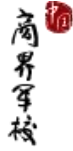




PHBS
北京大学汇丰商学院



AI and Machine Learning Models for Business Analytics

Module 1, Academic Year 2025-2026

Course Information

Instructor: Hyungsoo Lim

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Office Hour: 13:00 – 15:00 (Monday), 13:00 – 15:00 (Thursday)

Teaching Assistant:

Phone:

Email:

Classes:

Lectures: Monday and Thursday, 15:30 - 17:20

Venue: PHBS Building, Room

Course Website:

If any.

1. Course Description

1.1 Context

Recent advances in Artificial Intelligence (AI) and data analytics are redefining tasks like prediction and decision-making, once exclusive to humans. This evolution impacts various business sectors, yet systematic frameworks for evaluating AI's opportunities and challenges are lacking.

This course aims to provide a comprehensive understanding of AI's role in business. It covers technical and business aspects crucial for leadership in an AI-transformed economy. Students will learn how AI can boost efficiency, reduce bias, and add value in diverse sectors, while also addressing the challenges and solutions in AI implementation.

To achieve these goals, the course will draw on a range of recent academic research and real-world examples to develop a framework for understanding the impact of AI technologies in different contexts. By the end of the course, students will gain a profound insight into AI's potential in business transformation and acquire skills to confidently navigate this evolving field. This course is ideal students who are interested in pursuing careers in AI consulting or want to gain a deeper understanding of how AI can transform business practices. It is suitable for students with an interest in the business implications of emerging technologies. Additionally, students who are interested in innovation, entrepreneurship, and strategic thinking will find this course particularly useful, as it will provide them with the knowledge and tools they need to tackle the complex challenges of the AI-transformed economy.

Prerequisites:

1.2 Textbooks and Reading Materials

The course uses a wide variety of materials, including academic papers, practitioner articles, and business cases, to ensure a comprehensive understanding of AI in business. This mix of resources will keep students abreast of current trends, offering an updated and complete view of the subject.

Additionally, I recommend the following book that provides an overview of the frameworks discussed in this course:

- Agrawal, Ajay, Joshua Gans, and Avi Goldfarb. Prediction Machines: the Simple Economics of Artificial Intelligence. Harvard Business Press, 2018.

2. Learning Outcomes

2.1 Intended Learning Outcomes

Learning Goals	Objectives	Assessment (YES with details or NO)
1. Our graduates will be effective communicators.	1.1. Our students will produce quality business and research-oriented documents.	Yes
	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	Yes
2. Our graduates will be skilled in team work and leadership.	2.1. Students will be able to lead and participate in group for projects, discussion, and presentation.	Yes
	2.2. Students will be able to apply leadership theories and related skills.	Yes
3. Our graduates will be trained in ethics.	3.1. In a case setting, students will use appropriate techniques to analyze business problems and identify the ethical aspects, provide a solution and defend it.	Yes
	3.2. Our students will practice ethics in the duration of the program.	Yes
4. Our graduates will have a global perspective.	4.1. Students will have an international exposure.	Yes
5. Our graduates will be skilled in problem-solving and critical thinking.	5.1. Our students will have a good understanding of fundamental theories in their fields.	Yes
	5.2. Our students will be prepared to face problems in various business settings and find solutions.	Yes
	5.3. Our students will demonstrate competency in critical thinking.	Yes

2.2 Course specific objectives

Upon successful completion of the course,, students will be able to:

- Understand how AI technologies can be applied to different business contexts and industries
- Identify the opportunities and challenges associated with AI technologies
- Propose strategies to overcome challenges when implementing AI technologies
- Analyze various types of data to provide practical implications with AI technologies and ML models

2.3 Assessment/Grading Details

Class Participation	10%
Group Project	25%
Midterm Exam	30%
Final Exam	35%
Total	100%

2.4 Academic Honesty and Plagiarism

It is important for a student's effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

AI tools requirements:

Using AI tools to solely complete group projects or group projects without the approval of the course instructor will be regarded as an act of academic dishonesty. Depending on the severity of the situation, penalties will be implemented in accordance with the provisions of the Peking University Graduate Student Handbook.

For more information of plagiarism, please refer to *PHBS Student Handbook*.

3. Topics, Teaching and Assessment Schedule

A tentative course schedule is as follows:

Week	Topic
1	Course Overview and Introduction
2	Empirical Business Problems and Business Analytics
3	Measuring AI Exposure
4	Cost Advantage
5	Organizational Design and Midterm exam
6	Commercialization & Business Model Innovation
7	Regulating AI; Bias and Fairness
8	Technology Life Cycle
9	Course recap and Presentation

	Final Exam
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4. Miscellaneous

All relevant materials (e.g., lecture slides and other reference materials) will be distributed in class or uploaded to the course website.