

# DSC3003: BLOCKCHAIN

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## Effective Term

Semester A 2026/27

## Part I Course Overview

### Course Title

Blockchain

### Subject Code

DSC - Data Science

### Course Number

3003

### Academic Unit

Data Science (DS)

### College/School

College of Computing (CC)

### Course Duration

One Semester

### Credit Units

3

### Level

B1, B2, B3, B4 - Bachelor's Degree

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

Nil

### Precursors

Nil

### Equivalent Courses

SDSC3003 Blockchain

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

Blockchain technology facilitates marketplaces, digital platforms, privacy and trust without traditional intermediaries. This course provides students an elementary introduction of both technological aspect and economical aspect of Blockchain

technology, including the mechanism underlying its functioning and some of its core applications, such as cryptocurrency, smart contract, initial coin/token offering, and others.

### Course Intended Learning Outcomes (CILOs)

| CILOs |                                                                                                                    | Weighting (if app.) | DEC-A1 | DEC-A2 | DEC-A3 |
|-------|--------------------------------------------------------------------------------------------------------------------|---------------------|--------|--------|--------|
| 1     | Articulate fundamental principles of Blockchain technology, and explain specific aspects of its working mechanism. | 25                  | x      |        |        |
| 2     | Categorize important features of existing forms and/or core applications of Blockchain technology.                 | 15                  | x      | x      |        |
| 3     | Assess prevailing practices in Blockchain technology and identify approaches that improve the existing practices.  | 30                  | x      | x      |        |
| 4     | Utilize suitable principles and methods to solve given practical problems in Blockchain technology.                | 30                  | x      | x      | x      |

#### 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    | Lectures and in-class discussions | Learning through teaching is carried out primarily through in-class lectures, together with Q&As and discussions in order to implement CILOs 1-4.                     | 1, 2, 3, 4 | 39 hours per semester      |
| 2    | Tutorial and/or case studies      | Learning through tutorial and case studies targets questions that may arise from the lectures, issues in the homework assignments, analysis of the case studies, etc. | 2, 3, 4    | In or after classes        |

### Assessment Tasks / Activities (ATs)

|   | ATs                             | CILO No.   | Weighting (%) | Remarks ("- " for nil entry) | Allow Use of GenAI? |
|---|---------------------------------|------------|---------------|------------------------------|---------------------|
| 1 | Homework assignments            | 1, 2, 3, 4 | 20            | 20%-40%                      | Yes                 |
| 2 | Test (in-class exam or project) | 1, 2, 3    | 20            | 0%-20%                       | No                  |

**Continuous Assessment (%)**

40

**Examination (%)**

60

**Examination Duration (Hours)**

2

**Minimum Continuous Assessment Passing Requirement (%)**

30

**Minimum Examination Passing Requirement (%)**

30

**Additional Information for ATs**

Note: To pass the course, apart from obtaining a minimum of 40% in the overall mark, a student must also obtain a minimum mark of 30% in both continuous assessment and examination components.

**Assessment Rubrics (AR)****Assessment Task**

Homework assignments

**Criterion**

In the form of submitted written work. Ability to understand and apply common industry practices of business analytics.

**Excellent (A+, A, A-)**

High. For all 4 CILOs, strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter; evidence of extensive knowledge base.

**Good (B+, B, B-)**

Significant. For at least 3 out of 4 CILOs, evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with literature.

**Fair (C+, C, C-)**

Moderate. For at least 3 out of the 4 CILOs, evidence that student is profiting from the university experience; understanding of the subject; ability to develop solutions to simple problems in the material.

**Marginal (D)**

Basic. For at least 3 out of the 4 CILOs, sufficient familiarity with the subject matter to enable the student to progress without repeating the course.

**Failure (F)**

Not evident. Little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited, or irrelevant use of literature.

## Assessment Task

Test

### Criterion

Either in the form of in-class exam or group project with written report and presentation. Ability to learn the basic concepts, apply methods of business analytics, and design relevant studies for industry applications.

#### Excellent (A+, A, A-)

High. For all 4 CILOs, strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter; evidence of extensive knowledge base.

#### Good (B+, B, B-)

Significant. For at least 3 out of 4 CILOs, evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with literature.

#### Fair (C+, C, C-)

Moderate. For at least 3 out of the 4 CILOs, evidence that student is profiting from the university experience; understanding of the subject; ability to develop solutions to simple problems in the material.

#### Marginal (D)

Basic. For at least 3 out of the 4 CILOs, sufficient familiarity with the subject matter to enable the student to progress without repeating the course.

#### Failure (F)

Not evident. Little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited, or irrelevant use of literature.

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## Assessment Task

Examination

### Criterion

In the form of submitted written work. Ability to solve conceptual and operational questions using social media analytics.

#### Excellent (A+, A, A-)

High. For all 4 CILOs, strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter; evidence of extensive knowledge base.

#### Good (B+, B, B-)

Significant. For at least 3 out of 4 CILOs, evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with literature.

#### Fair (C+, C, C-)

Moderate. For at least 3 out of the 4 CILOs, evidence that student is profiting from the university experience; understanding of the subject; ability to develop solutions to simple problems in the material.

#### Marginal (D)

Basic. For at least 3 out of the 4 CILOs, sufficient familiarity with the subject matter to enable the student to progress without repeating the course.

#### Failure (F)

Not evident. Little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited, or irrelevant use of literature.

## Part III Other Information

### Keyword Syllabus

Distributed database, digital platform and marketplaces, cryptocurrency, smart contract, privacy and trust, initial coin offering

### Reading List

#### Compulsory Readings

| Title |                                                      |
|-------|------------------------------------------------------|
| 1     | Lecture notes and slides provided by the instructor. |

#### Additional Readings

| Title |                                                                       |
|-------|-----------------------------------------------------------------------|
| 1     | Relevant online learning material will be provided by the instructor. |