

TEACHING PLAN MARCH 2026 SEMESTER

COURSE : **ARCH 2360 – Artificial Intelligence in the Built Environment**

LECTURER : **Ts. IDRIS TAIB**

TEXT : This course introduces students to the foundations, applications, and implications of Artificial Intelligence (AI) in the built environment. The course explores how generative AI, data-driven tools, predictive technologies, and immersive platforms are transforming architectural concept development, planning, sustainability, and communication.

Course Learning Outcome

CLO1	Analyze the concepts, opportunities, and implications of Artificial Intelligence in architecture and the built environment
CLO2	Apply fundamental AI-based tools and techniques to address simple architectural or planning problems
CLO3	Produce and present AI-assisted architectural concepts using appropriate digital and visual communication techniques

COURSE ARC (Big Picture)

Phase	Theme	Slides
Foundation	Awareness & Thinking	1–2
Engagement	Generation & Interaction	3–4
Application	Practice & Systems	5–8
Reflection	Ethics & Judgement	9–12
Synthesis	Integration & Identity	13–14



**KUALA LUMPUR UNIVERSITY
OF SCIENCE AND TECHNOLOGY**
(formerly known as Infrastructure University Kuala Lumpur, IUKL)

FACULTY of ARCHITECTURE & BUILT ENVIRONMENT

Weekly Teaching Plan:

Week & Date	Topic / Lecture / Tutorial / Visit / Field Works	Assignment %	Remarks (eg submission dates etc.)
W1 27/04/26 (TUE)	AI Awareness & Personalisation AI in Built Environment• AI as tool vs thinking partner• Personalised interaction AI Systems, Models & Knowledge Types of AI• AI models (LLM, multimodal)• DIKW & KM in AIoT	Assignment 1 Briefing (10%) AI Exploration Log / Test	CLO1 – Lecture and guided discussion; live demo and in-class activity exploring AI engagement differences CLO1 – Lecture with diagrams; case discussion and reflective questioning on AI systems and knowledge structure
W1 01/05/26 (FRI)	Public Holiday - LABOUR DAY	—	
W2 05/05/26 (TUE)	Generative AI in Design Generative tools• Prompting & iteration• CTA preview	—	CLO1, CLO2 – Lecture and live demo; studio-based activity applying AI for concept generation and iterative exploration
W2 08/05/28 (FRI)	AI in Building Performance Performance metrics• AI analysis• Simulation vs reality	Assignment 1 Submission (10%)	CLO1, CLO2 – Lecture and case study; performance evaluation and interpretation exercise linking data to design decisions



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W3 12/05/26 (TUE)	AI in Construction & Robotics. Automation• Site monitoring• Safety systems	Assignment 2 Briefing (20%) AI Workflow Exercise	CLO1, CLO2 – Lecture and case discussion on AI applications in construction and execution workflows
W3 15/05/26 (FRI)	AI in Urban Systems & Smart Cities. Planning analytics• Smart cities• Sustainability	—	CLO1, CLO2 – Lecture and group discussion analysing AI applications at urban scale
W4 (TUE)	BIM, Digital Twins & Data Systems. AI in BIM• Digital twins	—	CLO1, CLO2 – Lecture and demonstration; discussion on data-driven building systems
W4 (FRI)	AI Tools & Platforms (Lab). Tool exploration• Workflow building	Assignment 2 Submission (20%)	CLO2 – Guided lab session; hands-on development of AI workflows for architectural tasks
W5 (TUE)	CTA: Multi-Agent Thinking Framework. Triangulation• Multi-perspective reasoning	Assignment 3 Briefing (30%)	CLO1, CLO2 – Lecture and guided comparison exercise; applying multi-perspective thinking to refine decisions
W5 (FRI)	Ethics, Bias & Professional Responsibility. Bias• Authorship• AI dependency	—	CLO1 – Lecture, case study, and structured discussion on ethical implications of AI in practice
W6 (TUE)	Future Trends & Sustainability. Regenerative design• Climate-responsive AI	—	CLO1 – Lecture and seminar discussion on future roles of AI in architecture



	Topic / Lecture / Tutorial / Visit / Field Works	Assignment %	Remarks (eg submission dates etc.)
W6 (FRI)	CTA Presentation (Assignment 3) AI comparison presentation	Assignment 3 Submission (30%)	CLO2, CLO3 – Student presentations demonstrating AI outputs, comparison, and communication of design reasoning
W7 (TUE)	Consultation (Shadow Studio) Project progress	Final Assessment Briefing (40%) AI-Assisted Proposal + Reflection	CLO2, CLO3 – Studio consultation and feedback supporting final design development
W7 (FRI)	Final Consultation (Shadow Studio) Project refinement		CLO2, CLO3 – Studio consultation and feedback supporting final design development
W8	Exam Break		
W9-10	Examination Week Final Presentation & Reflection Final proposal• Reflection	Final Assessment Submission (40%)	CLO3 – Final presentation and reflective discussion evaluating design outcome and communication quality

Main references supporting the course:

1. Artificial Intelligence and Architecture by S. Chaillou et al. (2025) – A recent book dealing with AI in architecture through lenses of history, practice and theory.
2. Artificial Intelligent Architecture (ORO Editions, 2023) – Collection of work from architects/designers exploring AI in architecture, including interviews.

3. Artificial Intelligence: A Modern Approach by Stuart J. Russell & Peter Norvig – Classic AI text (not architecture-specific) but valuable for foundational concepts.
4. Artificial Intelligence: A Guide for Thinking Humans by Melanie Mitchell (2019) – Accessible overview of AI, good for bridging theory and critical thinking.
5. Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence by Kate Crawford (2021) – Focuses on the ethics, labour and societal impacts of AI (very relevant for architecture & built environment ethics).

Additional references supporting the course:

1. How AI Think

LINK TO ACADEMIC CANVAS

<https://sites.google.com/view/ai-in-built-environment>

LINK TO RESOURCES FOLDER:

<https://drive.google.com/drive/folders/1IXAcmg4RwbaCr9IxDympssdQXZKaMNFq?usp=sharing>