MS5223: PROJECT MANAGEMENT

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Project Management

Subject Code
MS - Decision Analytics and Operations
Course Number
5223

Academic Unit
Decision Analytics and Operations (DAOS)

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
MS5313 Managerial Decision Modeling or MS5216 Decision Analytics

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract
This course offers a comprehensive introduction to the fundamental concepts of project management, focusing on the critical trade-offs involved in managing projects. Students will gain proficiency in the essential tools and methodologies designed to

aid project managers in various industries. Key topics covered include an overview of project management, detailed project planning, the use of computerized project management systems and generative AI tools. The curriculum also delves into project graphics, estimation, forecasting and cost control strategies. Emphasis is placed on trade-off and risk analysis with effective project planning. Through a combination of theoretical lessons, practical assignments, real-world projects, and case studies, students will develop the skills necessary to apply project management concepts and tools effectively, preparing them to handle complex projects and drive successful outcomes in their professional careers.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Make informed decisions on project portfolios by considering strategic goals, financial impacts, and resource allocation.	25		x	
2	Create comprehensive project plans that ensure timely and cost-effective completion, while upholding quality and scope, and exhibit expertise in project monitoring, risk management, and communication management.	25		x	
3	Recognize the critical role of the project management office in project success and acknowledge the need to balance both technical and socio-cultural aspects of project management.	20	x		
4	Utilize contemporary project management software, spreadsheets and generative AI tools to efficiently manage various project stages and apply them as decision support tools in project management.	30			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	Lecture	Engage in interactive lectures to understand the foundational theories and principles of project management, including strategic decision-making for project portfolios, the role of the project management office and available generative AI tools in managing different project stages. Participate in discussions on project planning methodologies, risk management, and communication management to develop a comprehensive understanding of these concepts.	1, 2, 3, 4	

2	Peer discussion	Complete practical exercises using project management software, spreadsheets to gain hands-on experience in managing different stages of a project and applying decision support tools. Work on individual and group exercises that challenge you to explore generative AI tools for creating project plans, performing risk assessments and developing cost control strategies. Analyze real-world case studies to identify best practices, common pitfalls in project management, ethical considerations in AI-powered decision-making, encouraging critical thinking and application of theoretical knowledge to practical scenarios. Prepare and present reports on case studies, demonstrating your ability to synthesize information, make informed decisions with ethical considerations and propose innovative solutions to project management challenges.	1, 2, 3, 4	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Exercises	1, 2, 4	25	-	Yes
2	Case studies and report	1, 2, 3, 4	25	-	Yes

Continuous Assessment (%)

50

Examination (%)

50

Examination Duration (Hours)

2

Minimum Continuous Assessment Passing Requirement (%)

35

Minimum Examination Passing Requirement (%)

20

Assessment Rubrics (AR)

Assessment Task

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

Criterion

The accuracy and completeness of the project plans, risk assessments, and cost control strategies produced using the software tools.

Excellent

(A+, A, A-) 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-) 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-) Student who is profiting from the university experience; understanding of the subject; ability to develop solutions to simple problems in the material.

Marginal

(D) Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.

Failure

(F) Little evidence of familiarity with the subject matter; weakness in critical and analytic skills.

Assessment Task

Case studies and report (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

The depth and insightfulness of the analysis and the innovativeness and feasibility of the proposed solutions in the report.

Excellent

(A+, A, A-) 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-) 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-) Student who is profiting from the university experience; understanding of the subject; ability to develop solutions to simple problems in the material.

Marginal

(D) Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.

Failure

(F) Little evidence of familiarity with the subject matter; weakness in critical and analytic skills.

Assessment Task

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

Criterion

The accuracy and thoroughness of the responses demonstrating understanding and application of project management concepts and methodologies.

Excellent

(A+, A, A-) 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-) 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-) Student who is profiting from the university experience; understanding of the subject; ability to develop solutions to simple problems in the material.

Marginal

(D) Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.

Failure

(F) Little evidence of familiarity with the subject matter; weakness in critical and analytic skills.

Assessment Task

Exercises (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

The accuracy and completeness of the project plans, risk assessments, and cost control strategies produced using the software tools.

Excellent

(A+, A, A-) 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) Evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with literature.

Marginal

(B-, C+, C) Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.

Failure

(F) Little evidence of familiarity with the subject matter; weakness in critical and analytic skills.

Assessment Task

Case studies and report (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

The depth and insightfulness of the analysis and the innovativeness and feasibility of the proposed solutions in the report.

Excellent

(A+, A, A-) Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter; evidence of extensive knowledge base.

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(B+, B) Evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with literature.

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(B-, C+, C) Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.

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Assessment Task

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

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The accuracy and thoroughness of the responses demonstrating understanding and application of project management concepts and methodologies.

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(B-, C+, C) Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.

Failure

(F) Little evidence of familiarity with the subject matter; weakness in critical and analytic skills.

Part III Other Information

Keyword Syllabus

An Overview of Project Management

The scope of project management. Defining project success. Defining the project manager's role; Defining the functional manager's role; Defining the Executive's role. The downside risk of project management. Classification of projects. AI-powered brainstorming and ideation tools (e.g., Microsoft Copilot, Gemini, DeepSeek, ChatGPT).

Management Issues

Organizing and stuffing for project management. Project management bottlenecks. Effective time management. Managing the conflicts. Performance measurement. R&D project management. Predicting project success. Project management effectiveness.

Communication and Collaboration

Best practices for AI-driven stakeholder communication. AI-powered email drafting and meeting assistants (e.g., Zoom AI Companion).

Project Planning and Scheduling

Project specifications. Work breakdown structure. Milestone schedules. Gantt chart. Estimating activity time. Logic diagrams/network. Total PERT/CPA planning. Total project scheduling. GenAI tools for drafting project charter, creating work breakdown structure, scheduling and resource allocation (e.g., Microsoft Copilot, ClickUp). Computerized project scheduling tool (e.g., Microsoft Project).

Budgeting and Financial Management

The operating cycle. Cost account codes. Budgets. Financial forecasting and cost estimation. Variance and earned value. Cost control problems. Tools for financial risk assessment (e.g., Quantifind).

Trade-off and Risk Analysis in Project Management

Methodology of trade-off analysis. Industry trade-off preferences. Defining risk. Risk management methodology (risk assessment, risk analysis, risk handling). AI-driven risk assessment and mitigation strategies (e.g., Gemini). Case studies on ethical considerations in AI-powered decision-making.

Agile and Scrum Project Management

Various project management frameworks (Agile, Waterfall, Scrum). Sprint planning and backlog management. Performance tracking and team productivity insights. Retrospectives and continuous improvement strategies. AI-assisted tools (e.g., ASANA AI).

Reading List

Compulsory Readings

	Title
1	Erik W. Larson, Clifford F. Gray, Project management: the managerial process, latest edition, NY: McGraw-Hill Education, New York
2	Eliyahu M. Goldratt, Critical chain: a business novel, latest edition, Routledge, New York
3	Kerzner, H., Project management: a systems approach to planning, scheduling and controlling, latest edition, John Wiley & Sons, Inc.

Additional Readings

	Title
1	Project Management Institute, http://www.pmi.org/
2	Paul Boudreau, Applying artificial intelligence to project management, latest edition, Mercury Learning and Information, Dulles, VA
3	International Journal of Project Management: https://www.sciencedirect.com/journal/international-journal-of-project-management