

Module Outline

Module Code : DBA4813
Module Title : AI Strategies in Business
Class Date : From 8/8/2022 To 18/11/2022
Semester : Semester 1, Academic Year 2022/2023
Faculty : Adjunct Assistant Professor Joel Li, PhD
Department : Analytics & Operations
Email : [Click here to enter text](#)
URL : [Click here to enter text](#)
Telephone : [Click here to enter text](#)

Overview

Artificial Intelligence (AI) is becoming the new operational foundation of businesses. Technology companies such as Amazon, Microsoft, Google and Facebook have transformed their processes in order to harness data, develop structured and automated ways to analyse information and make better operational decisions.

In this module, students will learn how businesses are using AI to make better decisions, improve operational processes and enhance products/services. Topics include the fundamentals of AI, implementing cutting-edge AI algorithms, AI applications in industry, challenges of AI in the real world, and how humans and machines can work together to realize AI's full potential for business growth.

Module Objectives

This module aims to develop students' ability to understand and make better business decisions in the age of AI.

From this module, students will be able to formulate AI strategies, implement AI algorithms to extract actionable insights from data and setup successful AI pilots. They will also be able to identify AI startup opportunities and how to become valuable intermediaries between data scientists and senior management.

Assessment

Assessment Components	Weightage
(i) Tutorials/Seminars: (assessed Individually)	10%
(ii) Tests: - Mid-term Test (20%) - Final Test (20%)	40%
(iii) Class assignments	20%
(v) Group project: - Project Report 20% (assessed as a group) - Project Presentation 10% (assessed individually)	30%

Schedule and Outline

Lesson/ Week	Date	Session (lesson summary or outline / learning objectives / preparation / cases & assignments / follow-up readings & resources)
1	8 Aug 2022	Course introduction, understand how AI can help businesses make better decisions, improve operational processes, enhance products and services
2	15 Aug 2022	Learn about the basics of AI: Supervised learning, Unsupervised learning, Anomaly Detection
3	22 Aug 2022	Cutting-edge algorithms: Neural Network, Deep Learning and Reinforcement Learning algorithms
4	29 Aug 2022	Learn about applications of AI in various industries: E-commerce, Industry 4.0, Finance, Automotive, Energy, Search, Social Media, etc.
5	5 Sep 2022	Understand the issues and implications of data scarcity, algorithm biases, inaccurate data labelling, ethical issues and how to avoid their associated pitfalls
6	12 Sep 2022	Learn how jobs are going to look like in the future with AI transforming work. Understand where the partnership between humans and machines is essential in realizing the full potential of AI
7	26 Sep 2022	Mid-term Test
8	3 Oct 2022	Learn of some ways to set up and execute AI pilots that can generate significant success and value such that it serves as the first step to setting up company-wide AI strategies
9	10 Oct 2022	Learn how to sell AI solutions to stakeholders within organizations and become the intermediary between data scientists and senior management
10	17 Oct 2022	Learn how to identify new business and startup opportunities within the AI space
11	24 Oct 2022	Public Holiday
12	31 Oct 2022	Project presentation
13	7 Nov 2022	Final Test

General Guide & Reading (e.g. Case preparation guide, project report guide, main textbook & supplementary materials, etc)

<p>Illustrative Reading List:</p> <p>(a) Compulsory reading:</p>	<p>Marco Iansiti, Karim R. Lakhani, “Competing in the Age of AI: Strategy and Leadership When Algorithms and Networks Run the World”, Harvard Business Review Press, 2020</p> <p>Thomas H. Davenport, Erik Brynjolfsson, Andrew McAfee, H. James Wilson, “Artificial Intelligence: The Insights You Need from Harvard Business Review (HBR Insights)”, Harvard Business Review Press, 2019</p>
<p>(b) Supplementary reading:</p>	<p>Kai-Fu Lee, “AI SuperPowers: China, Silicon Valley, and the New World Order”, Harper Business, 1st Edition, 2018</p> <p>Christopher Bishop, “Pattern Recognition and Machine Learning”, Springer, 2011</p>

Academic Honesty & Plagiarism

Academic integrity and honesty is essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity & honesty at all times. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources.

Plagiarism is 'the practice of taking someone else's work or ideas and passing them off as one's own' (The New Oxford Dictionary of English). The University and School will not condone plagiarism. Students should adopt this rule - You have the obligation to make clear to the assessor which is your own work, and which is the work of others. Otherwise, your assessor is entitled to assume that everything being presented for assessment is being presented as entirely your own work. This is a minimum standard. In case of any doubts, you should consult your instructor.

Additional guidance is available at:

- [Administrative Policies](#)
- <http://www.nus.edu.sg/registrar/administrative-policies-procedures/acceptance-record#NUSCodeofStudentConduct>
- <http://nus.edu.sg/osa/resources/code-of-student-conduct>