Course Title: Artificial Intelligence for Everyone: From Data to Applications

Course Code: COMP1945

Course Credits: 3 Credits

Prerequisites: No

Corequisites: No

Exclusions: Any COMP courses of 3000-level or above;

COMP2211 Exploring Artificial Intelligence

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Course Description

Dive into the fascinating world of artificial intelligence (AI) with this engaging course designed for non-programmers. You will explore the history and fundamental concepts of AI while discovering its diverse applications in fields like computer vision, natural language processing, deep learning and robotics. Learn how to identify AI problems, develop solutions, and understand the ethical implications surrounding AI technologies.

Through case studies, hands-on projects, and insights from industry experts, you will gain practical knowledge and critical thinking skills. By the end of the course, you will be equipped to analyze AI's impact on society and present your own innovative AI project.

Intended Learning Outcomes (ILOs)

By the end of this course, students should be able to:

1. Describe basic AI concepts and explain how AI systems utilize data.
2. Identify current AI trends and analyze how AI is transforming various industries.
3. Use AI as a collaborative tool to enhance creativity and problem-solving skills, while developing adaptability in AI-driven environments.
4. Recognize ethical risks and potential concerns associated with AI systems, along with the fundamental principles of responsible AI.
5. Identify potential AI-related problems and propose preliminary AI solutions.

Assessment and Grading

This course will be assessed using criterion-referencing and grades will not be assigned using a curve. Detailed rubrics for each assignment are provided below, outlining the criteria used for evaluation.

Assessments:

Assessment Task	Contribution to Overall Course grade (%)	Due date
In-class Activity and Participation	10%	During class time
Assignment	18%	February, March, April*
Project report	12%	May
Project Presentation	10%	May
Final examination	50%	May

* Assessment marks for individual assessed tasks will be released within two weeks of the due date.

Mapping of Course ILOs to Assessment Tasks

Assessed Task	Mapped ILOs	Explanation
In-class Activity and Participation	ILO-1, ILO-2	In-class quizzes and participation
Assignment	ILO-1, ILO -3	Assignments consisting of short questions and hands-on exercises based on the course content.
Project report	ILO -2, ILO-3, ILO-4, ILO-5	Multiple deliverables that describe an AI-related problem in detail and propose and initial solution.
Presentation	ILO-2, ILO-3, ILO-4, ILO-5	A group oral presentation in which students present their project, identify an AI-related problem, propose initial solutions, and analyze associated ethical risks and concerns.
Final Exam	ILO-1, ILO-2, ILO-4	A final examination comprising multiple-choice, short-answer, and long-answer questions.

Grading Rubrics

In-class Activity and Participation

Criteria	Excellent (A)	Good (B)	Satisfactory (C)	Marginal (D)	Fail (F)
Lecture Participation and Attendance	Regularly attends and actively participates in all lectures.	Mostly attends and participates in lectures, with a few absences.	Attends some lectures but rarely participates.	Frequently absent and/or does not actively participate in lectures.	Rarely attends lectures, does not participate in discussions.
Understanding of Course Concepts	Demonstrates deep understanding of lecture materials.	Demonstrates good understanding of lecture materials but may struggle with some complex topics.	Demonstrate basic understanding of lecture materials but struggles with complex topics.	Struggles significantly with understanding lecture materials.	Unable to understand lecture materials.

Assignment

Criteria	Excellent (A)	Good (B)	Satisfactory (C)	Marginal (D)	Fail (F)
Understanding of Course Concepts	Demonstrates deep understanding of lecture materials.	Demonstrates good understanding of lecture materials but may struggle with some complex topics.	Demonstrate basic understanding of lecture materials but struggles with complex topics.	Struggles significantly, with understanding lecture materials.	Unable to understand lecture materials.
Ability to Apply AI tools	Successfully applies AI techniques in different contexts with very few errors.	Generally applies AI techniques correctly, with some errors.	Applies AI techniques with frequent error.	Struggles significantly with applying AI techniques correctly.	Unable to apply AI techniques correctly.

Project Report

Criteria	Excellent (A)	Good (B)	Satisfactory (C)	Marginal (D)	Fail (F)
Problem Definition & Motivation	Problem is defined with exceptional clarity, is specific, and has an appropriately scoped domain. Compellingly explains why the problem is important, its real-world impact, and its relevance to AI.	Problem is clearly defined and specific, but scope may be slightly too broad or narrow. Clearly explains the problem's importance and relevance to AI.	Problem is defined but lacks some specificity or has a scope that is too broad/narrow Describes the problem's importance but connection to AI is weak or unclear.	Problem statement is vague, overly broad, or trivial. Motivation is weak, poorly explained, or not relevant to AI.	Problem is not defined or is completely incomprehensible. No meaningful motivation or relevance is provided.
Proposed AI Solution & Technical Quality	AI methodology (e.g., model choice, algorithm) is highly appropriate, innovative, and described in clear detail. Realistic plan for data acquisition/preprocessing is provided. Proposal is highly feasible.	AI methodology is appropriate and well-described, with minor gaps in justification or detail. Data needs are identified, and plan is reasonable. Proposal is feasible.	AI methodology is somewhat appropriate, but description lacks detail or has significant gaps in reasoning. Data plan is mentioned but lacks detail. Feasibility is questionable.	AI methodology is poorly chosen or described only on a superficial level. Data plan is unrealistic or missing. Proposal is not feasible.	No coherent technical approach is presented. No consideration for data or feasibility.
Organization & Clarity	Exceptionally well-organized, logical flow, easy to follow. Includes all critical sections (Problem, Solution, Methods, etc.). Writing is clear, concise, professional, and free of grammatical errors.	Well-organized and logical. Contains all major sections. Writing is clear and has few grammatical errors.	Somewhat organized, but flow is occasionally hard to follow. May be missing a minor section. Writing is understandable but contains several errors or is occasionally unclear.	Poorly organized, difficult to follow the narrative. Missing key sections. Writing is unclear, informal, or has numerous errors that hinder comprehension.	Disorganized and incoherent. Writing is incoherent and unprofessional.

Project Presentation

Criteria	Excellent (A)	Good (B)	Satisfactory (C)	Marginal (D)	Fail (F)
Content & Organization	Problem and proposed AI solution are explained with exceptional clarity and conciseness. Presentation is perfectly paced, with a logical flow that is easy to follow and fits the time limit.	Problem and solution are explained clearly and are easy to understand. Presentation is well-paced and logical, with only minor timing issues.	Problem and solution are presented but may have moments of confusion or lack clarity. Pacing is uneven (too rushed/slow) or the flow is occasionally disjointed.	Explanation of the problem or solution is difficult to follow. Presentation is poorly structured, making it hard to follow the narrative.	Fails to clearly communicate the core problem or solution. Presentation is disorganized and incoherent.
Delivery & Communication	Speaks with enthusiasm, clear pronunciation, and varied tone. Highly engaging and professional. Slides are professional, visually supportive, uncluttered, and enhance the presentation.	Speaks clearly and audibly. Maintains audience attention effectively. Slides are clear and helpful, with minor room for improvement.	Delivery is mostly clear but may be somewhat monotone or contain filler words. Slides are acceptable but may be too text-heavy or not fully aligned with the speech.	Delivery is monotonous, too quiet, or difficult to understand. Slides are poorly designed, distracting, or contain significant errors.	Mumbles, reads directly from slides, and fails to engage the audience. No slides or slides are completely ineffective.
Team Collaboration	Seamless transitions, balanced sharing of speaking roles, and evident cohesive teamwork; presenters keep strictly within the allotted time and pace the presentation well.	Smooth transitions and fairly balanced speaking roles with good teamwork; timing is generally well controlled with only minor deviations from the allotted time.	Transitions are somewhat awkward or speaking time is noticeably unbalanced; parts of the presentation feel rushed or slightly over-time.	Uneven participation and poor coordination between speakers; significant under- or over-use of the allotted time.	One person dominates entirely, or the presentation is fragmented due to poor teamwork; serious time mismanagement.

Final Exam

Criteria	Excellent (A)	Good (B)	Satisfactory (C)	Marginal (D)	Fail (F)
Understanding of Course Concepts	Demonstrates deep understanding of lecture materials.	Demonstrates good understanding of lecture materials but may struggle with some complex topics.	Demonstrate basic understanding of lecture materials but struggles with complex topics.	Struggles significantly, with understanding lecture materials.	Unable to understand lecture materials.

Final Grade Descriptors:

Grades	Description	Elaboration on subject grading description
A	Excellent Performance	Demonstrates a comprehensive and nuanced understanding of core AI concepts, from basics to generative models. The student excels at identifying AI-related problems and proposing creative, well-justified solutions. Their project and presentations show significant insight into ethical implications and a strong ability to analyze AI's societal impact. Work consistently goes beyond requirements, showing high levels of critical thinking, collaboration, and the ability to apply AI concepts to novel contexts.
B	Good Performance	Shows a solid grasp of the main AI concepts and applications. The student is competent at defining AI problems and developing plausible solutions, demonstrating good analytical skills in their assignments and project work. They can reliably identify and discuss ethical risks and show clear engagement with the course material through quizzes, exams, and project contributions. Work meets all core requirements effectively and shows a clear understanding of how AI is transforming various industries.
C	Satisfactory Performance	Possesses adequate knowledge of the fundamental AI concepts covered in the course. The student can complete familiar problem-solving tasks, such as describing how AI uses data or identifying common applications, but may struggle with more complex analysis or ethical reasoning. Their project demonstrates a basic ability to identify an AI problem and propose a preliminary solution, but it may lack depth or originality. Overall performance meets the baseline learning goals.
D	Marginal Pass	Demonstrates a threshold, if fragmented, understanding of core AI subject matter. The student shows a basic awareness of what AI is and its common applications but has significant difficulty articulating concepts or developing solutions. Project work and exam responses are minimal, showing a limited ability to analyze issues or engage with ethical considerations. While the student has benefited from the course, their grasp of the material and skills remains below the class standard.
F	Fail	Shows an insufficient understanding of fundamental AI concepts and their societal role. The student cannot adequately describe how AI systems work, identify AI trends, or recognize basic ethical concerns. Project work and presentations fail to demonstrate a meaningful engagement with the course objectives, showing a lack of critical thinking and minimal effort. The overall performance does not meet the minimum requirements to pass the course.

Course AI Policy

All generative AI tools (such as ChatGPT, Claude, Copilot, Gemini, etc.) are permitted and recommended for assignments and projects, but they must not be used for the final exam.

Communication and Feedback

Assessment marks for individual assessed tasks will be communicated via Canvas within two weeks of submission. Feedback on assignments will include [specific details, e.g., strengths, areas for improvement]. Students who have further questions about the feedback including marks should consult the instructor within five working days after the feedback is received.

Resubmission Policy

N/A

Required Texts and Materials

N/A

Academic Integrity

Students are expected to adhere to the university's academic integrity policy. Students are expected to uphold HKUST's Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to Academic Integrity | HKUST – Academic Registry for the University's definition of plagiarism and ways to avoid cheating and plagiarism.

[Optional] Additional Resources

1   Ng, A. (2019) Machine Learning Yearning. DeepLearning.AI. Available at: https://info.deeplearning.ai/machine-learning-yearning-book.
2   Lane, H. and Dyshel, M. (2024) Natural language processing in action, Second edition. Manning Publication.
3   Bahree, A. (2024) Generative AI in action. Manning Publications.
4   Dhamani, N., Engler, M. and Massachi, S. (2024) Introduction to generative AI. Manning Publications.
5   Goswami, S., Das, A.K. and Chakrabarti, A. (2024) AI for everyone: A beginner's Handbook for Artificial Intelligence. Pearson.
6   Mueller, J.P., Massaron, L. and Diamond, S. (2025) Artificial Intelligence for dummies. Wiley.