INTERNATIONAL QUALIFICATIONS

AND ASSESSMENT CENTRE (IQAC)

«Approved»

2025 y. «____» _____

Programme	**LEVEL 5 EXTENDED DIPLOMA IN ARTIFICIAL INTELLIGENCE**		
Unit Number/ Unit Title	UNIT 12 RESPONSIBLE AI & ETHICS		
Cohort Code:	L05RAE-U12		
Unit Level	5		
Total GLH	Total qualification time 200/ Total Guided learning hours 90/ Self-guided learning hours 110		
Credits	20 CATS/ 10 ECTS		
Lecturer			
Start Date		**End Date**	

Unit Aims	To explore the ethical implications of AI technologies and promote the development of responsible AI systems that adhere to ethical guidelines. Students will delve into the social and ethical consequences of AI, including issues of bias, fairness, and transparency. The unit will cover frameworks for ethical AI development, enabling students to design and deploy AI systems that align with ethical principles and guidelines, and promote responsible AI practices in various domains.
Differentiation Strategies *(e.g. planned activities or support for individual learners according to their needs)*	The total number of students to be in the lesson is approximately 20. This is a multicultural group of students predominantly between the ages of 24 – 45, with numerous ethnic, gender, and creed background. These are UK academic level 5 students; hence it is assumed that they have practical, theoretical, or technological knowledge and understanding of a subject or field of work to find ways forward in broadly defined, complex contexts. These students must be able to generate information, evaluate, synthesise the use information

	from a variety of sources. Various approaches to addressing the various identified students needs will be adopted throughout the lesson. Such will include:- 1. Progressive tasks 2. Digital resources 3. Verbal support 4. Variable outcomes 5. Collaborative learning 6. Ongoing assessment 7. Flexible-pace learning
Equality & Diversity	Variety of teaching techniques will be employed to ensure that the needs of each individual learner are met.
Safeguarding & Prevent	Safeguarding policies and the Prevent duty are strictly observed to ensure the safety, well-being, and inclusivity of all students and staff.
Health & Safety	SIRM H&S policies will be maintained.
Learning Resources	**Teaching and Learning Materials** • "AI Ethics" by Mark Coeckelbergh • "Ethics of Artificial Intelligence and Robotics" edited by Vincent C. Müller • "Human Compatible: Artificial Intelligence and the Problem of Control" by Stuart Russell • "Weapons of Math Destruction" by Cathy O'Neil • "The Ethical Algorithm: The Science of Socially Aware Algorithm Design" by Michael Kearns and Aaron Roth.

Learning Outcome	Assessment Criteria
LO1. 1. Understand the ethical issues in AI.	1.1 : Identify key ethical concerns related to AI, including privacy, bias, and transparency. 1.2 : Discuss the impact of AI on society and individual rights. 1.3 : Explain the principles of ethical AI development.
LO2. 2. Promote fairness and transparency in AI.	2.1 : Develop strategies to identify and mitigate bias in AI systems. 2.2 : Implement techniques to enhance the transparency of AI models. 2.3 : Evaluate the fairness of AI algorithms and their outcomes.
LO3. 3. Ensure accountability in AI development.	3.1 : Develop guidelines for the ethical use of AI technologies. 3.2 : Implement accountability measures for AI systems and their developers. 3.1 : Create mechanisms for auditing and monitoring AI systems.
LO4. 4. Address the societal impact of AI.	4.1 : Analyze the impact of AI on employment and the economy. 4.2 : Evaluate the potential for AI to reinforce or mitigate social inequalities. 4.3 : Develop policies to ensure the equitable distribution of AI benefits.
LO5. 5. Foster ethical AI research and development	5.1 : Promote interdisciplinary research on the ethical implications of AI. 5.2 : Encourage the development of AI technologies that align with human values. 5.3 : Advocate for ethical standards and regulations in the AI industry.
LO6. 6. Educate and engage stakeholders in ethical AI.	6.1 : Raise awareness about the ethical challenges of AI among various stakeholders. 6.2 : Engage with policymakers to develop ethical AI frameworks. 6.3 : Foster public discourse on the responsible use of AI technologies.

No	Learning Outcome / Topic	Learning and Teaching Activities	Which assessment criteria does the session relate to?	Day/month/year/ signature
1.	**Introduction to AI Ethics**	**Introduction to AI Ethics** Key concerns: Bias, privacy, transparency, accountability	LO1: Ethical Issues in AI	
2.	**AI and Privacy**	**AI and Privacy** Data collection, surveillance, GDPR, and consent	LO1: Ethical Issues in AI	
3.	**Algorithmic Bias**	**Algorithmic Bias** Types of bias (data, model, societal), real-world case studies	LO1: Ethical Issues in AI	
4.	**AI and Human Rights**	**AI and Human Rights** Impact on freedom, autonomy, and discrimination	LO1: Ethical Issues in AI	
5.	**Principles of Ethical AI**	**Principles of Ethical AI** Fairness, accountability, transparency (FAT), AI ethics frameworks	LO1: Ethical Issues in AI	
6.	**Detecting Bias in AI Systems**	**Detecting Bias in AI Systems** Statistical fairness metrics (demographic parity, equal opportunity)	LO2: Fairness & Transparency in AI	
7.	**Mitigating Bias**	**Mitigating Bias** Pre-processing (reweighting), in-processing (adversarial debiasing), post-processing	LO2: Fairness & Transparency in AI	
8.	Half-Term Exam	- Review of LO1 topics - Practice questions and mock assessment - **Half-term assessment** based on LO1 (theory)	LO1 LO2	
9.	**Explainable AI (XAI)**	**Explainable AI (XAI)** SHAP, LIME, attention mechanisms for model interpretability	LO2: Fairness & Transparency in AI	
10.	**Transparency in AI Development**	**Transparency in AI Development** Model cards, datasheets for datasets	LO2: Fairness & Transparency in AI	

11.	**Auditing AI Systems**	**Auditing AI Systems** Algorithmic impact assessments, third-party audits	LO2: Fairness & Transparency in AI	
12.	**Ethical AI Guidelines**	**Ethical AI Guidelines** IEEE, EU AI Act, OECD principles	LO3: Accountability in AI	
13.	**Responsible AI Development**	**Responsible AI Development** Best practices for AI teams (diverse stakeholders, ethical review boards)	LO3: Accountability in AI	
14.	Final Exam Preparation & Review	- Comprehensive review of all learning outcomes - Practice questions and revision of key topics		
15.	Final Exam	- **Final-term assessment** covering all learning outcomes (theory and practical elements)		
16.	Feedback & Reflection	- Review of final exam - Individual feedback on performance - Reflective discussion on key learning points		
17.	**AI Accountability Frameworks**	**AI Accountability Frameworks** Liability laws, human oversight, redress mechanisms	LO3: Accountability in AI	
18.	**AI Auditing & Monitoring**	**AI Auditing & Monitoring** Continuous evaluation, logging, bias detection in production **Case Study: AI Failures** Microsoft Tay, biased hiring algorithms, predictive policing	LO3: Accountability in AI	
19.	**AI and the Future of Work**	**AI and the Future of Work** Automation vs. augmentation, job displacement, reskilling	LO4: Societal Impact of AI	
20.	**AI and Economic Inequality**	**AI and Economic Inequality** Digital divide, access to AI benefits	LO4: Societal Impact of AI	
21.	**AI in Social Systems**	**AI in Social Systems** Criminal justice, healthcare, education (reinforcing vs. reducing bias)	LO4: Societal Impact of AI	
22.	**Policy for Equitable AI**	**Policy for Equitable AI** Universal basic income (UBI), AI taxation, public-private partnerships	LO4: Societal Impact of AI	
23.	Half-Term Exam	Project work		

24.	**Interdisciplinary AI Ethics Research**	**Interdisciplinary AI Ethics Research** Collaboration between technologists, ethicists, and policymakers	LO5: Ethical AI Research & Development	
25.	**Value-Aligned AI Design**	**Value-Aligned AI Design** Human-centered AI, participatory design	LO5: Ethical AI Research & Development	
26.	**AI Regulations & Standards**	**AI Regulations & Standards** GDPR, AI Act, NIST AI Risk Management Framework	LO5: Ethical AI Research & Development	
27.	**Public Awareness & AI Literacy**	**Public Awareness & AI Literacy** Media literacy, AI explainability for non-technical audiences	LO6: Stakeholder Engagement & Education	
28.	**Capstone Project: Ethical AI Proposal**	**Capstone Project: Ethical AI Proposal** Develop a policy or technical solution for an AI ethics challenge	LO6: Stakeholder Engagement & Education	
29.	Final Exam Preparation & Review	LO1, LO2, LO3, LO4, LO5, LO6	LO1, LO2, LO3, LO4, LO5, LO6	
30.	Final Exam		LO1, LO2, LO3, LO4, LO5, LO6	