

IS5740: MANAGEMENT SUPPORT AND BUSINESS INTELLIGENCE SYSTEMS

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Management Support and Business Intelligence Systems

Subject Code

IS - Information Systems

Course Number

5740

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

This course aims to introduce emerging as well as popular analytical concepts and information technologies suitable for management support with business intelligence. This course aims to equip students with skills to extract information and knowledge from vast amount of data and discover actionable business insights. It emphasizes on the current issues, methodologies, practice, and emerging trends in business intelligence and analytics. Students will learn state-of-art techniques and critical skills to address existing business problems in today' s information-rich environments. Upon completing this course, students will build their analytical capabilities to use data for innovative business solutions.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Recognize the importance of business intelligence for management decision support systems beyond managing information systems.	20	x		
2	Acquire and apply analytical concepts and skills of management support and business intelligence (e.g., diagnosis of problems (what symptoms exist, why they exist, what happens if no action is taken) and/or opportunities - motivation/need, obstacles, and decisions to be made).	30	x	x	
3	Differentiate between various information technologies for management support and business intelligence that enable quantitative and non-quantitative analysis.	20	x	x	
4	Formulate and analyze the requirements for management support, and identify appropriate tools and techniques required for implementation of business intelligence systems.	10	x	x	
5	Design effective solutions to real management support and business intelligence problems.	20	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	Seminar	Students will learn the concepts and applications of business intelligence and analytics in the context of decision making and problem solving for management support. Students will conduct exercises and case studies for interactive learning in the seminars.	1, 2, 3	
2	Demonstration	Students will learn representative technologies and their application to address business problems. Students will critically analyze requirements for management support, and identify appropriate tools and techniques required.	2, 3, 4, 5	
3	Practical Exercise	Students will do practical exercises to develop hands-on skills for solving real-life business problems analytically and with appropriate technologies of management support and business intelligence.	2, 3, 4, 5	
4	Case Analysis	Students will be required to relate to the content of their own workplace or other relevant organizational environment, the relevance of the various business intelligence and management support solutions. Results will be discussed and presented to fellow students.	1, 2, 3, 4, 5	
5	In-class/online Discussion	Students will use online media such as discussion forums, weblogs, or wikis to self-reflect on their learning and share their insights with classmates.	1, 2, 3, 4, 5	

	ATs	CILO No.	Weighting (%)	Remarks ("- for nil entry)	Allow Use of GenAI?
1	Seminar, Laboratory Exercises, Participation, and in-class/online Discussion Each seminar and laboratory consists of exercises, small group discussions, or student presentations to assess students' understanding of the chosen topics and their abilities to apply their skills. It also includes online comments with which students report key learning, self-reflection, and related concepts found online.	1, 2, 3, 4	20	-	Yes
2	Individual Assignment An individual assignment which lets students analyze a business problem and develop an analytical of implemented solution.	3, 4, 5	10	-	Yes
3	Group Project A group project, which includes a project report and presentation, will be allocated to let students apply Management Support and Business Intelligence concepts and technologies to solve business problems.	1, 2, 3, 4, 5	30	-	Yes

Continuous Assessment (%)

60

Examination (%)

40

Examination Duration (Hours)

2

Minimum Continuous Assessment Passing Requirement (%)

30

Minimum Examination Passing Requirement (%)

20

Additional Information for ATs

Examination

A written examination is developed to assess student's competence level of the taught subjects.

Assessment Rubrics (AR)

Assessment Task

AT1. Seminar, Laboratory Exercises, Participation, and Online Discussion (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Ability to accurately describe key concepts of management support and business intelligence and differentiate against typical management information system; and explain the need for management support and business intelligence requirements beyond typical Management Information Systems.

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. Seminar, Laboratory Exercises, Participation, and Online Discussion (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Ability to explain how the analytics underlying management support and business intelligence generate better business information and help solve business problems.

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Ability to differentiate between various information technologies for management support and business intelligence that enable quantitative and non-quantitative analysis; and compare and contrast technology characteristics and corresponding capabilities.

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Capability to formulate and critically analyze the requirements for management support, and identify appropriate tools and techniques required for implementation of business intelligence systems.

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Assessment Task

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

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

Criterion

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

Criterion

Ability to formulate and critically analyze the requirements for management support, identify appropriate tools and techniques required for implementation of business intelligence systems, and conduct in-depth analysis.

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Ability to explain how the analytics underlying management support and business intelligence generate better business information and help solve business problems.

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Failure

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Assessment Task

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

Criterion

Ability to formulate and critically analyze the requirements for management support, identify appropriate tools and techniques required for implementation of business intelligence systems, and conduct required analysis.

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(A+, A, A-) High

Good

(B+, B) Moderate

Marginal

(B-, C+, C) Basic

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Part III Other Information**Keyword Syllabus**

- a. Introduction to Management Support and Business Intelligence Systems - managerial decision making; role of decision support systems, business analytics, data warehouses, data mining, and related machine learning technologies in decision making; developing state-of-art techniques and critical skills to address existing business problems in today' s information-rich environments.
- b. Principles of decision making and problem solving: intelligence-design-choice; decision making under uncertainty; multi-attribute decision making; optimization, satisficing; goal seeking; simulation.
- c. Data science and data mining: Data warehouses, big data analytics, data visualization, machine learning, and multidimensional databases.
- d. Non-quantitative methods and technologies for management support and business intelligence - knowledge management, neural computing, intelligent agents, and hybrid intelligent systems.

Reading List**Compulsory Readings**

Title	
1	Nil

Additional Readings

Title	
1	Foster Provost and Tom Fawcett, Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking, 1st Edition, O'Reilly, ISBN-13: 978-1449361327, ISBN-10: 1449361323
2	Kattamuri S. Sarma Predictive Modeling with SAS Enterprise Miner : Practical Solutions for Business Applications, Third Edition, Cary, NC : SAS Institute. 2017, ISBN-13: 978-1629602646, ISBN-10: 1629602647