IL141-15 The AI Revolution: Ethics, Technology, and Society

24/25

Department
Institute for Advanced Teaching and Learning
Level
Undergraduate Level 3
Module leader
Tom Ritchie
Credit value
15
Module duration
10 weeks
Assessment
100% coursework
Study location
University of Warwick main campus, Coventry

Description

Introductory description

What is AI and how will it shape your future?
Artificial Intelligence has a long history, but burst into public consciousness in late 2022 with the rise of ChatGPT and other Large Language Models (LLMs). Some perceive AI to herald the beginning of the end for humanity, others argue that the harms is already being done, as AI builds upon and bakes in social injustice and inequality. This module will explore the history of AI, what now and what next. As a 'wicked problem', AI brings uncertainty and complexity, and to understand and respond we need to apply interdisciplinary thinking which allows us to see through multiple disciplinary perspectives and ways of understanding.
Weekly podcasts with academic, industry, and technical experts will provide context and all teaching will be workshop based. You will be working collaboratively, creatively, and critically with students from other disciplines to understand and envisage the potential futures that AI might offer. Workshops will employ techniques from design thinking, systems thinking, and LEGO SERIOUS PLAY methodology.

Module web page

Module aims

This module aims to prepare students to think and act ethically in an artificially intelligent world. It invites students to consider the applications and implications of AI for individuals, cultures, societies,
and economies across the globe – now and in the possible futures that might unfold. Students will gain a grounding in the technological concepts which underpin generative AI, and explore the ethics of its algorithms, training, and development within the wider context of tech innovation. By grounding AI in theories and histories of disruptive technologies students will be equipped to understand the current cultural valences of AI, and the varied responses it evokes.
The module takes a holistic approach, and students will explore how AI intersects with disciplines across Arts, Social Science, and Science to better understand its impact on human knowledge, creativity, wellbeing, and identity. The module aims to empower students to contribute to the responsible and impactful development and deployment of AI systems, while appreciating the broader implications of AI on society and the human experience, examining what it means to be human.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

This module will outline the current state, status, and context of AI. It will explore how AI might be used for the common good, to promote and foster health, wealth, and happiness and the potentially negative impact of an AI-enabled world. We will explore how AI technologies impact and might determine the 'humanness' of humankind, and dig into the ethical, social, and political implications of AI by thinking about it's intersection with social justice. Looking at through a historical lens - we will explore not only the evolution of AI, but historical responses to technological innovation and disruption. As we imagine AI-enabled futures we ask 'where do we go from here'?

Weekly outline
Week 1: Where are we at with AI right now? We start the module with an overview of the current status, progress, challenges, and trends in the field of artificial intelligence, and offer a brief history of it's evolution. We explore current discourses and narratives, generated across mainstream and other media. We also reflect on our own understanding, assumptions, and experiences of AI to understand our collective starting point.
Week 2: Training day: how does AI work? A deeper dive into the technology behind GenAI. Using intuitive analogies we will build high-level conceptual understanding of how generative models work and how they are trained to better understand the capabilities, limitations, and responsible development of generative AI technologies.
Week 3: AI for good: health, wealth, and universal human happiness? We consider the benefits of AI, and its potential to create positive and transformative impact upon various sectors, disciplines, fields, movements, and communities. Case studies may include the use of AI in medical and scientific research, across business, industry, the environment, education, and the creative arts.
Week 4: What could possibly go wrong? AI dystopias. The flip-side of week 3, we will explore how AI might contribute to global inequality, curtail our privacy and freedom, endanger our mental health and wellbeing, and threaten peace and social order.
Week 5: Why are robots always white? AI and social justice. This week we look in more detail about how AI contributes to existing social hierarchies, injustice, and inequity. We look the ethical

implications and issues which arise from AI development and deployment, and ask how GenAI can mitigate against bias, and/or be a site of activism to create change.
Week 6: Do androids dream of electric sheep? What does it mean to be human? This week we will think about the 'intelligence', authenticity, person-hood, and the future of human/robot interaction and collaboration and how we might work, learn, and create together.
Week 7: Technology panics: a history of fear and loathing? This week we situate GenAI within the broader historical and cultural context of technological innovation. Using case studies we will analyse current responses to GenAI through a number of theoretical and historical lenses.
Week 8: Disruptors, innovators, and the tricky business of paradigm shift. As we near the end of the module, we will turn our attention to the future. We start by looking back, exploring ideas, technologies, and inventions that changed the world, and predict what existing paradigms, policies, and practices might be subject to future change.
Week 9: Spoiler alert: the art and science of futurology. This week offers a guide to the field of future studies. We introduce the theoretical underpinnings including systems thinking, scenario planning, and normative forecasting, and explore how knowledge is created within this discipline - looking at research approaches and outputs.
Week 10: Where do we go from here? The final week applies futurology approaches to GenAI. We will look at visioning and backcasting - envisioning desirable future states and working backwards to identify the steps and changes required to achieve those visions, scenario narratives, and speculative fiction.

Learning outcomes

By the end of the module, students should be able to:

- investigate the key drivers of AI development and application across a diverse range of fields and human-machine activity by drawing upon the current research literature;
- discuss the ethical dimensions of AI development, current, probable, and possible future uses in relation to UN Sustainable Development Goals at local, national, and global levels.
- use appropriate interdisciplinary methodologies to identify, deconstruct, and formulate, evaluate, and apply evidence-based arguments to explore possible solutions to global ‘wicked problems’ where AI plays a role;
- use data ethically, innovatively, and collaboratively to create speculative futures grounded in a critical understanding of the contemporary AI landscape predicting the potential impacts of changing epistemologies, ideologies and/or moralities;
- reliably communicate complex concepts, principles, and ideas with accuracy and clarity, using creative methods to promote understanding across diverse audiences.

Indicative reading list

Boddington, P. (2023) AI ethics. Singapore: Springer.
Cave, S., Dihal, K., and Dillon, S. (2020) AI narratives: a history of imaginative thinking about intelligent machines, Oxford: Oxford University Press.
Benjamin, R. (2019) Race after technology: abolitionist tools for the new Jim Code. Medford, MS: Polity.
Bostrom, N. (2014) Superintelligence: Paths, Dangers, Strategies. Oxford University Press.
Butler, P. (2021) Critical black futures: speculative theories and explorations. London: Palgrave

Macmillan.
Coeckelbergh, M. (2022) The political philosophy of AI: an introduction. Cambridge: Polity.
Corrigan, C., Asakipaam, S.A., Kponyo, J. and Luetge, C. (eds.) (2023) AI ethics in higher education:
insights from Africa and beyond. Springer.
Crawford, K. (2021) Atlas of AI: power, politics, and the planetary costs of Artificial Intelligence. New
Haven, CT: Yale University Press.
Dainton, B., Slocombe, W. and Tanyi, A. (2021) Minding the future: artificial intelligence, philosophical visions and science fiction. Springer.
Dubber, Markus D.; Pasquale, Frank; Das, Sunit (eds.). The Oxford Handbook of Ethics of AI. Oxford: Oxford University Press.
Heffernan, T. (2019) Cyborg Futures: cross-disciplinary perspectives on artificial intelligence and robotics. Springer.
Kemp. S. (2021) Futures. Oxford: Oxford University Press.
Kurzweil, R. (2023) The Singularity is Nearer. London: Viking.
Lee, K-F., and Qiufan, C. (2021) AI 2041: ten visions for our future. London: Penguin.
Noble, S.U. (2018) Algorithms of oppression: how search engines reinforce racism. New York: New York University Press.
Taylor, T., Dorin, A. (2020) Rise of the self-replicators: early visions of machines, AI and robots that can reproduce and evolve. Springer.

Research element

The course is exploratory, and so every aspect is grounded in inquiry - both individual and collaborative. It will require curiosity, criticality, systematic evidence-gathering and evaluation of evidence, and critical interrogation of both what we know and how we come to know. In this respect the course engages students in the behaviours, attitudes, and skills of research. Assessment involves knowledge creation, and the speculative element of assessment sees students create original responses.

Interdisciplinary

The course considers the 'wicked problem' of envisaging an AI-enabled world. Students will work in multi-disciplinary groups to create interdisciplinary perspectives and solutions. Each weekly topic will offer a range of disciplinary and interdisciplinary perspectives and ideas, and in the weekly workshop students will synthesise this knowledge to create new understanding.

International

Examples, materials, readings, and scenarios will reflect a global perspective, and how the implications of AI will be experienced in a variety of international contexts.

Subject specific skills

Apply interdisciplinary approaches to wicked problems.

Synthesise different understanding, skills, and ways of knowing from a range of disciplines to create new perspectives and new solutions to known and partially known problems and opportunities.
Technical, ethical, and historical understanding of the field of Artificial Intelligence.

Transferable skills

Collaboration
Complex problem solving
Creative thinking
Critical reflection
Critical thinking
Dealing with uncertainty
Design thinking
Ethical reasoning
Integrative systems thinking
Speculative thinking
Team work

Study

Teaching split

Provider	Weighting
Academic Development Centre	50%
Chemistry	50%

Study time

Type	Required	Optional
Seminars	10 sessions of 2 hours (13%)	
Tutorials	(0%)	2 sessions of 45 minutes
Project supervision	2 sessions of 30 minutes (1%)	
Online learning (independent)	10 sessions of 3 hours (20%)	
Other activity	10 hours (7%)	
Assessment	89 hours (59%)	
Total	150 hours	

Private study description

No private study requirements defined for this module.

Other activity description

Experimentation with an variety of AI tools which will be used to develop and present the weekly 'reflections' on module content.

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group A

	Weighting	Study time	Eligible for self-certification
Weekly reflection - AI generated artefact	10%	10 hours	Yes (waive)

Each week you will submit an artefact (created using AI) which captures and expresses your thoughts and reflections on the weeks study materials/module content. This will enable you and the course leaders to prepare for the workshops, will provide structured opportunities (including guidance) to experiment with a wide variety of AI tools, and explore different ways to communicate complex ideas to a range of audiences.

By practicing with a range of AIs you will be better equipped to choose the format for your final assessment.

Policy brief - AI for Sustainable Development.	25%	24 hours	Yes (extension)

You will write a briefing paper addressing how AI can further a UN Sustainable Development Goal by 2030. (You can choose which goal you focus on.)
It should anticipate and evaluate potential human and ecological impact of that AI at local, national, and global level.

Speculative scenario building: AI futures	65%	55 hours	Yes (extension)

You will create a plausible scenario for a future AI-enabled world (2040) relative to UN Sustainable Development Goals and communicate this to a lay audience. You will need to integrate:

- Explanation how this context has evolved analysing the key drivers progress grounded in the evidence-base that we currently have.
- Commentary on the technological, ethical, social, political, and economic factors which

	Weighting	Study time	Eligible for self-certification

influenced the evolution of this scenario (hastened or slowed, barriers and enablers).
- Playing emergence: responding to changing epistemologies, ideologies, and moralities by mapping possible changes and changes to the imagined system.

Feedback on assessment

Audio or written feedback will be given to students on every weekly reflection artefact - this will engage with their own individual encounter with the course materials and the effectiveness and quality of the artefact. The aim of these weekly feedbacks will be to prompt critical and creative thinking in preparation for the workshop, and to build skill and confidence across a range of AI tools and apps. Peer feedback will also be facilitated and encouraged.

The policy brief and the speculative scenario building assignment will receive written feedback. Students will have an opportunity to discuss this further in a 45 minute one-to-one tutorials as requested.

Formative feedback on thinking and ideas which will be integrated into summative work will be provided in the weekly workshops. In addition groups will have an opportunity to have tutorials to discuss with module leaders the ideas that they are developing together.

Availability

There is currently no information about the courses for which this module is core or optional.