

# MS4253: BUSINESS ANALYTICS PROJECT

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## Effective Term

Semester A 2023/24

## Part I Course Overview

### Course Title

Business Analytics Project

### Subject Code

MS - Management Sciences

### Course Number

4253

### Academic Unit

Management Sciences (MS)

### College/School

College of Business (CB)

### Course Duration

One Semester

### Credit Units

3

### Level

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

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

One of the following courses:

MS3252 Regression Analysis

CB2011 Solving Business Problems with Spreadsheet Modeling

MS4212 Predictive Analytics and Forecasting

MS4224 Enterprise Data Mining

MS4226 Financial Risk Analytics

### Precursors

Nil

### Equivalent Courses

Nil

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

This course aims to

- develop students' skills in translating a real problem into a problem statement from unstructured initial ideas, identifying the key issues, defining the scope of the problem and breaking down the work into a set of tasks to be accomplished systematically;
- develop students' problem-solving skills in the business environment by providing them with techniques to break down the work into a set of tasks to be accomplished systematically;
- develop students' analytic ability to integrate and apply the knowledge and quantitative skills, in particular business analytics, statistics and business intelligence techniques, gained in the programme to solve project problems;
- develop students' ability in planning, conducting, managing and controlling their own projects;
- provide students with the opportunity to develop their skills in presenting the findings of their own project and explaining the implications of the results in a verbal presentation and written report.

### Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Translate a real problem into a problem statement from unstructured initial ideas, identify the key issues and design a research plan to solve the problems systematically.		x	x	x
2	Devise an efficient plan to collect relevant data and information for analysis, and apply appropriate business analytics, statistics and business intelligence techniques using computing software to analyze the data effectively.		x	x	x
3	Propose recommendations and solutions based on the analysis results and evaluate the results in the context of the project problem.		x	x	x
4	Present, through oral presentation and written report, the findings and recommendations of their project; and discuss the implications of the results.		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.

### Teaching and Learning Activities (TLAs)

TLAs		Brief Description	CILO No.	Hours/week (if applicable)
1	Weekly meeting with supervisor	Students have to attend weekly meeting and discuss the project with their supervisor.	1, 4	
2	Guided discovery learning	Students receive advice and suggestions from their supervisor during the weekly meeting.	1, 2, 3	
3	Designing data collection plan & conducting research	Students, under the supervision of their supervisor, design the data collection plan (either through a survey or from published resources) and conduct the analysis using appropriate statistical methods.	1, 2, 3	
4	Presentations of project's progress	Students have to present their ideas and progress of the project during the weekly meeting.	1, 2, 3, 4	

**Assessment Tasks / Activities (ATs)**

ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Project Proposal	1, 2	10
2	Project Progress	1, 2, 3	15
3	Oral Presentation	3, 4	10
4	Project Report	1, 2, 3, 4	65

**Continuous Assessment (%)**

100

**Examination (%)**

0

**Additional Information for ATs**

Students are reminded to observe the following work schedule:

**Week 5**

Submit 3 copies of the project proposal to Department's office before 5:00 pm. (Any late submission will lead to a 20% reduction in marks for this assessment task as a penalty.)

**Week 14**

Submit 2 hard copies of the final project report and 1 disk version to the Department's office before 12:00 noon. (Any late submission will lead to a 20% reduction in marks for this assessment task as a penalty)

**To Be Arranged**

Oral presentation of the project. The exact time and date will be arranged by supervisors.

## Assessment Rubrics (AR)

### Assessment Task

Project Proposal

### Criterion

Assessed by the supervisor and moderator based on the objective and significance of the proposed study, statement of problem, description of methodologies used, research steps and schedule, proposal presentation and organization.

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

Strong evidence of showing ability to define, formulate and plan the solution of the problems. Highly effective use of language and excellent presentation skills.

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

Evidence of showing ability to define, formulate and plan the solution of the problems. Effective use of language and good presentation skills.

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

Some evidence of showing ability to define, formulate and plan the solution of the problems. Adequate command of language and presentation skills.

#### Marginal (D)

Little evidence of showing ability to define, formulate and plan the solution of the problems. Inadequate command of language and little presentation skills.

#### Failure (F)

Unable to define, formulate and plan the solution of the problems. Poor use of language and presentation skills.

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### Assessment Task

Project Progress

### Criterion

Assessed by the supervisor based on the student' s ability to plan and control the project development, and also based on the student' s initiative and creativity in independent thought.

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

Strong evidence of showing ability to plan, execute, manage, control and report on the project; excellent initiative and ability to think and work independently.

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

Evidence of showing ability to plan, execute, manage, control and report on the project; good initiative and ability to think and work independently.

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

Some evidence of showing ability to plan, execute, manage, control and report on the project; sufficient initiative and ability to think and work independently.

#### Marginal (D)

Little evidence of showing ability to plan, execute, manage, control and report on the project; marginal initiative and ability to think and work independently.

#### Failure (F)

Unable to plan, execute, manage, control and report on the project; little or no initiative and ability to think and work independently.

### **Assessment Task**

Oral Presentation

#### **Criterion**

Assessed by the supervisor and moderator on the ability to verbally present and defend the results of the project.

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

Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior application of subject matter; evidence of extensive knowledge base. Highly effective use of language and excellent presentation skills.

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

Evidence of being able to apply the subject matter; evidence of critical capacity and analytic ability; reasonable understanding of issues; relevant use of literature. Effective use of language and good presentation skills.

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

Some evidence of being able to apply the subject matter; some evidence of critical capacity and analytic ability; some evidence of understanding the issues; ability to develop solutions to simple problems. Adequate command of the language and presentation skills.

#### **Marginal (D)**

Sufficient ability to apply the subject matter to enable the student to progress without repeating the project. Inadequate command of the language and little presentation skills.

#### **Failure (F)**

Little or no evidence of being able to apply the subject matter; weakness in critical and analytic skills; limited or irrelevant use of literature. Poor use of the language and presentation skills.

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### **Assessment Task**

Project Report

#### **Criterion**

Assessed by the supervisor and moderator on the presentation of results and quality of work presented in the report. Students have to demonstrate the ability to formulate the problem correctly, analyze and explore issues related to the problems using appropriate statistical techniques. They have to propose efficient solutions and/or recommendations based on the analysis and evaluate the results in the context of the project problem. The distribution of marks assigned to the different parts of the project report is listed below:

a. Management summary (5%)

Assessment based on the brief overview of the project objective, the methods used and the major findings using non-technical terms.

b. Content (25%)

Assessment based on the academic standard of the work, practical and/or theoretical significance, degree of originality and difficulty of the project.

c. Quality of Work (25%)

Assessment based on the methodology of study, rigor in data analysis and validity in conclusions drawn.

d. Report Writing (10%)

Assessment based on the clarity of concepts, organization, orderliness, style of the report and fluency of language.

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

Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior application of subject matter; evidence of extensive knowledge base. Highly effective use of language and excellent presentation skills.

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

Evidence of being able to apply the subject matter; evidence of critical capacity and analytic ability; reasonable understanding of issues; relevant use of literature. Effective use of language and good presentation skills.

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

Some evidence of being able to apply the subject matter; some evidence of critical capacity and analytic ability; some evidence of understanding the issues; ability to develop solutions to simple problems. Adequate command of the language and presentation skills.

**Marginal (D)**

Sufficient ability to apply the subject matter to enable the student to progress without repeating the project. Inadequate command of the language and little presentation skills.

**Failure (F)**

Little or no evidence of being able to apply the subject matter; weakness in critical and analytic skills; limited or irrelevant use of literature. Poor use of the language and presentation skills.

## Part III Other Information

**Keyword Syllabus**

Business analytics, statistics, business intelligence, spreadsheet models, risk management models, simulation, decision analytics, project management, proposal, report writing, presentation

**Reading List****Compulsory Readings**

Title	
1	Depend on the scope of the project

**Additional Readings**

Title	
1	Depend on the scope of the project