City University of Hong Kong
Course Syllabus

offered by Department of Accountancy
with effect from Semester A 2022/23

Part I Course Overview

Course Title:	Accounting Information Systems and Emerging Technologies
Course Code:	AC4161
Course Duration:	1 semester
Credit Units:	3
Level:	B4
Proposed Area: *(for GE courses only)*	☐ Arts and Humanities ☐ Study of Societies, Social and Business Organisations ☐ Science and Technology
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: *(Course Code and Title)*	FB2100/CB2100 Accounting I; or CB2100 Introduction to Financial Accounting
Precursors: *(Course Code and Title)*	Nil
Equivalent Courses: *(Course Code and Title)*	Nil
Exclusive Courses: *(Course Code and Title)*	Nil

Part II Course Details

1. Abstract

This course is designed to introduce a variety of topics about the systems used by a company to process its accounting information and contemporary topics related to emerging technologies in accounting profession such as the application of "Big Data" and "Artificial Intelligence" in accounting. The course focuses on automated accounting information systems as a tool to understand and integrate processes, process activities and data, perform data analysis, and create information to facilitate managerial decision-making.

This course aims to:

1. provide students with knowledge of the nature and role of accounting information systems in a business, and with knowledge of emerging technologies in accounting profession such as "Big Data" and "Artificial Intelligence";
2. prepare students to identify internal control risk in information processing and to suggest appropriate controls;
3. develop students' ability to model business processes, create accounting information database, and analyse data for accounting issues;
4. develop students' knowledge of different business processes, including sales/collection, acquisition/payment, conversion.

2. Course Intended Learning Outcomes (CILOs)

No.	CILOs[#]	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	*A2*	*A3*
1.	Describe the basic concepts of accounting information systems and contemporary topics related to emerging technologies in accounting profession including "Big Data" and "Artificial intelligence".	10%	✓	✓	
2.	Identify internal control weaknesses in information processing and suggest appropriate controls over those weaknesses.	20%	✓	✓	
3.	Create different conceptual models based on the activities and informational needs of the various business processes in a typical firm.	30%	✓	✓	
4.	Convert a conceptual business process model into a physical implementation by using database applications like Microsoft Access.	10%	✓	✓	
5.	Explain how accounting information systems are used to support implementation of business and functional strategies.	30%	✓	✓	✓
		100%			

** If weighting is assigned to CILOs, they should add up to 100%.*

[#] Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

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 self-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.

3. Teaching and Learning Activities (TLAs)

(TLAs designed to facilitate students' achievement of the CILOs.)

TLA	Brief Description	CILO No.					Hours/ semester
		1	2	3	4	5	
Seminars	Interactive seminars focusing on the development of general knowledge, analytical skills, communication skills and modelling capabilities through the presentation of nature, the types and the implementation of accounting information system and contemporary topics relevant to emerging technologies in accounting profession such as "Big data" and "Artificial intelligence".	✓	✓	✓	✓	✓	25 hours
Computer lab exercises	Computer lab exercises focusing on information processing using Microsoft Access and data analysis using technology including Python and R.		✓		✓		2 hours
Lectures and in class cases	Lectures and associated in class cases related to identifying and controlling for internal control risks in accounting information systems.		✓			✓	1 hour
REA Modelling Cases #	Different cases in various business processes given in classes to enable students to be able to have hands-on experience on modelling and design of accounting information systems.			✓			6 hours
Access Labs	Computer lab exercises focusing on hands-on activities on Microsoft Access to convert logical relational models to physical databases, and to query data from relational database for further analytics purposes.				✓		5 hours

 # DEC TLA elements

4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.					Weighting*	Remarks
	1	2	3	4	5		
Continuous Assessment: **50%**							
Group Project # Students are divided into groups (3-5	✓	✓	✓	✓	✓	20%	

students for each group). Each group is required to explain the contemporary issues related to accounting information systems, and other emerging technologies-related topics in a written report. In addition, each group is required to make a presentation.							
<u>In-class and online cases and quizzes</u> Students are required to contribute to in-class case discussions and quizzes and are assessed on the application of lecture material to both structured and unstructured problems.	✓	✓	✓	✓	✓	10%	
<u>Mid-Term Test</u> Students are required to explain the concepts, types, and implementation of accounting information system and the knowledge related to emerging technologies. In addition, students are assessed on the details about various business cycles and REA models.	✓	✓	✓		✓	20%	
Examination: **<u>50%</u>** (duration: 3 hours) [Closed-book examination]							
<u>Final Examination</u> Students are required to understand and explain the details about the concept, the types and implementation of accounting information systems, and issues of emerging technologies-related topics. In addition, students are assessed on the details about various business cycles, basic and expanded REA models, and integrated REA model.	✓	✓	✓		✓	50%	
						100%	

** The weightings should add up to 100%.*

[#] **DEC AT element**

Students are required to pass both coursework and examination components to guarantee to pass the course. Failing either component may lead to failure in the course. The passing mark is generally 50.

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

	Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1.	**Group Project**	1.1 Ability to create UML data diagrams based on real world descriptions of business processes	High	Significant	Moderate	Basic	Not even reaching marginal levels
		1.2 Ability to create a database based on the UML diagram and sample data.	High	Significant	Moderate	Basic	Not even reaching marginal levels
		1.3 Ability to understand and explain the issues related to accounting information systems, and emerging technologies-related topics.	High	Significant	Moderate	Basic	Not even reaching marginal levels
		1.4 Ability to identify risks in the business processes and suggest appropriate controls.	High	Significant	Moderate	Basic	Not even reaching marginal levels
2.	**In-class & online cases & quizzes**	2.1 Ability to understand and explain the concepts of accounting information system and emerging technologies-related topics.	High	Significant	Moderate	Basic	Not even reaching marginal levels
3.	**Mid-term test**	3.1 Ability to create UML data diagrams based on a revenue or expenditure business process	High	Significant	Moderate	Basic	Not even reaching marginal levels
		3.2 Ability to explain various aspects of accounting information systems	High	Significant	Moderate	Basic	Not even reaching marginal levels
		3.3 Ability to explain various database concepts and UML modelling concepts	High	Significant	Moderate	Basic	Not even reaching marginal levels
		3.4 Ability to understand and explain the concept, the types and implementation of accounting information system and emerging technologies-related topics.	High	Significant	Moderate	Basic	Not even reaching marginal levels
4.	**Final Exam**	4.1 Ability to create UML data diagrams based on a production business process with advanced modelling elements.	High	Significant	Moderate	Basic	Not even reaching marginal levels
		4.2 Ability to explain the elements of risk assessment and control.	High	Significant	Moderate	Basic	Not even reaching marginal levels
		4.3 Ability to identify and correct internal control issues using technology.	High	Significant	Moderate	Basic	Not even reaching marginal levels
		4.4 Ability to understand and explain the details about the concept, the types and implementation of accounting information systems, and emerging technologies-related topics.	High	Significant	Moderate	Basic	Not even reaching marginal levels

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus

(An indication of the key topics of the course.)

Accounting information systems, emerging technologies in accounting profession, internal controls, relational database, business process, risk analysis.

2. Reading List

2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

1.	Vernon J. Richardson, C.J. Chang, and R. Smith. *Accounting Information Systems*., latest edition, McGraw Hill.
2.	Additional materials posted to Canvas

2.2 Additional Readings

(Additional references for students to learn to expand their knowledge about the subject.)

1.	Cheryl L. Dunn, J. Owen Cherrington and Anita S. Hollander, *Enterprise Information Systems*, 3rd edition, McGraw Hill.
2.	Marshall Romney and Paul Steinbart, *Accounting Information Systems*, 14th edition, Prentice Hall.
3.	Robert Hurt, *Accounting Information Systems*, 4th edition, McGraw Hill.
4.	Vernon Richardson, Katie Terrell, and Ryan Teeter. *Data Analytics for Accounting*. 1st Edition, McGraw Hill.