

| Description of the Lab's Role and Activities

The Urban Green Lab (UGL) at the University of Petra is a dedicated research facility that advances green competencies within architectural education. Established under the Pro-GREEN-LABs project, the lab functions as a cross-disciplinary platform for academic inquiry, practical training, and community engagement in urban sustainability.

Strategically located in the Faculty of Architecture and Design, the lab integrates applied research into undergraduate and postgraduate curricula. It actively involves students and faculty in hands-on learning experiences through real-world projects, fostering critical thinking and problem-solving skills in sustainable urban development. The UGL hosts workshops, data analysis sessions, policy design charrettes, and urban mapping exercises using state-of-the-art tools and software.

As a mediator between academia, local authorities, and civil society, the lab supports collaborative research and policy innovation. It contributes to climate-resilient planning, participatory design processes, and data-driven urban policy proposals. The UGL serves as a hub for both funded and non-funded partnerships, enabling knowledge exchange and co-creation with local municipalities, international institutions, and industry stakeholders.

Its governance model, supported by a Scientific Research Committee and guided by the Faculty Council and Head of Department, ensures rigorous academic oversight and alignment with institutional goals. The lab's visibility is further strengthened through its dedicated section on the University of Petra's website, where activities, research findings, and opportunities for engagement are regularly updated.

Overall, the UGL exemplifies the integration of pedagogy, research, and practice in sustainability, and its continued evolution post-PGL ensures it will remain a cornerstone of innovation in Jordan's architectural education landscape.



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| Thematic Focus

The Urban Green Lab at the University of Petra is positioned within the Department of Architecture and focuses on urban sustainability, resilience, and participatory design. Post-PGL, the lab is committed to advancing applied interdisciplinary research in areas including:

- Sustainable urban planning and design
- Smart cities principles
- Climate change and urban resilience
- Heritage and cultural management
- Participatory urban design methodologies
- Urban planning policy and governance

These thematic areas align with the PGL project's objectives by embedding sustainability into architectural education and fostering experiential, lab-based learning.

| Mission and Vision

Mission:

To integrate research, education, and practice in sustainable urbanism by employing participatory planning and innovative urban design methodologies.

Vision:

To serve as a regional think tank and interdisciplinary hub that contributes to transforming urban development practices through sustainable, research-based, and community-responsive design solutions.

| Lab Equipment

The lab is equipped with hardware and software tools essential for urban data analysis and design. Equipment includes:

- 8x high-performance Desktop PCs (Intel Core 20 Cores, up to 5.5 GHz,
- Nvidia RTX 12 ,4070 GB) – PGL-funded
- 2x High-spec Laptops – PGL-funded
- GIS and urban mapping software – Pre-existing and upgraded via PGL
- Visualization and modeling tools (SketchUp, AutoCAD, Rhino) – Pre-existing
- Large-format plotter and scanner – Pre-existing
- Environmental sensors (air quality, light, temperature) – PGL-funded
- Lab management and coordination software – PGL-funded

| Lab Photos

