

Essential Components of General Education

Subject Code	DDDD1Q01-15 (please refer to Appendix I for details of each subject code)
Credit Value	0
Level	1
Name of BlackBoard courses	<ol style="list-style-type: none"> 1. Essential Components of General Education (AI and Data Analytics) 2. Essential Components of General Education (Innovation and Entrepreneurship) 3. Essential Components of General Education (National Education) 4. Essential Components of General Education (Academic Integrity)

Objectives

To allow Senior Year and advanced standing students (i.e., those who have been waived from taking the LEAD subjects) to acquire the basic knowledge about “National Education (NE)”, “Academic Integrity (OTAI)”, “Artificial Intelligence and Data Analytics (AIDA)” and “Innovation and Entrepreneurship (IE)” within their first year of study.

This subject entitled “Essential Components of General Education” will form part of the SY GUR curriculum.

General Information

This subject comprises four different e-learning modules and each module has its own objectives, syllabus and assessment requirements. The four e-learning modules are:

Artificial Intelligence and Data Analytics (AIDA) (3 hours)

This module aims to introduce students to the basic concept and practice of Artificial Intelligence and Data Analytics (AIDA).

For details, please refer to Appendix II.

Innovation and Entrepreneurship (IE) (3 hours of e-lectures plus 7 hours of self-study)

This module aims to introduce students to essential aspects of Innovation and Entrepreneurship in a digital world. The objective is to prepare students with an entrepreneurial mindset and apply innovative strategies to find creative solutions that benefit both organizations and society in the age of digital transformation.

For details, please refer to Appendix III.

National Education (NE) (3 hours of e-lectures plus 7 hours of self-study)

This module introduces students to the basic concepts and theories related to law-abiding leadership as well as the importance of law-abiding leadership to different professions and the daily lives of the students. It also provides a brief overview of modern Chinese history, the Constitution, the Basic Law and the Hong Kong National Security Law.

For details, please refer to Appendix IV.

Online Tutorial on Academic Integrity (OTAI) (2 hours)

PolyU recognizes academic integrity as one of the core values important to our students. We strive to provide an environment which encourages students to maintain academic honesty throughout your university study life. This online tutorial is one of the various vehicles for our journey to academic and professional competence.

This online tutorial aims to explain to students our expectations for honest academic behaviour in your work for all areas, subjects, and levels of study. Students will learn about why it is important to be academically honest, what might constitute academic dishonesty, and ways to stay clear from academic misconduct and plagiarism.

Upon completion of the Online Tutorial on Academic Integrity, students will receive a copy of eCertificate via PolyU Connect email account.

For details, please refer to Appendix V.

Requirements

This subject is graded on a Pass/Fail basis. Students are required to complete and pass all four e-learning modules in order to pass this subject for graduation. Each module has its own requirement and assessment methods. If students fail the subject, the 'Fail' grade for this subject would be shown on the transcript of studies. Please refer to the appendices for details about each e-learning module.

Completion Timeline

Students are required to take "Essential Components of General Education", and complete and pass the individual e-modules of the four components **within the first year of study (Semesters 1 and 2)**. The "Online Tutorial on Academic Integrity" should be completed **by Week 5 of Semester 1**.

Retake Arrangements

Students are only required to retake the incomplete or failed e-module(s) when retaking the subject. The e-module(s) that have been previously completed or passed are not required to be retaken.

Subject code	Combination
DDDD1Q01	NE+OTAI+AIDA+IE
DDDD1Q02	NE+OTAI+AIDA
DDDD1Q03	NE+OTAI+IE
DDDD1Q04	NE+AIDA+IE
DDDD1Q05	OTAI+AIDA+IE
DDDD1Q06	NE+OTAI
DDDD1Q07	NE+AIDA
DDDD1Q08	NE+IE
DDDD1Q09	OTAI+AIDA
DDDD1Q10	OTAI+IE
DDDD1Q11	AIDA+IE
DDDD1Q12	NE
DDDD1Q13	OTAI
DDDD1Q14	AIDA
DDDD1Q15	IE

The “DDDD” of subject code is representing the abbreviation of the name of Department/School.

Information Scheme

Artificial Intelligence and Data Analytics (AIDA)

E-learning Module

General Information

Objective	This e-learning module aims to introduce students to the basic concept and practice of Artificial Intelligence and Data Analytics (AIDA).
Requirements	<p>Students should:</p> <ul style="list-style-type: none"> - watch the video lectures; - complete the end-of-video exercises; - complete the lab tasks with the AIDA interactive playground; <p>Students are required to take an online test of 20 multiple-choice questions. Students must complete the test and get 65% quiz (13 out of 20 questions) correct. Multiple attempts are allowed and the last attempt will be counted.</p>
Expected Study	- 3-hour online learning

Online Lecture Details

VIDEO LECTURES	Time	126 minutes
	Details	<ul style="list-style-type: none"> - The video lectures consist of 9 lessons, each taking 18 – 30 mins. Lesson 1 to 6 will introduce a single topic in AIDA by a professor from COMP. Lesson 7 contains several supplementary clips to provide a practical view with the use of AI tools. Lesson 8 and 9 covers IT Literacy clips about Excel and PPT, respectively. The topics to be included are: <ul style="list-style-type: none"> o <i>Introduction to Artificial Intelligence and Data Analytics (by Dr. Jing Li)</i>

		<ul style="list-style-type: none"> ○ <i>Introduction to Multi-Objective Optimization (by Dr. Bo Li)</i> ○ <i>Introduction to Big Data Computing (by Prof. Song Guo)</i> ○ <i>Introduction to Natural Language Processing (by Prof. Wenjie Li)</i> ○ <i>Introduction to Computer Vision and Pattern Recognition (by Prof. Changwen Chen)</i> ○ <i>Introduction to Machine Learning (by Dr. Bo Yang)</i> ○ <i>Deep Learning and ChatGPT (Supplementary Clips)</i> ○ <i>Introduction to Excel (Supplementary Clips)</i> ○ <i>Introduction to PPT (Supplementary Clips)</i> <ul style="list-style-type: none"> - The video lectures would cover the essential and trendy content in AIDA, such as basic concepts and knowledge, applications and impacts, societal implications, discipline-related ones, etc. - After each introductory clip, there is an interactive Q&A session to enhance students' comprehension of the lecture content.
TUTORIAL	Time	10 minutes
	Details	<ul style="list-style-type: none"> - The tutorial is a short clip showing how to use the AIDA interactive playground for building and training a neural network with simple user interactions. - The playground is a web application. Students can access it through the university's intranet.
LAB	Time	24 minutes
	Details	<ul style="list-style-type: none"> - The playground provides a few basic components of a general neural network, and students can select their preferred modules to build their models. - Students are required to experience the interactive playground following the procedure introduced in the tutorial and complete a report based on the outcome.
TEST	Time	20 minutes
	Details	Students are required to take an online test of 20 multiple-choice questions. Students must complete the test and get 65% quiz (13 out

		of 20 questions) correct. Multiple attempts are allowed and the last attempt will be counted.
--	--	---

Information Scheme

Innovation and Entrepreneurship (IE)

E-learning Module

General Information

Objective	This module introduces students to essential aspects of Innovation and Entrepreneurship in a digital world. The objective is to prepare students with an entrepreneurial mindset and apply innovative strategies to find creative solutions that benefit organizations and society in the age of digital transformation.
Requirements	<p>Students are required to:</p> <ul style="list-style-type: none"> - watch video lectures; - do after-class exercises and tests. <p>Students must complete and pass the above requirements to pass the module. Multiple attempts are allowed.</p>
Expected Study	<ul style="list-style-type: none"> - 3-hour online learning - 7-hour self-study

Online Lecture Details

Module	Topic	Contents
A	Introduction (3 videos, ~12 minutes)	<p>PPT by Prof PK Wong: “Introduction to Entrepreneurship and Innovation.”</p> <p>Well-known Examples of IE Success</p> <p>An interview with Humphrey Leung, with a sharing of the creativity and entrepreneurship model, plus a one-minute corporate background video</p>

		<p>A video message from Alan Lam – PE and Angel Investor</p> <p>Readings on Innovation and Entrepreneurship, Female Entrepreneurship</p> <p>Students will take a quiz and fill in a survey for Part A.</p>
B	Innovation and Entrepreneurship Toolkit (7 videos, ~50 minutes)	<p>Introduction of Design Thinking</p> <p>Design Thinking Models</p> <p>Harvard Business School examples on Design Thinking</p> <p>Video 1: Why a start-up fails?</p> <p>Video 2: Application of Design Thinking: Pillpack</p> <p>Video 3: Application of Design Thinking: IKEA</p> <p>Video 4: Application of Design Thinking: Embrace</p> <p>Students will write learning journals.</p> <p>Three videos by Design Thinking Practitioners</p> <p>Additional readings</p> <p>Students will fill in a survey for Part B.</p>
C	Applications and implications of artificial intelligence on entrepreneurship and innovation (10 videos, ~ 32 minutes)	<p>Students will study the PPT “Introduction to Artificial Intelligence and its Applications on Entrepreneurship and Innovation.”</p> <p>Video 1 & 2: Learning games incorporated with machine learning algorithms and human-computer interaction help predict and prevent Dyslexia, plus a one-minute corporate background video</p> <p>Video 3 & 4: A robot for older people with embedded AI, machine learning and cloud computing with a corporate background.</p> <p>Examples of AI applications in China</p>

		<p>Students will write the learning journal 1.</p> <p>Video 5 & 6: An AI-powered customer journey automation platform with a corporate background</p> <p>Video 7 & 8: An AI-powered takeaway ordering platform with a corporate background</p> <p>Video 9: pitching video for a start-up competition acted by a postgraduate student team</p> <p>Ethics in AI</p> <p>Fundamental concepts of AI.</p> <p>A TED talk about AI</p> <p>Students can learn continuously by using the Socratic Playground and RSS Feed.</p> <p>Students will write the learning journal 2.</p> <p>Students will take a quiz and fill in a survey for Part C.</p>
D	Applications and implications of blockchain technology on entrepreneurship and innovation (5 videos, ~36 minutes)	<p>Introduction to Blockchain Technology</p> <p>Video 1: Overview of blockchain technology</p> <p>Video 2: Applications of blockchain technology in human resources and smart contracts</p> <p>Video 3: Applications of blockchain technology in supply chains</p> <p>Video 4: Benefits and risks of deploying blockchain technology</p> <p>A video about Blockchain</p> <p>Students will take a quiz and fill in a survey for Part D.</p>
E	Applications and implications of the Internet of Things technology on entrepreneurship and innovation (5 videos, ~35 minutes)	<p>An Introduction to the Internet of Things and New Quality Productivity</p>

		<p>Video 1: Overview of Internet of Things Technology</p> <p>Video 2: Applications of IoT technology in smart home, manufacturing and retail</p> <p>Video 3: Applications of IoT technology in smart city</p> <p>Video 4: Benefits and risks of deploying IoT technology</p> <p>A video about the smart delivery system of Hai Robotics</p> <p>Students will take a quiz and fill in a survey for Part E.</p>
F	How to manage IE (2 videos, ~10 minutes)	<p>Introducing a Polyprenuer - JAPJAP</p> <p>Video 1: Managing technology for competitive advantage in a digital world</p> <p>Students will write reflections or read further.</p> <p>Students will take a quiz and fill in a survey for Part F.</p>
	Achievements	<p>After completing the basic components, quiz and survey, students will earn a badge for each part.</p> <p>Students will earn an e-certificate after completing all parts and the end-of-course survey.</p>
	Tests	<p>Students must complete an online exercise of 20 multiple-choice questions. Students are required to get 80% (16 out of 20 questions) correct. Multiple attempts are allowed.</p>

**THE HONG KONG POLYTECHNIC UNIVERSITY
DEPARTMENT OF APPLIED SOCIAL SCIENCES**

**National Education
Law-abiding Leadership and National Security Law
(E-Learning)**

Lecture Outline

Rationale

Law-abiding leadership refers to a person's behaviour in following important social norms, seeking to maintain public order while preserving one's individuality (Salakhova et al., 2020). Law-abiding leadership is vital for university students to develop citizenship and socially responsible leadership (Dugan & Komives, 2010). From the point of civic duty, university students as citizens are obligated to shoulder their civic duties and practice law-abiding citizenship in their daily deeds (Fine & van Rooij, 2021).

The Law of the People's Republic of China on Safeguarding National Security in the Hong Kong Special Administrative Region (commonly known as the Hong Kong National Security Law or HKNSL) has been implemented in Hong Kong since 23:00 on 30th June 2020. It states that universities have to provide national security education for students and nurture them to become responsible citizens with law-abiding leadership (Article 10). Hence, it is essential for university students to understand the concepts and importance of national security, its manifestation in various areas (such as economic, environmental and political security), and the consequences of national security risks with reference to the historical events in modern Chinese history. Furthermore, students should understand the four major offences and related penalties in the HKNSL. Furthermore, the Safeguarding National Security Ordinance (SNSO) has been implemented since 23 March 2024 as Article 23 legislation. Students should also understand the offences and related details in SNSO.

The objectives of this lecture are:

1. To introduce the basic concepts and theories related to law-abiding leadership and socially responsible leadership;
2. To introduce the importance of law-abiding leadership and socially responsible leadership to professions and daily lives;
3. To enable students to develop and enhance law-abiding leadership and socially responsible leadership;

4. To provide an overview of the background and provision of the Hong Kong National Security Law and related issues; and
5. To provide an overview of the Article 23 legislation and details of the Safeguarding National Security Ordinance.

Upon completion of this lecture, students will be able:

Intended Learning Outcomes	Level of Competence
1. To understand the basic concepts and theories related to law-abiding leadership and socially responsible leadership	To understand, describe and apply
2. To understand the importance of law-abiding leadership and socially responsible leadership to professions and daily lives	To understand, describe and apply
3. To develop and enhance law-abiding leadership and socially responsible leadership	To integrate and relate
4. To understand the background and provision of the Hong Kong National Security Law and related issues	To understand, discuss and identify
5. To provide an overview of the Article 23 legislation and details of the Safeguarding National Security Ordinance	To understand, describe and identify

E-Learning Lecture Content (3 Hours)

1. Concepts of Laws and Law-abiding Behaviour
2. Concepts of Law-abiding Leadership
3. The Importance of Law-abiding Leadership
4. Concepts of National Security
5. The History of Modern China (Century of Humiliation), the Constitution, and achievements
6. Concepts of National Security Law
7. The Law of the People's Republic of China on Safeguarding National Security in the Hong Kong Special Administrative Region (the Hong Kong National Security Law), overview of the four major offences in the Hong Kong National Security Law, issues and myths surrounding the Hong Kong National Security Law

8. Article 23 Legislation and offences in the Safeguarding National Security Ordinance

Assessment

Students are required to pass an assessment allowing for multiple attempts. They have to take a multiple-choice test with 20 questions and must attain a minimum score of 16/20 to get a pass grade. Attainment of a “Pass” is a graduation requirement. The assessment materials include the content of the 3-hour e-learning lecture, PowerPoint slides, and 60 lecture notes distributed to the students.

Required Reading:

- 60 lecture notes about modern Chinese history, the Hong Kong National Security Law, and the Safeguarding National Security Ordinance.
- PowerPoint slides on the latest update of the court cases related to the four major offences in the Hong Kong National Security Law
- Information Service Department of the Government of the Hong Kong Special Administrative Region. (2020). *Safeguarding National Security in Hong Kong*. <https://www.isd.gov.hk/nationalsecurity/eng/law.html>

References:

- Dugan, J. P., & Komives, S. R. (2010). Influences on College Students' Capacities for Socially Responsible Leadership. *Journal of college student Development*, 51(5), 525-549. <https://doi.org/10.1353/csd.2010.0009>
- Fine, A. D., & van Rooij, B. (2021, Jun). Legal socialization: Understanding the obligation to obey the law [Article]. *Journal of Social Issues*, 77(2), 367-391, Article 1-25. <https://doi.org/10.1111/josi.12440>
- Salakhova, V. B., Belyakova, N. V., Knyazeva, G. L., Shneyder, L. B., Schetinina, S. Y., Albakova, Z. A. M., & Akhilgova, M. T. (2020). The Problem of Law-Abiding Behavior among Minors in Educational Institutions: Domestic and Foreign Experience. *Propósitos y Representaciones*, 8(SPE3). <https://doi.org/10.20511/pyr2020.v8nSPE3.747>

Information Scheme

Online Tutorial on Academic Integrity (OTAI)

E-learning Module

General Information

Objective	<ol style="list-style-type: none"> 1. To help students understand what academic integrity is. 2. To help students understand why academic integrity is important. 3. To give students guidelines on honest behaviour in academic, research and team work. 4. To teach students ways to reference information correctly to avoid plagiarism.
------------------	---

Requirements	<p>Students are required to:</p> <ul style="list-style-type: none"> - attempt the Pre-test; - study all five modules and complete the exercises; - obtain 75% or more in the Post-test; - sign the Honour Declaration; <p>Students must complete and pass the above requirements in order to pass the module.</p>
---------------------	---

Expected Study	- 2-hour online learning
-----------------------	--------------------------

Online Lecture Details

PRE-TEST	Time	10 minutes
	Details	Students are required to take the Pre-test of 10 multiple-choice questions to prepare themselves for OTAI. The Pre-test score does not affect the final score of OTAI.
MODULES	Time	85 minutes

	Details	<p>Students are required to learn from the five modules to enhance their understanding of academic integrity and ways to avoid dishonest behaviour and plagiarism, by reading the explanations and doing the exercises.</p> <ul style="list-style-type: none"> - The five modules include: <ul style="list-style-type: none"> ○ <i>Understanding Academic Integrity (15 mins)</i> ○ <i>Understanding Plagiarism (20 mins)</i> ○ <i>Avoiding Plagiarism (20 mins)</i> ○ <i>In-text and End-of-text Referencing (15 mins)</i> ○ <i>Generative Artificial Intelligence (GenAI) and Academic Integrity (15 mins)</i>
POST-TEST	Time	20 minutes
	Details	Students are required to take the Post-test of 20 multiple-choice questions to check their understanding of academic integrity. The pass mark for the Post-test is 75% (i.e. 15 out of 20 questions).
HONOUR DECLARATION	Time	3 minutes
	Details	After passing the Post-test, students are required to read and check each statement in the Honour Declaration and sign the Honour Declaration to receive an eCertificate for successful completion of OTAI.