The Hong Kong University of Science and Technology (Guangzhou)

UG Course Syllabus Template

Introduction to Artificial Intelligence

AIAA 2205

Credits: 3

Any pre-/co-requisites: UFUG 2601 (C ++ Programming), UFUG 2602 (Data Structure and Algorithm Design)

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Course Description

This course aims to provide students with an overview of Artificial Intelligence principles and techniques. Key topics include machine learning, computer vision, etc. Through this course, students will learn and practice the foundational principles, techniques and tools to tackle new AI problems.

Intended Learning Outcomes (ILOs)

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

1. Demonstrate a comprehension of advanced knowledge of Artificial Intelligence.

2. Demonstrate a comprehension of applications of Artificial Intelligence.

3. Recognize the limitations of current methods of Artificial Intelligence.

4. Apply programming and Artificial Intelligence skills.

5. Develop a broad interest in the Artificial Intelligence and connect the knowledge to their major study.

6. Communicate effectively in written format to convey scientific knowledge and the application of modern technologies.

Assessment and Grading

Grading:

Grading will be based on three assignments and 5% of your grade is assigned to attendance.

Assignments:

The goal of the assignments is to make sure that the fundamentals of AI are understood by all participants.

There are 3 homework assignments over the semester, where you will typically have three weeks' time to work on each. (credit distribution: 25%/40%/30%)

Submission will be on Kaggle and Canvas.

We will post performance cutoffs for HIGH and OK for Kaggle competitions. There will be a leaderboard for each assignment to encourage trying extra things. Submissions above OK will get full credit. Submissions above HIGH will get an extra 2% credit for each assignment.

Homework assignments are worth full credit on the due date. Unless granted an extension in advance, it is worth at most 75% credit for the next 48 hours, at most 50% credit after that. If you need an extension, please ask for it as soon as the need for it is known. Extensions that are requested promptly can be granted more liberally. You must turn in all assignments.

Each homework is an individual assignment (so you are not supposed to look at other people's code or search for similar code online).

Assessments:

[List specific assessed tasks, exams, quizzes, their weightage, and due dates; perhaps, add a summary table as below, to precede the details for each assessment.]

Assessment Task	Contribution to Overall Course grade (%)	Due date
Project 1	25%	09/10/2024
Project 2	40%	28/10/2024
Project 3	30%	20/11/2024

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

Mapping of Course ILOs to Assessment Tasks

[add to/delete table as appropriate]

Assessed Task	Mapped ILOs	Explanation
Final Exam	ILO1, ILO2, ILO3	This task assesses students' ability to Demonstrate a comprehension of advanced knowledge of Artificial Intelligence. (ILO 1), and Demonstrate a comprehension of applications of Artificial Intelligence. (ILO 2), Recognize the limitations of current methods of Artificial Intelligence. (ILO 3)
Written Assignment	ILO1, ILO2, ILO3, ILO4, ILO5, ILO6	The presentation and reflection assess students' ability to Develop a broad interest in the Artificial Intelligence and connect the knowledge to their major study. (ILO 5) and Communicate effectively in written format to convey scientific knowledge and the application of modern technologies. (ILO 6)

Grading Rubrics

[Detailed rubrics for each assignment will be provided. These rubrics clearly outline the criteria used for evaluation. Students can refer to these rubrics to understand how their work will be assessed.]

All the 3 projects are designed as competitions in Kaggle. We will post performance cutoffs for HIGH and OK for Kaggle competitions. There will be a leaderboard for each assignment to encourage trying extra things. Submissions above OK will get full credit. Submissions above HIGH will get an extra 2% credit for each assignment.

Each homework is an individual assignment.

Final Grade Descriptors:

[As appropriate to the course and aligned with university standards]

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	Demonstrates a comprehensive grasp of AI concepts, mastery in applying algorithms, and creativity in developing solutions. Shows leadership in projects, significant innovation in approaches, and exceeds course expectations.
B	Good Performance	Shows strong understanding of AI principles and ability to apply knowledge to problem-solving. Consistently completes assignments with quality and shows ability to critically evaluate AI tools and methods. Works well in teams and demonstrates consistent engagement.
C	Satisfactory Performance	Possesses adequate knowledge of AI fundamentals, demonstrates competence in solving routine problems, and meets the basic requirements. Makes an effort to understand course materials but may struggle with more advanced concepts or applications. Works adequately in collaborative settings.
D	Marginal Pass	Shows minimal understanding of core AI concepts and only meets the basic requirements. Struggles with applying algorithms and critical thinking but demonstrates some potential for improvement. Completes assignments with significant guidance.
F	Fail	Lacks understanding of basic AI concepts, fails to apply algorithms or engage with course material. Demonstrates limited critical thinking or problem-solving skills and does not meet the minimum course requirements.

Course AI Policy

[State the course policy on the use of generative artificial intelligence tools to complete assessment tasks.]

In this course, AI tools may be used to assist with learning and assignments, but students must ensure that their work reflects their own understanding and original thought. AI can be used for support, such as improving grammar or generating ideas, but not for completing entire tasks or assessments unless explicitly permitted. Any use of AI must be disclosed and cited, and improper use, such as unauthorized assistance during exams or submitting AI-generated content without attribution, will be considered a violation of

academic integrity. Ethical and responsible use of AI is encouraged to enhance learning while maintaining personal accountability.

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

[If applicable, explain the policy for resubmitting work or reassessment opportunities, including conditions and deadlines.]

Homework assignments are worth full credit on the due date. Unless granted an extension in advance, it is worth at most 75% credit for the next 48 hours, at most 50% credit after that. Extensions can be requested if there is a valid reason. Extensions that are requested promptly can be granted more liberally.

Required Texts and Materials

[List required textbooks, readings, and any other materials]

All materials will be provided by teachers with state-of-the-art AI technologies.

Academic Integrity

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

[Optional] Additional Resources

[List any additional resources, such as online platforms, library resources, etc.]