

Syllabus

Course description

Course title	Designing with Artificial Intelligence - from Theory to practice
Course code	TBA
Scientific sector	ICAR – 08
Semester	2
Academic Year	2024-2025
Credits	3
Day and time of the lectures	Wednesday from 5 p.m.
Place or/and online	Bolzano/Bozen
Total lecturing hours	18
Level (bachelor, master, for everybody)	Everybody
Attendance	Non-compulsory but highly recommended

Specific educational objectives	<p><i>This course aims to bridge the conceptual gap between design and the innovative possibilities offered by AI technologies. Over 18 hours, divided into nine sessions, students will gain both theoretical knowledge and practical skills, allowing them to incorporate AI into the design process - from the initial concept to the creation of tangible prototypes.</i></p> <p>The course will start by understanding the theoretical aspect of artificial intelligence, understanding how it works, its origins, and the magnitude of power in design. Later in the course, students will learn how to use some tools, from 2d presentations, plans, elevations, prompting, and final 3d full design proposals.</p>
--	--

Lecturer	<p>Mustapha El Moussaoui e-mail Mustapha.ElMoussaoui@unibz.it</p> <p>Webpage https://www.unibz.it/de/faculties/design-art/academic-staff/person/46595-mustapha-el-moussaoui</p>
Scientific sector of the lecturer	
Teaching language	<i>English</i>
List of topics covered	<ul style="list-style-type: none"> - <i>AI in History – AI winters</i> - <i>Current trends in design</i> - <i>Design pedagogy where to?</i> - <i>Philosophy and AI – the necessity</i> - <i>Prompting</i> - <i>2d representation of ideas</i>

	<ul style="list-style-type: none"> - <i>Grasshopper + AI</i> - <i>3d representation</i> - <i>Prototyping</i> <p><i>These topics provide an expansive view of AI development in architecture, and design in general.</i></p>
Teaching format	<i>Frontal lectures, exercises, projects</i>
Learning outcomes	<p><i>The learning outcomes</i></p> <p><i>Knowledge and understanding</i></p> <ul style="list-style-type: none"> - <i>Having acquired the basic knowledge necessary to understand the how ai works, and how to implement AI in design</i> - <i>AI used not to be passive users, but active users, and using our freed time for something beneficial</i> <p><i>Applying knowledge and understanding</i></p> <ul style="list-style-type: none"> - <i>Applying acquired knowledge in all fields of sciences, that would help us understand how to be able to promote for a better future after understanding some problems we are facing and will face</i> - <i>Be able to understand the magnitude of power ai brings with</i> <p><i>Making judegments</i></p> <ul style="list-style-type: none"> - <i>Be able to make independent judgement of current situations while being critical on our contemporary aspects..</i> <p><i>Communication skills</i></p> <ul style="list-style-type: none"> - <i>Be able to present realized projects in the form of a drawing, writings, and maps.</i> <p><i>Learning skills</i></p> <ul style="list-style-type: none"> - <i>Developing skills to design with AI.</i>
Assessment	<i>Projects done in-class and design competitions</i>
Assessment language	<i>English</i>
Evaluation criteria and criteria for awarding marks	<p><i>Evaluation criteria will be according to the following:</i></p> <ul style="list-style-type: none"> - <i>Being able to use the skills acquired properly</i> - <i>Communicating the concept of choice into a drawings</i> - <i>Neatness and presentation</i>

	<p><i>The final assessment is according to the following criteria:</i></p> <ul style="list-style-type: none"> - <i>Participation and curiosity in the theoretical: 10% of final mark</i> - <i>Semester exercises assignments: 50%</i> - <i>Final exam: 40% of final mark</i>
<p>Required readings</p>	<p><i>Machine Hallucinations: Architecture and Artificial Intelligence – Mattias Del Campo</i></p> <p><i>Architecture in the Age of Artificial Intelligence: An Introduction to AI for Architects - Neil Leach</i></p> <p><i>Architectural Practice Process and Artificial Intelligence - A Review Article on an Evolving Practice – Mustapha El Moussaoui</i></p> <p><i>Architectural Pedagogy in the Age of AI - The Transformation of a Domain European Association for Architectural Education (EAAE) Springer Nature – Mustapha El Moussaoui</i></p> <p><i>Artificial Intelligence and the City: Urbanistic Perspectives on AI - Federico Cugurullo (Curatore) Federico Caprotti (Curatore)</i></p> <p><i>Neural Architecture: Design And Artificial Intelligence - Matias del Campo</i></p> <p><i>Artificial Intelligence and Architecture: From Research to Practice 2022 - Stanislas Chaillou</i></p>
<p>Supplementary readings</p>	<p><i>Artificial Intelligent Architecture: New Paradigms in Architectural Practice and Production di Frank Jacobus (Autore) Brian M. Kelly (Autore) Oro Editions, 2023</i></p> <p><i>Artificial Intelligence and the Arts - Penousal Machado, Juan Romero, Gary Greenfield</i></p>