IS6200: BLOCKCHAIN TECHNOLOGY AND BUSINESS APPLICATIONS

Effective Term
Semester B 2024/25

Part I Course Overview

Course Title
Blockchain Technology and Business Applications

Subject Code
IS - Information Systems
Course Number
6200

Academic Unit
Information Systems (IS)

College/School
College of Business (CB)

Course Duration
One Semester

Credit Units
3

Level
P5, P6 - Postgraduate Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

The course will cover blockchain technologies, distributed ledger technology, cryptocurrencies (e.g., Bitcoin), and their applications, implementation, and security concerns. Students will learn how these systems work; analyze the security and regulation issues relating to blockchain technologies; and understand the impact of blockchain technologies on financial services and other industries.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Explain the concepts of cryptocurrency, blockchain, and distributed ledger technologies	20			
2	Analyse the application and impact of blockchain technology in the financial industry and other industries	30	x	x	
3	Evaluate security issues relating to blockchain and cryptocurrency	25	x	x	
4	Design and analyse the impact of blockchain technology in other markets	25			

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	Lecture	Students will learn the concepts, frameworks, and technologies of blockchain and cryptocurrency.	1, 3	
2	Cases studies	Students are required to analyse how blockchain technology be used in different industries and evaluate its impact on businesses.	1, 2, 3, 4	

3	Online discussion	Students will conduct an online discussion for self-reflection and sharing concepts, techniques, and methods of knowledge management among students within or after formal classes.	1, 2, 3, 4	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Participation Students should participate in class activities, such as small group discussions and presentations, self-reflection, raise and answer questions, and the like. Class participation is used to assess students' understanding of the topics and their abilities to apply the knowledge and concepts taught in class.	1, 2, 3, 4	10	
2	Individual Assignments Students will answer questions and solve problems in the area of blockchain technologies and applications.	1, 2, 3, 4	20	
3	Group Project A group project is developed to allow students to apply the concepts and tools learned in the course via hands-on experiences. A project report with two parts, project plan (10%) and project outcome (20%), will be required to illustrate the achievements of the group project that develops blockchain technologies and/or applications.	1, 2, 3, 4	30	

Continuous Assessment (%)

60

Examination (%)

40

Examination Duration (Hours)

2

Additional Information for ATs

Examination
A 2-hour exam will be given to assess the capability of the students in terms of conceptual understanding and analytical skills in blockchain-related subjects that have been covered in the course through lectures, readings, and exercises.

Note: Students must pass BOTH coursework and examination in order to get an overall pass in this course.

Assessment Rubrics (AR)

Assessment Task

AT1: Participation (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Ability to accurately analyze a given blockchain technology and business application and recommend relevant improvements with justification.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

AT2: Individual Assignments (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Capability to accurately apply a blockchain framework and a method to develop all the relevant artifacts at different modeling levels.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

AT3: Group Project (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Ability to accurately identify and assess all the relevant governance and management issues in implementing blockchain solutions to an organization.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

AT4: Examination (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Capability to analyse and propose innovative and feasible blockchain solutions by making use of emerging technologies to support an organizational information sharing strategies.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

AT1: Participation (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Ability to accurately analyze a given blockchain technology and business application and recommend relevant improvements with justification.

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

AT2: Individual Assignments (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Capability to accurately apply a blockchain framework and a method to develop all the relevant artifacts at different modeling levels.

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

AT3: Group Project (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Ability to accurately identify and assess all the relevant governance and management issues in implementing blockchain solutions to an organization.

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

AT4: Examination (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Capability to analyse and propose innovative and feasible blockchain solutions by making use of emerging technologies to support an organizational information sharing strategies.

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Basic

Failure

(F) Not even reaching marginal levels

Part III Other Information

Keyword Syllabus

Blockchain technology, data blocks, internet of money, cryptocurrency, bitcoin, decentralization, peer-to-peer network, distributed ledger, security, privacy regulation, banking, financial services, applications in businesses, new business models, entrepreneurship

Reading List

Compulsory Readings

	Title
1	Tapscott, D., & Tapscott, A. (2016). Blockchain revolution: how the technology behind bitcoin is changing money, business, and the world. Penguin.
2	Antony Lewis, The Basics of Bitcoins and Blockchains: An Introduction to Cryptocurrencies and the Technology that Powers Them (Cryptography, Crypto Trading, Digital Assets, NFT), 15 September 2018, Mango.

Additional Readings

	Title
1	Readings will be augmented by pertinent journal/newspaper/magazine articles. Additional references for students to expand their knowledge about the subject will be distributed in class.