UIR | COLLEGE OF ENGINEERING & ARCHITECTURE

EXECUTIVE MASTER BIM

SUSTAINABLE ARCHITECTURE & SMART CITIES

SCANNEZ POUR EN SAVOIR +

www.uir.ac.ma

PRESENTATION

This MSc Programme is designed for professionals globally, particularly those in the Mediterranean context, with a keen interest in sustainability within the built environment. This includes architects, engineers, and urban planners. The program is offered through e-learning or blended solutions. Emphasizing a holistic perspective, it highlights the diverse architectural expressions and possibilities within environmental design and nature-based solutions for urban regeneration. The strategy is oriented towards enhancing resilience and intelligence levels by linking skills and knowledge to the material aspects of the anthropic system, thereby enriching the Resilient Responsive Design & Smart Cities process with immaterial dimensions.

OBJECTIVES

- The MSc fosters a cross-disciplinary and integrated design approach to apply principles, methodologies, and tools for environmentally responsive design, green architecture, and dynamic-adaptive building. It bridges the traditional divide between arts and sciences, research and practice, cultivating critical thinking and design skills to challenge conventional practices.
- Graduates of this program will apply their knowledge and skills in the area of building heritage retrofitting and innovative sustainable architectural design. They will be capable of developing more appealing sustainable building plans or retrofitting scenarios, more aesthetically pleasing solutions for integrating renewables into buildings, more competitive real estate investments, and softer-green solutions for urban retrofitting and resilience initiatives. Graduates will utilize their expertise to analyze and evaluate building performance, as well as to define building environmental quality assessments according to international rating systems.

THE MAIN AIMS OF THE MASTER ARE

- To equip students with skills in sustainable/adaptive architecture, to manage strategies for environmental design, innovative solutions for green architecture, and appropriate applications for resilient cities that can be tested in the specific Middle East (hot dry) climatic and environmental context.
- To understand the principles of sustainability in making design decisions that promote urban resilience, valorize natural and immaterial resources, conserve energy and reduce CO2 emissions, and create healthful buildings. To develop students' ability to operate with BIM and Parametric Massing Design tools.
- To optimize dynamic design, green-soft strategies of passive design, and adaptive architectural solutions to enhance the thermal performance of the building envelope, solar control, natural ventilation, daylighting, passive solar heating, and cooling, etc.
- • To train students to manage the GBC evaluation tool (Green Building Council) and LEED certification systems to implement the assessment of the environmental quality of buildings.
- To train students to work collaboratively with other students as members of a multidisciplinary design team.
- Entrepreneurs et chefs d'entreprise souhaitant exploiter les avantages des énergies renouvelables pour développer et faire évoluer leurs entreprises.
- Étudiants en fin de cycle universitaire cherchant à acquérir des compétences spécialisées et à se démarquer sur le marché du travail.

ADMISSION REQUIREMENTS

The program is accessible only to students that have a Second Cycle (Master's) Degree or equivalent, in one of the following qualifications : architecture, or related classes in engineering.

PROGRAMME EXECUTIVE MASTER BIM

MODULE	UNITS
Responsive & Vernacular Architecturing	• Principles of bioclimatic architecture / vernacular architecture • Analysis and relations of the architecture with the context • Passive & solar architectural design in MED countries • Smart Materials and Innovative Technologies - dry structures • Mass Modeling for Conceptual Design (BIM) • Adaptive and Dynamic envelope
Environmental Performance and Assessment Tools	• Energy management-energy performance modeling • Environmental and energy parameters calculation • Post-occupancy evaluations. • End User behavior • Inside Comfort and psychological aspects • Method for Indoor Environmental Quality assessment
Based Solutions & Environmental Responsive Design	• Principles of Immaterial resilience for Responsive Design • Sustainable use of natural sources for Climate change adaptation and mitigation • Responsive use of recycled and eco-friendly materials • Urban regeneration through nature-based solutions • Green and soft solutions (nature-based) for improving well-being in urban areas • Evaluation of Urban environmental comfort and tools
Design The Future : green Architecture for Resilient Cities	• Principles, strategies and examples of resilient cities (City Resilience Index) • Design concept of new green architecture • Architectural Integration of renewables (BIPV) • Green envelope and vertical farm • Architectural Integration of Green and Water to renaturing Cities • International evaluation tools to assess the architectural solutions • (GBC Green Building Council – LEED - BREEAM)

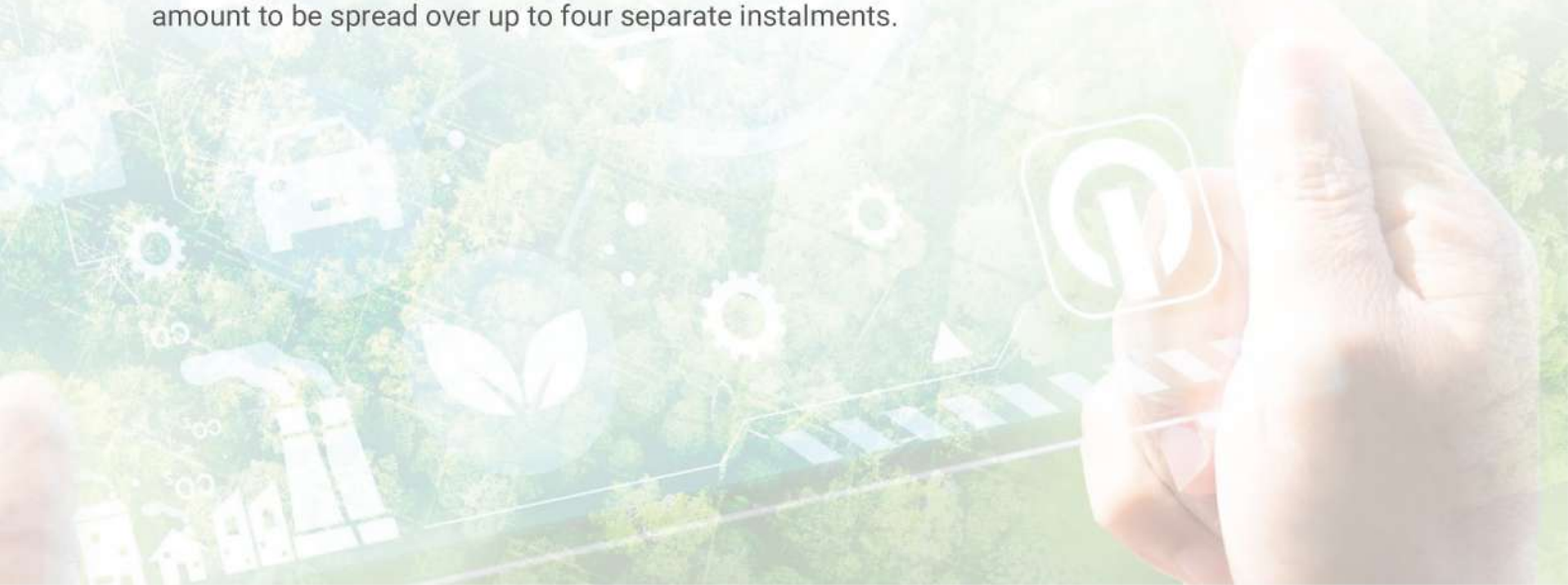
FAQ

What qualifications are required to apply for this Executive Master?
Admission to this prestigious program requires at least an undergraduate degree (Bac + 3) in a relevant field such as computer science or data analysis, to ensure a solid foundation for advanced studies.

How are the course sessions structured, and are they compatible with my professional commitments?
Course sessions are meticulously planned to fit in with our students' professional obligations. Classes are held on Friday evenings, from 6pm to 9pm, in remote mode, and on Saturdays, from 9am to 5pm, in face-to-face sessions at our university facilities, thus promoting a balance between professional life and academic development.

How long is the training program?
The program is designed to take place over a 12-month period, with courses running for three weeks each month, enabling deep immersion while respecting the time constraints of working professionals.

How much are the tuition fees, and are there any easy payment options?
The total cost of the TUITION FEE program is 74,000 dhs. Aware of the financial challenges this can represent, the International University of Rabat offers staggered payment solutions, enabling the amount to be spread over up to four separate instalments.



REQUEST FOR INFORMATION

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