IS5542: GENERATIVE ARTIFICIAL INTELLIGENCE FOR BUSINESS

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Generative Artificial Intelligence for Business

Subject Code
IS - Information Systems
Course Number
5542

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 Master-level course explores the practical applications and implications of generative AI (e.g., ChatGPT, a state-of-the-art large language model) in the context of business. Students will learn how to leverage generative AI techniques to develop intelligent conversational agents, automate customer interactions, enhance decision-making processes, and drive value in various business domains. The course will cover theoretical foundations, hands-on practical exercises, and case studies to provide students with a comprehensive understanding of generative AI and its impact on business innovations.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Design the theoretical foundations and principles of generative AI and conversational agents.	30			
2	Apply the potential applications of large language models (e.g. ChatGPT) in different business domains	20	x	x	
3	Apply practical skills to design, train, and evaluate generative AI models for business applications	20	x	x	
4	Analyze and assess the ethical and legal considerations associated with generative AI in business.	10	x	x	
5	Apply generative AI techniquesto automate customer interactions and support business decision-making.	10	x	x	x
6	Critically evaluate the impact of generative AI and large language models on business strategies and customer experience.	10	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	Seminars:	Students will learn and discuss the concepts, frameworks, strategies and applications of Generative AI and conversational agents.	1, 2, 3, 4	3 hours per week

2	Case Studies:	Students will discuss and analyze the effective use of large language models (e.g., ChatGPT) in different business domain.	1, 2, 3, 4, 5	
3	Hands-on Exercises:	Students will develop the practical skills of designing, training, and evaluating generative AI models for different applications. Students will analyze and assess the ethical and legal considerations associated with generative AI in business. Students will apply generative AI techniques to automate customer interactions and support business decision-making	3, 4, 5	
4	Project	Students would have to complete a group project to demonstrate the ability on effectively use generative AI models in different business domain.	1, 2, 3, 4, 5, 6	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	AT1. Participation and Exercises Each exercise consists of impromptu quizzes, paired/ small group discussions, role-plays, self reflection, or student presentations to assess students' understanding of the chosen topics and their abilities to apply their skills.	1, 2, 3, 4, 5, 6	10	-	Yes

2	AT2. Group Project A group project, which includes a project report and/ or a presentation, will be assigned to let students apply generative AI concepts and techniques to plan, develop, and/ or evaluate the generative AI and large language models on a selected business domain.	1, 2, 3, 4, 5, 6	40	-	Yes

Continuous Assessment (%)

50

Examination (%)

50

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

Criterion

Ability to accurately describe all key generative AI concepts and conversational agents;

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

Criterion
Capability to creatively and effectively apply large language models in different business domains;

Excellent
(A+, A, A-) High

Good
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(C+, C, C-) Moderate

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(D) Basic

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(F) Not even reaching marginal levels

Assessment Task
AT1. Participation and Exercises (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
Capability to creatively and effectively design, train, and evaluate generative AI models for different business applications;

Excellent
(A+, A, A-) High

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Criterion
Ability to analyze and assess the ethical and legal considerations associated with generative AI in business;

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Assessment Task
AT1. Participation and Exercises (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
Capability to creatively and effectively apply generative AI techniques to automate customer interactions and support business decision-making;

Excellent
(A+, A, A-) High

Good
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Assessment Task
AT1. Participation and Exercises (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
Ability to critically evaluate the impact of generative AI and large language models on business strategies and customer experience

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

Criterion
Ability to accurately describe all key generative AI concepts and conversational agents;

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

Criterion
Capability to creatively and effectively apply large language models in different business domains;

Excellent
(A+, A, A-) High

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Assessment Task
AT3. Examination (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion
Ability to accurately describe all key generative AI concepts and conversational agents;

Excellent
(A+, A, A-) High

Good
(B+, B, B-) Significant

Fair
(C+, C, C-) Moderate

Marginal

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Failure
(F) Not even reaching marginal levels

Assessment Task
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Criterion
Capability to creatively and effectively apply large language models in different business domains;

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Assessment Task
AT1. Participation and Exercises (for students admitted from Semester A 2022/23 to Summer Term 2024)

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Ability to accurately describe all key generative AI concepts and conversational agents;

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Good
(B+, B) Significant

Marginal
(B-, C+, C) Basic

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(F) Not even reaching marginal levels

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Assessment Task
AT2. Group Project (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion
Ability to accurately describe all key generative AI concepts and conversational agents;

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(A+, A, A-) High

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Part III Other Information

Keyword Syllabus

Introduction to Generative AI for Business
- Overview of generative AI and its applications in business
- Definition and significance of generative AI
- Large language models and their applications in business
- Ethical and legal considerations in generative AI

Understanding large language models (e.g., ChatGPT)
- Overview of large language model architecture and capabilities
- Comparison of generative AI models and chatbot frameworks
- Sequence generation models (e.g., LSTM) and Reinforcement learning for generative AI
- Limitations and challenges of using generative AI techniques in business contexts

Designing Conversational Flows and User Experiences
- Conversational design principles and best practices
- Defining user intents and system responses

- Handling complex user queries and maintaining context

Training and Fine-tuning large language Models
- Dataset preparation and pre processing
- Model architecture design and training strategies
- Evaluation metrics for generative AI models
- Transfer learning and fine-tuning a large language model for specific business domains
- Fine-tuning and optimization techniques

Integrating large language models into Business Applications
- Deployment options for chatbots in various business platforms
- Integrating Chatbots with existing customer service systems
- Managing scalability, security, and privacy concerns

Ethical and Legal Considerations in Chatbot Deployment
- Bias fairness, and transparency in generative AI
- Intellectual property and copyright considerations
- Privacy and data protection issues
- Regulatory frameworks and guidelines

Case Studies and Industry Applications
- Generative AI in marketing and advertising
- Generative AI for product design and customization
- Generative AI l in financial modeling and forecasting
- Generative AI for personalized user experiences
- Generative AI for decision support and knowledge management

Innovation and Future Trends in Generative AI
- Emerging trends and advancements in generative AI and chatbot technology
- Implications for business innovation, customer experience, and workforce augmentation
- Ethical and societal considerations of advanced generative AI techniques

Practical Projects and Hands-on Exercises
- Implementing generative AI models using popular frameworks and libraries
- Solving business problems through generative AI projects
- Presenting and discussing project outcomes and insights
- Evaluating and optimizing system performance through real-world scenarios

Reading List

Compulsory Readings

	Title
1	Nil

Additional Readings

	Title
1	Nil