

FB6881P: ARTIFICIAL INTELLIGENCE AND BUSINESS APPLICATIONS

Effective Term

Semester A 2025/26

Part I Course Overview

Course Title

Artificial Intelligence and Business Applications

Subject Code

FB - College of Business (FB)

Course Number

6881P

Academic Unit

College of Business (CB)

College/School

College of Business (CB)

Course Duration

Non-standard Duration

Other Course Duration

4 Days

Credit Units

2

Level

P5, P6 - Postgraduate Degree

Medium of Instruction

Chinese (Putonghua)

Medium of Assessment

Chinese

Part II Course Details

Abstract

This course provides students with essential insights into the integration of artificial intelligence (AI) into business strategies. Through a comprehensive exploration of AI technologies and their practical applications, students learn to identify opportunities and challenges in leveraging AI for innovation and competitiveness. From understanding generative AI technologies like large language models, text-to-images systems, and text-to-video systems, to exploring specific applications, students gain a holistic understanding of AI's transformative potential. Through interactive sessions and case studies, students develop skills to assess market dynamics, craft strategic AI-driven initiatives, and make informed business decisions. By course completion, students are equipped to design and implement AI-powered solutions, positioning themselves as adept navigators of the evolving AI landscape in business.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Establish foundational conceptual frameworks and basic technical processes of artificial intelligence (AI), and analyze the diverse applications of AI across different industry sectors.		x		
2	Evaluate strategies for integrating AI to foster business development, selecting appropriate AI solutions based on market conditions and organizational objectives.			x	
3	Design AI-driven solutions tailored to local customer preferences, engaging in feasibility discussions to ensure practicality.			x	x
4	Engage in ethical discussions surrounding the use of AI in business applications, recognizing potential ethical implications and proposing responsible AI practices.		x		
5	Collaborate effectively with peers through discussions and group activities, demonstrating the ability to work productively as part of a team to solve complex business challenges using AI technologies.		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 participate in the sessions which cover theories, techniques, and applications for big data business innovation.	1, 2, 3, 4, 5	
2	Case Discussions	Students are required to discuss cases of AI application in business	1, 2, 3, 4, 5	

3	Independent Study	Students are required to read the materials provided before and after the seminars. These readings afford students the opportunity to contemplate AI concepts and their business practical applications.	1, 2, 3, 4, 5	
4	Group Project	Students are required to finish the class project in a small group.	1, 2, 3, 4, 5	

Assessment Tasks / Activities (ATs)

ATs		CILO No.	Weighting (%)	Remarks ("- for nil entry)	Allow Use of GenAI?
1	Performances in Class Participation	1, 2, 3, 4, 5	50	-	Yes
2	Final Group Project	1, 2, 3, 4, 5	50	-	Yes

Continuous Assessment (%)

100

Assessment Rubrics (AR)**Assessment Task**

1. Performances in Class Participation (Applicable to students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Active class attendance and engagement in discussions.

Excellent

1. Actively engages in discussions, asking insightful questions and providing valuable contributions related to AI models and their applications in business.

2. Collaborates effectively with classmates, fostering a positive and inclusive learning environment.

Good

1. Participates regularly in discussions, offering relevant insights and asking clarifying questions.

2. Collaborates well with classmates, demonstrating respect for diverse perspectives.

Fair

1. Participates sporadically in discussions, providing basic comments or questions.

2. Participates in group activities but may require encouragement to contribute actively.

Marginal

1. Rarely participates in class discussions or contributes minimally.

2. Shows little collaboration with classmates and may exhibit disinterest in course topics.

Failure

1. Consistently fails to participate in class discussions or activities.

2. Demonstrates a lack of collaboration with classmates and disrupts the learning environment.

Assessment Task

2. Final Group Project (Applicable to students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Demonstrates a deep understanding of the subject matter through collaborative analysis and clear presentation. Exhibits critical thinking and clarity in writing while demonstrating a thorough understanding of the course content.

Excellent

1. The project demonstrates a comprehensive understanding of AI models and their applications in business.
2. Implementation of advanced techniques and methodologies showcases creativity and innovation.
3. Demonstrates excellent teamwork, collaboration, and communication among group members.

Good

1. The project demonstrates a solid understanding of AI models and their applications in business.
2. Implementation of techniques and methodologies shows proficiency and application of relevant concepts.
3. Demonstrates good teamwork, collaboration, and communication among group members.

Fair

1. The project demonstrates a basic understanding of AI models and their applications in business.
2. Implementation of techniques and methodologies shows some understanding but lacks depth or creativity.
3. Demonstrates satisfactory teamwork, collaboration, and communication among group members.

Marginal

1. The project demonstrates a limited understanding of AI models and their applications in business.
2. Implementation of techniques and methodologies is rudimentary or incomplete.
3. Demonstrates marginal teamwork, collaboration, and communication among group members.

Failure

1. The project demonstrates a significant lack of understanding of AI models and their applications in business.
 2. Implementation of techniques and methodologies is absent or fundamentally flawed.
 3. Demonstrates a failure of teamwork, collaboration, and communication among group members.
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Criterion

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Assessment Task

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Part III Other Information

Keyword Syllabus

Introduction to AI and Generative AI;
 Machine Learning;
 Large Language Models;
 Positive and Negative Effects of Large Language Models;
 Prompt Engineering;
 Introduction to Retrieval-Augmented Generation;
 Introduction to Fine-Tuning;
 Evaluation Methods for Large Language Model;
 Introduction to existing Multimodal Large Language Models;
 Text-to-Image Models, Text-to-Video Models;
 Commercial Applications of Cutting-edge Models.

Reading List

Compulsory Readings

Title	
1	Cuenca, P., Passos, A., Sanseviero, O., & Whitaker, J. (2024). Hands-on generative AI with transformers and diffusion models. First edition. Sebastopol, CA: O'Reilly Media, Inc
2	Parsing, C. (2023). Speech and language processing. 3rd edition. Power Point Slides.
3	Konstantopoulos, S., Perantonis, S., Karkaletsis, V., Spyropoulos, C. D., & Vouros, G. (2010). Artificial Intelligence: Theories, Models and Applications. Lecture Notes in Computer Science, 6040.
4	Zhao, W. X., Zhou, K., Li, J., Tang, T., Wang, X., Hou, Y., ... & Wen, J. R. (2023). A survey of large language models. arXiv preprint arXiv:2303.18223.
5	Rombach, R., Blattmann, A., Lorenz, D., Esser, P., & Ommer, B. (2022). High-resolution image synthesis with latent diffusion models. In Proceedings of the IEEE/CVF conference on computer vision and pattern recognition (pp. 10684-10695).
6	Ho, J., Salimans, T., Gritsenko, A., Chan, W., Norouzi, M., & Fleet, D. J. (2022). Video diffusion models. Advances in Neural Information Processing Systems, 35, 8633-8646.
7	Ho, J., Jain, A., & Abbeel, P. (2020). Denoising diffusion probabilistic models. Advances in neural information processing systems, 33, 6840-6851.

Additional Readings

Title	
1	Gao, Y., Xiong, Y., Gao, X., Jia, K., Pan, J., Bi, Y., Dai, Y., Sun, J., Wang, M., & Wang, H. (2024). Retrieval-Augmented Generation for Large Language Models: A Survey. arXiv preprint arXiv:2312.10997 [cs.CL]. https://doi.org/10.48550/arXiv.2312.10997
2	Hu, E., Li, Y., Shen, Y., Wang, S., Wallis, P., Wang, L., Allen-Zhu, Z., Chen, W. (2021). LORA: Low-Rank Adaptation of Large Language Models. Microsoft Corporation. Retrieved from arXiv:2106.09685v2 [cs.CL] on October 16, 2021. Available at: https://arxiv.org/pdf/2106.09685

3	Ouyang, L., Wu, J., Jiang, X., Almeida, D., Wainwright, C. L., Mishkin, P., ... & Lowe, R. (2022). Training language models to follow instructions with human feedback, 2022. URL https://arxiv.org/abs/2203.02155 , 13, 1.
4	Hertz, A., Mokady, R., Tenenbaum, J., Aberman, K., Pritch, Y., & Cohen-Or, D. (2022). Prompt-to-prompt image editing with cross attention control. arXiv preprint arXiv:2208.01626.
5	Wei, J., Bosma, M., Zhao, V. Y., Guu, K., Yu, A. W., Lester, B., ... & Le, Q. V. (2021). Finetuned language models are zero-shot learners. arXiv preprint arXiv:2109.01652.
6	Hu, E. J., Shen, Y., Wallis, P., Allen-Zhu, Z., Li, Y., Wang, S., ... & Chen, W. (2021). Lora: Low-rank adaptation of large language models. arXiv preprint arXiv:2106.09685.
7	Brown, T., Mann, B., Ryder, N., Subbiah, M., Kaplan, J. D., Dhariwal, P., ... & Amodei, D. (2020). Language models are few-shot learners. Advances in neural information processing systems, 33, 1877-1901.