The Concept of Sustainable Development
  - Sustainable Development: Implications for Developed and Developing Countries
  - Reforming Global Institutions
  - Rethinking Economic Growth

Required Readings


Supplementary Readings


Class 11 – Monday 24 April 2023

Digitalization and Sustainability

Readings


Class 12 – Monday 8 May 2023

Final Presentation of Group Projects

- Each group makes a presentation on the progress of the group project
- Presentation for 10 minutes, followed by questions and answers for five minutes.