The Hong Kong Polytechnic University

Subject Description Form

Subject Code	ABCT4634
Subject Title	Environmental, Social and Governance (ESG), and Sustainability Principles for Science Students
Credit Value	3
Level	4
Pre-requisite/ Co-requisite/ Exclusion	NIL
Objectives	● The course aims to provide students with a practical understanding of ESG and how to design suitable ESG strategies for industry corporations ● Students will also have an understanding the principles of science to support the ESG implementation in corporations. ● Understand the key principles, concepts, and frameworks of sustainability. ● Evaluate the interconnections between social, economic, and environmental dimensions of sustainable development. ● Analyze the local and global challenges related to sustainability and identify potential solutions. ● Apply sustainability principles in various professional and personal contexts.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. understand definition, history, and importance of sustainable development, as well as environmental, economic, and social sustainability (ESG). b. understand the role of various stakeholders in sustainable development and be familiar with the United Nations 17 Sustainable Development Goals (SDGs) c. identify global and local challenges in sustainable development, d. analyse the effectiveness of various sustainability practices and policy e. apply sustainable development principles, propose possible solutions, and promote sustainability to real-world context.
Subject Synopsis/ Indicative Syllabus	● Introduction to Sustainability and ESG ● Waste Management ● ESG for business and industry ● Climate Risk Management ● Sustainability Development in Hong Kong and Mainland ● Technology and Innovation for Sustainability ● ESG Impact of Artificial Intelligence

Teaching/Learning Methodology	**Lectures:** Science fundamentals of different types of sustainability principles will be introduced and discussed. The development, technological principle, operation mechanism as well as impact to human will be examined. Examples will be used to demonstrate the scientific principles. **Expert talks:** ESG experts will be invited to share with students about the ESG practice in business and industry. **Tutorials:** Students are required to search for information and discussion is encouraged for selected topics and their project work. In-class tutorial questions will be used to draw students' interest, understanding and discussion. Group poster/oral presentation or project preparation may be arranged. Finally, logical thinking will be developed using the tutorial questions. **Group activities:** (1) students are required to work in groups for learning activities in-class or out-of-class; (2) students will be required to prepare a mini project and deliver a oral/poster presentation on selected topics. Through presentation, their higher order thinking, such as problem analysis and solving skills, critical and creative thinking, can be evaluated. Their group effort such as preparation of group presentation and discussion, their critical and creative thinking mind can be solicited and consolidated. During the project preparation, students will have chance to apply their lifelong learning skills, analytical skills as well as critical thinking for problem identification, data collection, analysis and interpretation as well as drawing conclusion and recommendation for further action. In this subject, students are required to do extensive reading (on literatures, reference books and government reports/websites and internet) and analyze information for possible action formulation via self-study and group discussion. Students will also be required to write an individual report on their findings for learning consolidation, idea elaboration as well as developing scientific thinking for their future study.

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c	d	e	
1.Test	25%	✓	✓	✓	✓	✓	
2.Assignments	25%	✓	✓	✓	✓	✓	
3.Group activities	50%	✓	✓	✓	✓	✓	
Total	100 %						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Test:

Assess the students' understanding of the basic scientific aspects related to ESG principles, sustainability technology, waste management and related concepts. The students' higher order thinking, such as analytical and problem-solving skills, critical thinking and creative thinking, will be evaluated. [Outcomes a-e]

Group learning activities, project work and presentation:

Students will be assessed based on their individual performance in group learning activities, presentation skills and prepared content, as well as response to questions raised by subject lecturer(s), peers. The team spirit and individual contribution to the presentation will also be evaluated. [Outcomes a-e]

In-class assignments:

To enhance the students' active learning. Assess the students' understanding of the basic scientific aspects related to cosmetic science and formulation. The students' higher order thinking, such as analytical and problem-solving skills, critical thinking and creative thinking, will be evaluated. [Outcomes a-e]

Student Study Effort Expected

Class contact:	
▪ Lecture and Expert Talks	21Hrs.
▪ Tutorial	14Hrs.
▪ Group activities	4Hrs
Other student study effort:	
▪ Preparation of project presentation, assignments, flipped classroom/active learning activity	40Hrs.
▪ Self study (reading on literatures, reference books, textbooks and reports)	50Hrs.

	Total student study effort	129Hrs.
Reading List and References	Related Articles from "https://www.academia.edu/81127046/Environmental_Social_Governance" Environmental, Social and Goverance [ESG] reporting Basics: A handy for business ESG communication Paperback by Goman Chong (2022) Corporate Social Responsibility Reports from Hong Kong Listed Companies. Iyer, S. D. (2021). Promoting the sustainable development goals in North American cities : case studies & best practices in the science of sustainability indicators (D. B. Abraham, Ed.). Springer. https://doi.org/10.1007/978-3-030-59173-1	