

UCUG1002 (L01) - Artificial Intelligence General Education

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Course Code: UCUG 1002

Course Title: Artificial Intelligence General Education

Course Syllabus • Fall 2026–27

Course Information	Details
Course code	UCUG 1002
Course title	Artificial Intelligence General Education
Duration	One term (13 teaching weeks)
Medium	English
Grading mode	Pass/Fail
Planned class size (per module)	60 students
Prerequisites	None; designed for non-specialist students from all disciplines
Class type	In-person course

1. Course Description

This course introduces the foundations, applications, and societal implications of artificial intelligence for non-specialist undergraduate students. It combines conceptual learning, interactive discussion, short quizzes, individual written assignments, and an interdisciplinary AI + X project. Students examine major AI paradigms—including symbolic AI, machine learning, deep learning, large language models, and AI agents—and learn to evaluate their strengths, limitations, evidence, and social impact. The course emphasizes creativity, critical thinking, responsible AI use, teamwork, and clear communication rather than advanced programming expertise.

2. Course Intended Learning Outcomes

- 1. Identify fundamental AI concepts, key historical developments, and representative techniques.
- 2. Differentiate major AI paradigms—including symbolic AI, machine learning, and deep learning—and assess their strengths and limitations.
- 3. Examine the social, ethical, and economic implications of AI, including fairness, transparency, privacy, sustainability, and governance.
- 4. Apply essential AI methods and tools to basic real-world problems and interpret the resulting outputs appropriately.
- 5. Evaluate AI applications in specific domains and reflect critically on their wider societal impact.

3. Course Structure and Weekly Schedule

The course has two connected phases. Weeks 1–8 establish a shared foundation for all students. Weeks 9–13 focus on interdisciplinary AI + X applications through instructor-guided group work using a common analytical scaffold: problem framing → data and source evaluation → AI tool use → interpretation → ethical reflection.

Week	Topic	Focus
1	Introduction to AI: History and Milestones	From symbolic AI to modern deep learning; major milestones; AI in society.
2	Data, Models, and Algorithms	Training, inference, algorithms, datasets, and basic evaluation concepts.
3	Machine Learning Basics	Supervised, unsupervised, and reinforcement learning; representative methods.
4	Deep Learning Foundations	Neural networks, CNNs, RNNs, and why deep learning became influential.
5	Knowledge Representation and Reasoning	Logic, search, rule-based systems, and comparison with data-driven approaches.
6	Learning Paradigms	Statistical and neural learning; assumptions, strengths, and limitations.
7	Large Language Models and Explainable AI	Foundations of LLMs, generative AI, agents, and explainability.

Week	Topic	Focus
8	Ethics, Fairness, and Governance	Bias, fairness, privacy, transparency, sustainability, and governance.
9-13	AI + X	AI + Life Science, AI + Psychology, AI + Society, AI + Medicine, AI + Economics

3.1 Module Delivery and Teaching Team

The course is delivered through a common foundational module followed by five interdisciplinary AI + X modules. M01 is offered in five parallel lecture sections; students then choose one of the domain modules in the second phase.

Module	Teaching focus	Section	Instructor
M01	AI Foundations	L01	Lei CHEN
M01	AI Foundations	L02	Li LIU
M01	AI Foundations	L03	Hao LIU
M01	AI Foundations	L04	Xuming HU
M01	AI Foundations	L05	Jintai CHEN
M02	AI + Life Science	L01	Jun XIA
M03	AI + Psychology	L01	Yutao YUE
M04	AI + Society	L01	Xiaofeng LIU
M05	AI + Economics	L01	Cheuk Yi Kelvin YUEN
M06	AI + Medicine	L01	Jintai CHEN

4. Teaching and Learning Approach

- Instructor-led lectures with in-class polls, think–pair–share exercises, and case discussions.

- Guided tutorials and hands-on activities focused on problem solving, source evaluation, and responsible use of AI tools.
- Interdisciplinary group work in Weeks 9–13, with common learning objectives and common rubrics across all AI + X themes.
- International readings and case studies, including global guidance on AI ethics and governance.

5. Assessment and Grading

The course uses a **Pass/Fail** grading system. Assessment is divided into two phases that mirror the course structure. The first eight weeks contribute 70% of the final score; the final five weeks contribute 30%.

Phase	Assessment	Weight	Primary focus	Mode
Weeks 1–8	Individual Assignment 1	30%	Foundational concepts, historical development, and comparison of AI paradigms.	Individual
Weeks 1–8	Individual Assignment 2	30%	Analysis of AI applications and their ethical, social, or economic implications.	Individual
Weeks 1–8	Foundation Quiz Portfolio	10%	Short in-class checks on core concepts, reasoning, and interpretation.	Individual
Weeks 9–13	AI + X Quiz Portfolio	10%	Application-focused checks on problem framing, evidence, tool use, and ethics.	Individual
Weeks 9–13	Group Project Presentation	20%	A 15-minute presentation plus 5-minute Q&A on an interdisciplinary AI + X problem.	Group*
	TOTAL	100%		

*Normally, three students per group.

5.1 Individual Assignment 1 — 30%

Students complete an individual analytical assignment on foundational AI concepts and paradigms. The task may include structured concept explanations, comparison of symbolic and data-driven approaches, and analysis of strengths and limitations.

Criterion	Weight within assignment	Standard
Conceptual accuracy	35%	Uses AI concepts correctly and explains them clearly.
Comparison and reasoning	30%	Makes well-supported distinctions among AI paradigms.
Use of examples and evidence	20%	Uses relevant examples or sources to support claims.
Clarity and organization	15%	Presents a coherent, precise, and properly referenced response.

5.2 Individual Assignment 2 — 30%

Students analyze a real-world AI application or case, interpret available evidence, and critically examine ethical and societal implications. The focus is informed evaluation rather than advanced implementation.

Criterion	Weight within assignment	Standard
Problem and context analysis	25%	Frames the application and its stakeholders appropriately.
Technical understanding	25%	Explains how the AI approach works at an appropriate level.
Evidence and interpretation	25%	Evaluates sources and draws reasoned conclusions.

Criterion	Weight within assignment	Standard
Ethical and societal reflection	20%	Addresses fairness, privacy, transparency, sustainability, or impact.
Communication and referencing	5%	Writes clearly and cites sources consistently.

5.3 Quiz Portfolios — 10% + 10%

Short quizzes will be conducted during both phases of the course. Each quiz normally takes 10–15 minutes and may include multiple-choice, short-answer, and brief scenario-based questions. The Weeks 1–8 quiz portfolio tests foundational knowledge; the Weeks 9–13 portfolio tests the ability to apply the common AI + X analytical scaffold.

Quiz criterion	Indicative emphasis
Accuracy of concepts and answers	Approximately 70%
Reasoning, application, and interpretation	Approximately 30%

5.4 Group Project Presentation — 20%

Teams of three to four students investigate an AI + X problem in a selected domain, such as education, finance, environment, materials, health, or creative practice. Each team gives a 15-minute poster presentation followed by 5 minutes of Q&A in Weeks 12–13. A concise project abstract and reference list accompany the presentation as supporting materials and are assessed within the same 20% component.

Criterion	Weight within project	What strong performance demonstrates
Problem framing and relevance	15%	A clear, meaningful, and feasible real-world question.

Criterion	Weight within project	What strong performance demonstrates
AI concepts and tool use	20%	Appropriate selection and informed use of AI ideas or tools.
Data and source evaluation	15%	Credible sources, awareness of limitations, and responsible evidence use.
Results and interpretation	15%	Reasoned interpretation without overstating what the evidence shows.
Ethical and societal reflection	15%	Thoughtful analysis of risks, stakeholders, and broader consequences.
Presentation quality	10%	Clear structure, effective visuals, and communication for a non-specialist audience.
Q&A and teamwork	10%	Balanced participation and the ability to respond thoughtfully to questions.

*Group projects receive a common team score for the shared product. The instructor may adjust an individual student's project score when there is clear evidence of substantially unequal contribution, based on documented participation and, where used, peer feedback.

6. Pass/Fail Standard

To receive a Pass: A student must (1) obtain an overall weighted score of at least 50%, and (2) demonstrate satisfactory attainment of all five Course Intended Learning Outcomes through the assessed work.

An overall score below 50% results in Fail. Because the course is outcomes-based, an overall score of 50% or above does not automatically guarantee a Pass if submitted work does not provide satisfactory evidence for one or more CILOs. Assessment rubrics and instructor feedback will be used to determine satisfactory attainment consistently across students and project themes.

7. Assessment-to-CILO Alignment

Assessment	CILO 1	CILO 2	CILO 3	CILO 4	CILO 5
Assignment 1	✓	✓			
Assignment 2		✓	✓	✓	✓
Foundation Quiz Portfolio	✓	✓	✓		
AI + X Quiz Portfolio		✓	✓	✓	✓
Group Project Presentation		✓	✓	✓	✓

8. Responsible Use of AI Tools

Because the course examines AI in practice, students may be permitted or required to use selected AI tools for designated activities. However, tool use must support—not replace—student learning and judgment. Unless an assessment gives different instructions, the following rules apply:

- Disclose the AI tools used and briefly describe how they were used.
- Verify factual claims, citations, data, and generated outputs independently.
- Do not submit fabricated sources, undisclosed generated work, or personal/confidential data to external systems.
- Students remain responsible for every claim, interpretation, and decision in submitted work.
- Follow the University’s academic integrity requirements and any assessment-specific restrictions announced by the instructor.

10. Course Communication and Administrative Notes

- Detailed assignment briefs, quiz arrangements, project themes, deadlines, and submission procedures will be announced through the canvas.
- All groups in Weeks 9–13 follow the same analytical scaffold, learning outcomes, and grading rubrics, regardless of application domain.
- Students should raise accessibility needs or learning concerns with the instructor as early as possible so appropriate support can be arranged.

Course Summary:

Date	Details	Due
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