

# 07

## **ILMSCAPE: ENHANCEMENT PROJECT OF LAMAN KAED IN KULLIYAH OF ARCHITECTURE AND ENVIRONMENTAL DESIGN, IIUM AS THE “GARDEN OF KNOWLEDGE AND VIRTUE”**

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### **ABSTRACT**

Laman KAED, the outdoor courtyard of the Kulliyyah of Architecture and Environmental Design (KAED), holds strong potential as a significant academic and social hub. However, the space is currently underutilised due to limited facilities and minimal multifunctional features, which reduces its impact on community engagement and faculty identity. The project therefore aims to enhance Laman KAED’s visibility, accessibility, and usability, encouraging increased interaction among students, staff, and visitors. Central to this enhancement is the introduction of ilmu spaces, outdoor settings that embrace comfort, creativity, and continuous learning while reflecting KAED’s academic culture. The goals are to transform the courtyard into a multifunctional and aesthetically pleasing landscape, to promote environmental sustainability, and to generate sustainable income opportunities for the faculty. The methodology involves comprehensive site analysis, literature review, and precedent studies to establish design strategies that integrate shading, landscaping, flexible gathering spaces, and sustainable infrastructure. The enhancement focuses on aesthetic improvement, flexible event areas, shading and landscaping improvements, and sustainable design integration. Additionally, it supports KAED’s long-term vision of self-sustainability by introducing opportunities for rental-based activities and events, thereby strengthening both the faculty’s image and its role as a cultural and academic landmark.

**Keywords:** Laman KAED, Outdoor Courtyard, Landscape Design, Knowledge, Sustainability  
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### **INTRODUCTION**

Courtyards, commonly defined as outdoor spaces enclosed on three or four sides, offer a way to bring natural daylight, ventilation, and greenery into built environments, enhancing comfort and well-being (Khairuddin & Denan, 2024). Laman KAED at the International Islamic University Malaysia (IIUM) is an outdoor courtyard within the Kulliyyah of Architecture and Environmental Design (KAED) that connects academic blocks and circulation routes. Despite its strategic position, the space is currently underutilised and lacks a distinctive identity, limiting its potential as a hub for academic, social, and cultural activities. The absence of adequate facilities and minimal multifunctional features further reduce user comfort and discourage prolonged use of the courtyard.

This project aims to enhance Laman KAED by addressing these issues and creating a multifunctional, sustainable, and aesthetically pleasing courtyard that reflects KAED’s architectural values. Beyond aesthetics, the proposal seeks to integrate sustainable strategies, encourage inclusive participation, and explore opportunities for income generation through rental-based spaces for events and activities. The design also introduces the concept of ‘ilm’ spaces, outdoor settings envisioned to promote knowledge-sharing, creativity, and reflective learning in harmony with the academic spirit of KAED.

The approaches that prioritise community gathering, environmental sustainability, and economic viability, in line with Sustainable Development Goals 3 and 11, which highlight holistic well-being and sustainable living which ultimately enhancing community engagement and reinforcing KAED’s identity.

This project is carried out in conjunction with BAQS 2300 (Integrated Multi-Disciplinary Project), involving students from three departments: Architecture, Applied Arts & Design, and Quantity Surveying. Over a duration of five weeks, each team developed design solutions aimed at revitalising Laman KAED into a comfortable, inclusive, and engaging courtyard that supports academic, recreational, and cultural activities for students, lecturers, and visitors.

The collaborative process also fostered interdisciplinary learning and encouraged innovative approaches to sustainable campus design.



Figure 1. Site - Laman KAED.  
(Source: Author, 2025)

## METHODOLOGY

Figure 3 illustrates the project flow to achieve the design project objectives.

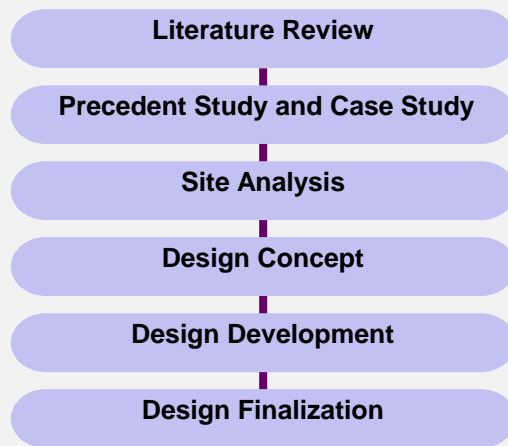


Figure 2. Methodology.

(Source: Author, 2025)

## LITERATURE REVIEW

The design of academic courtyards plays an important role in shaping the social, cultural, and environmental experience of a campus. Recent studies emphasise that well-planned outdoor learning environments foster interaction, inclusivity, and a sense of belonging within higher education institutions (Bruwer et al., 2025). Courtyards and open spaces are increasingly recognised as extensions of the classroom, supporting informal learning, collaboration, and community engagement while enhancing student well-being (Johnson et al., 2024).

### Ilmu and Learning Spaces

The concept of *ilmu* spaces extends learning beyond the classroom by embedding comfort, inclusivity, and opportunities for reflection into outdoor environments. Geister et al. (2025) highlight that features such as well-designed seating, spatial openness, and integration with greenery promote informal learning and collaborative knowledge exchange. These qualities not only foster creativity but also provide a supportive setting for academic growth, reinforcing the idea of knowledge-sharing communities within higher education (Liu et al., 2022). Moreover, such spaces improve students' overall well-being by reducing stress and encouraging meaningful social interaction, making them essential components of holistic campus design (Zhang et al., 2024).

### Multifunctionality and Inclusivity

Courtyards designed for flexibility can accommodate a wide range of uses, from informal gatherings to academic events. Gupta et al. (2025) emphasise that public open spaces should adopt inclusive design principles to serve diverse user groups. Features such as seating, shaded structures, and event-friendly layouts make these spaces adaptable to changing needs while fostering inclusivity across academic, social, and cultural activities. For Laman KAED, this means creating a courtyard that is adaptable for study groups, exhibitions, and informal meetups, but also accessible and welcoming to all, reflecting KAED's commitment to inclusive, user-centered design.

## Campus Well-Being and User Comfort

User comfort is a fundamental aspect of courtyard design. Research shows that thermal comfort, visual appeal, and accessibility are major factors influencing user satisfaction and the likelihood of prolonged use of outdoor spaces. Internal factors such as physical attributes, available facilities, and maintenance directly affect people's perceptions and levels of satisfaction. Meanwhile, external factors, though not directly linked to perception can still influence overall user experience (Liu & Xiao, 2020). In tropical climates like Malaysia, incorporating shade, greenery, and natural ventilation is especially important for creating comfortable spaces that encourage longer stays, social interactions, and active participation.

## Colour Psychology in Learning Environments

Colour plays a pivotal role in shaping behaviour, perception, and engagement within learning settings. Evidence suggests that the use of natural tones, coloured glass, and carefully placed vibrant accents can improve mood, concentration, and creativity among students. Research further shows that colour strongly influences human emotions, well-being, and daily experiences, as the brain reacts differently to each hue, affecting mood, health, and even human energy (Jaglarz, 2023). In the context of courtyards, thoughtful integration of colour enhances spatial experience, strengthens social interaction, and stimulates active participation, making it an effective design strategy for developing *ilmu*-centred academic environments.

## PRECEDENT STUDY & CASE STUDY

### Case Study 1: Taman Tasik Titiwangsa, Kuala Lumpur

Taman Tasik Titiwangsa is a 57-hectare urban park located just 3 km from the heart of Kuala Lumpur. First opened in 1980 and later revitalized under the DBKL's River of Life project, the park blends natural beauty with modern recreational facilities. The park, which first opened in 1980 and was later revitalised as part of the River of Life project, combines natural beauty with modern recreational facilities. The central lake is surrounded by jogging and cycling trails, inclusive playgrounds, and family-friendly areas that welcome people of all ages and abilities. With features such as water play areas, sports courts, event lawns, and scenic views of the city skyline, Taman Tasik Titiwangsa has become both a recreational hub for locals and a must-visit attraction for tourists.



Figure 3. Aerial view of Taman Tasik Titiwangsa.

(Source: David Farago, 2024)

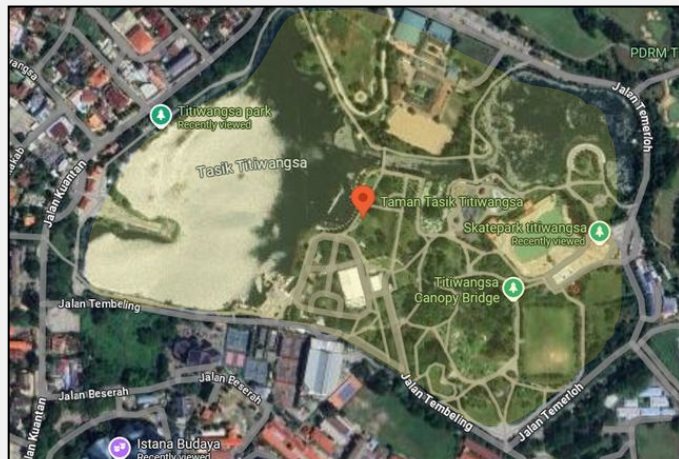


Figure 4. Map of Taman Tasik Titiwangsa.

(Source: Google Maps, 2025)

## Key Design Features and Strategies: Taman Tasik Titiwangsa

### 1. Human Interaction and Social Function

- Central lake surrounded by jogging and cycling tracks, boating, children's play areas, waterplay, sports courts, and picnic lawns.
- Promotes recreation, family bonding, and community engagement.

### 2. Site Context and Environmental Integration

- Located at Titiwangsa District, redeveloped under KL's River of Life program, transforming 57 hectares of lake and green space.
- Restores colonial-era mining backwaters while blending natural landscapes with urban surroundings.

### 3. Design Innovation & Aesthetic Expression

- Features Kanopi Banjaran, Laman Kerawang maze garden with LED butterflies, and a 100m fountain jet.
- Bridges provide scenic views of KLCC and Istana Budaya, reinforcing the park's identity as a city landmark.

### 4. Functional Design Elements

- Inclusive playgrounds catering to diverse needs, including children with autism or cerebral palsy.
- OKU-friendly and stroller-accessible paths with shaded rest facilities.

### 5. Safety, Accessibility & Inclusivity

- Operates 6AM–10PM with consistent lighting for evening use.
- Universal design ensures accessibility and safety for all users.

## Case Study 2: TRX City Park, Tun Razak Exchange, Kuala Lumpur

TRX City Park is a 10-acre elevated urban park situated at the heart of Kuala Lumpur's Tun Razak Exchange (TRX) financial district. Positioned above a retail mall, the park serves as a green social hub that integrates tropical planting with contemporary design elements, including event lawns, plazas, sculptural bridges, and light installations.

Other than its aesthetic appeal, the park provides a balance of ecological functions, recreational amenities, and cultural spaces. Its pedestrian-friendly layout enhances accessibility, supported by direct connections to the TRX MRT station, making it an inclusive urban space that encourages social interaction, leisure, and community engagement within the dense city centre.



Figure 5. Aerial view of TRX City Park.

(Source: OCULUS, 2024)



Figure 6. TRX City Park and its surrounding landmark.

(Source: OCULUS, 2024)

## Key Design Features and Strategies: TRX City Park

### 1. Human Interaction and Social Function

- Features event lawns, Play City & Play Cave, plazas, and café seating.
- Designed as a vibrant social hub in Kuala Lumpur's financial district, encouraging workplace communities to gather, rest, or hold events.

### 2. Site Context and Environmental Integration

- Located above a three-storey retail mall within the TRX development.
- Reflects Malaysia's diverse topography through ethnobotanical planting, representing forest edges, limestone outcrops, ravines, and coastal lowlands.

### 3. Design Innovation & Aesthetic Expression

- Combines sculptural bridge structures, abstract art pieces, and immersive light installations.
- Internationally benchmarked design by Grimshaw and collaborating firms from Kuala Lumpur, Penang, and GDP.
- Presents a unique elevated park narrative adapted for tropical climate.

#### 4. Functional Design Elements

- Landscape layout integrates a curved central promenade with interlinking paths leading to a pocket garden.
- Includes signage, name-labeled plantings, restrooms, nursery rooms, prayer facilities, stroller/wheelchair rentals, ramps, and accessible circulation to ensure usability for all visitors.

#### 5. Safety, Accessibility & Inclusivity

- Pedestrian-friendly circulation and landscaped plazas strengthen comfort and visual security.
- Fully accessible via TRX MRT station, with clear walkways, ramps, and mobility aids.
- Ensures seamless connectivity between district and park.



Figure 7. Walkway at TRX City Park.  
(Source: Author, 2025)

### Case Study 3: University of Melbourne Student Pavilion, Parkville VIC 3010, Australia

The Student Pavilion features an open, flexible courtyard that integrates rain gardens, shaded walkways, and amphitheatre-style seating to support student life and events. Designed for inclusivity, it provides universal access, promotes sustainability through drought-tolerant planting, and creates a comfortable social hub for learning, recreation, and cultural exchange.

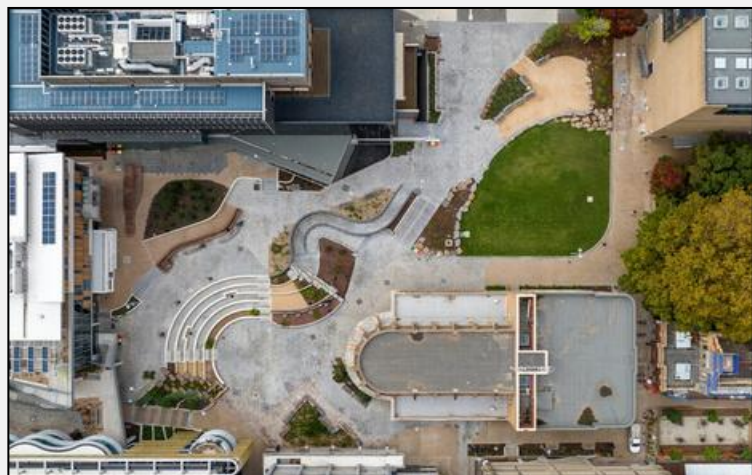


Figure 8. Aerial View of University Melbourne Student Pavilion.  
(Source: Google, 2024)

### Key Design Features and Strategies: University of Melbourne Student Pavilion

#### 1. Flexible Open Lawn

- Space for informal sports, student activities, and outdoor events.
- Provides recreation and social interaction for nearby student and faculty buildings.

#### 2. Tiered Seating & Amphitheatre Steps

- Encourages group discussions, outdoor learning, and performances.
- Integrated landscape contours for multifunctional use.



Figure 9. Tiered Seating at the Student Pavilion.  
(Source: Kane Construction, 2023)

#### 3. Shaded Walkways & Pergolas

- Enhance comfort and protection from heat.
- Climbing plants add aesthetic value and cooling.

#### 4. Native Planting & Rain Gardens

- Low-maintenance, drought-tolerant native species.
- Biofiltration gardens support stormwater management and biodiversity.

#### 5. Paving & Accessibility

- Ramps, textured paving, and wayfinding signage.
- Ensures universal access for all users, including those with mobility aids.

### SITE ANALYSIS LAMAN KAED

Laman KAED is located within the International Islamic University Malaysia (IIUM) Gombak campus, directly adjacent to the Kulliyyah of Architecture and Environmental Design (KAED) building. Originally an underutilised open area, the site has since been transformed into a centralised outdoor space designed as a creative and experimental platform for architectural learning. Surrounded by academic buildings, student facilities, and open green areas, it functions as a natural extension of KAED's learning environment while serving as a strategic hub for student activities. The site is highly accessible through pedestrian walkways, roads, and nearby parking areas, allowing convenient access for both students and staff. Its close proximity to studios, lecture halls, workshops, and the KAED Gallery further strengthens its role as an integrated node that merges academic, cultural, and recreational functions. This integration makes Laman KAED a unique platform that combines learning with leisure, providing opportunities for collaboration, entrepreneurship, and community engagement within a landscaped setting that blends built and natural environments.



**Figure 10** **Figure 11** **Figure 12**  
Figure 10, 11 and 12. Student activities at Laman KAED.  
(Source: Author, 2023)



**Figure 13** **Figure 14**  
Figure 13 and 14. Entrance and walkway to Laman KAED.  
(Source: Author, 2025)

Although Laman KAED has the potential to evolve into a vibrant cultural, academic, and social hub, several existing challenges continue to hinder its effectiveness. Accessibility is a key concern, as circulation within the site is poorly defined and does not adequately cater to persons with disabilities (PwDs). Combined with its somewhat secluded location, these limitations reduce convenience and inclusivity. The overall aesthetics are uninviting, with a dull and outdated design that lacks vibrant colours, thematic elements, or interactive features to capture student interest. Seating arrangements are also poorly considered, with benches placed in random spots that create discomfort and fail to encourage meaningful interaction. Moreover, the site currently functions more as a transitional space rather than a destination, offering minimal attraction for students to linger or engage in extended activities.



Figure 15. No designated walkway.  
(Source: Author, 2025)



Figure 16. Lack of safety barrier on site.  
(Source: Author, 2025)



**Figure 17** **Figure 18** **Figure 19**  
Figure 17, 18 and 19. Seating provided at Laman KAED.  
(Source: Author, 2023)

In addition, the site lacks the functional facilities necessary to support long-term use and active engagement. The absence of charging points, Wi-Fi spots, and a variety of kiosks offering food, beverages, or student-run businesses reduces its appeal as a daily destination. Without these features and stronger attractions, students are less likely to stay beyond short breaks, limiting the site's role as a true social and academic hub.

## SWOT ANALYSIS

<b>Strengths</b>	<ul style="list-style-type: none"> <li>• Strategically located within KAED and easily accessible to students and staff.</li> <li>• Presence of greenery that enhances comfort and microclimate.</li> <li>• Potential for outdoor learning, exhibitions, and student gatherings.</li> </ul>
<b>Weaknesses</b>	<ul style="list-style-type: none"> <li>• Limited accessibility with unclear circulation and lack of PWD-friendly routes.</li> <li>• Outdated and uninviting aesthetics with dull design elements.</li> <li>• Minimal attraction to sustain long-term engagement.</li> </ul>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>• Potential to develop into a vibrant cultural and academic hub.</li> <li>• Integration of interactive and thematic design to increase student interest.</li> <li>• Space for eco-education, cultural activities, and student-run businesses.</li> </ul>
<b>Threats</b>	<ul style="list-style-type: none"> <li>• Competition from other active student spaces on campus.</li> <li>• Weather conditions (rain/heat) may limit outdoor use without proper shading.</li> <li>• Maintenance challenges leading to further deterioration.</li> </ul>

Table 1. SWOT analysis of Laman KAED.  
(Source: Author, 2025)

## DESIGN CONCEPT

### The Green Gateway

is a landscape sanctuary within architecture faculty. By creating a hidden escape from the intensity of studio life. It's a place where are students and staff can momentarily step away from deadlines and distractions, reconnect with nature and find inner calm. Inspired by the dual meaning of "getaway" as both physical escape and mental relief. The design embraces serenity, simplicity and sensory engagement.



Figure 22. Design concept for Laman KAED. (Source: Author, 2025)

*Plmscape*

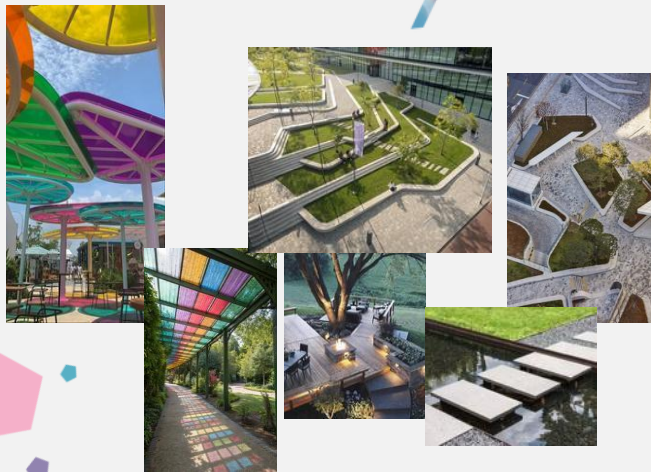


Figure 23. Initial design concept for Laman KAED. (Source: Author, 2025)

## DESIGN DEVELOPMENT

The design development stage represents an ongoing process of testing, refining, and re-evaluating the initial ideas. At this point, various iterations of form, material, and spatial organisation are being explored to strike a balance between functionality, buildability, and aesthetic quality. Emphasis is placed on modular geometry, climate responsiveness, and user interaction, while alternative options are being studied to assess their feasibility and suitability for the site. This stage remains open-ended, allowing flexibility for adjustments and improvements before reaching the finalised design.

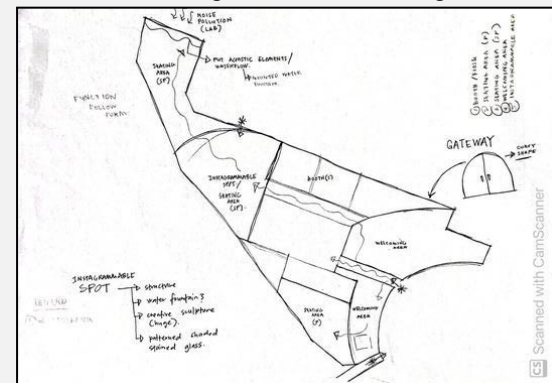


Figure 24. Space planning for Laman KAED. (Source: Author, 2025)

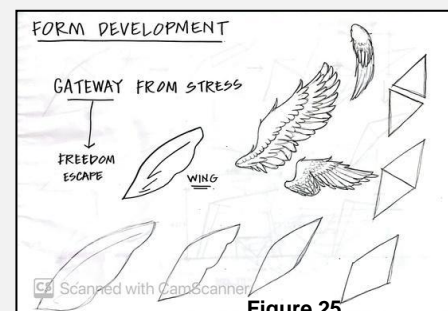


Figure 25

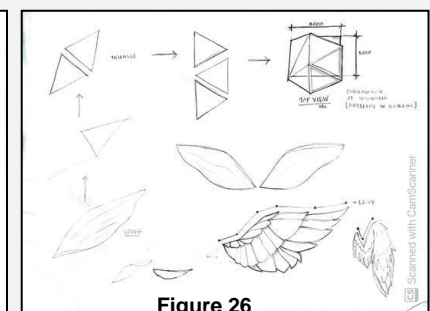


Figure 26

Figure 25 and 26. Form development for concept. (Source: Author, 2025)

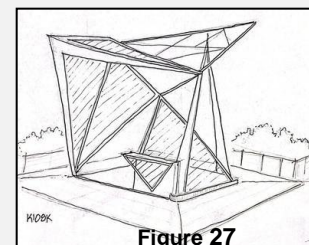


Figure 27

KIOSK DESIGN

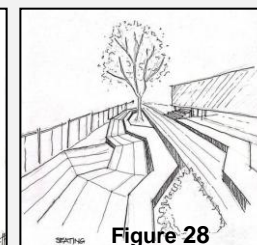


Figure 28

OPEN SEATINGS

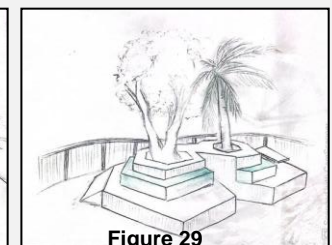


Figure 29

LEISURE AREA

Figure 27, 28 and 29. Sketches for design elements in proposal. (Source: Author, 2025)

Overall, this phase has proven useful in determining the project's design direction. The process has not only generated potential solutions but also revealed challenges that require further resolution. These findings will serve as a guide for the next stage, ensuring that the final plan is founded on both creative vision and practical considerations.

## DESIGN FINALISATION

The design process resulted in a refined proposal that addressed both practical and aesthetic feedback. Improving buildability, assuring climate adaptability, and developing an inclusive user experience were all important factors to consider. The final outcome balances modular form and functionality with contextual sensitivity, resulting in a design that is distinctive, adaptable, and aligned with its intended purpose. Beyond functionality, the design emphasises sustainability by integrating passive climatic strategies and durable material choices, ensuring long-term usability and resilience. It also celebrates identity through colour, light, and spatial qualities that enhance user interaction and create memorable experiences. Ultimately, the proposal reflects a thoughtful synthesis of creativity and pragmatism, offering a solution that is not only visually engaging but also socially and environmentally responsive.

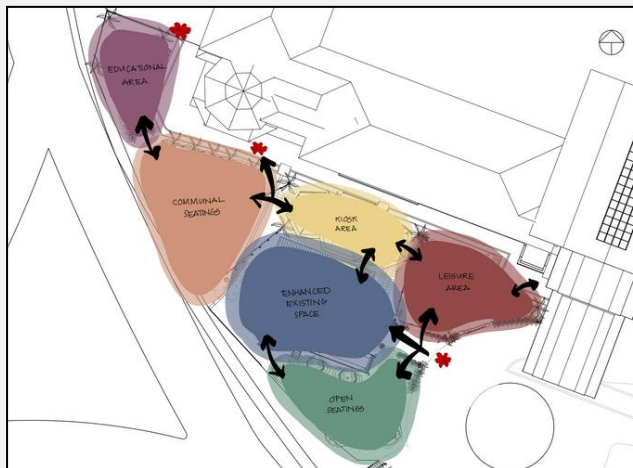


Figure 30. Space Planning.  
(Source: Author, 2025)

## Multipurpose Area - Kiosk Area

The space is designed to support flexibility of use, offering opportunities for both temporary and long-term functions. During events, it can be rented out for food stalls with foldable kiosks provided to accommodate vendors in an organised manner. Outside of event periods, the area remains available for rental to host a variety of activities, ensuring that the space continues to serve as a dynamic and versatile hub for the community.

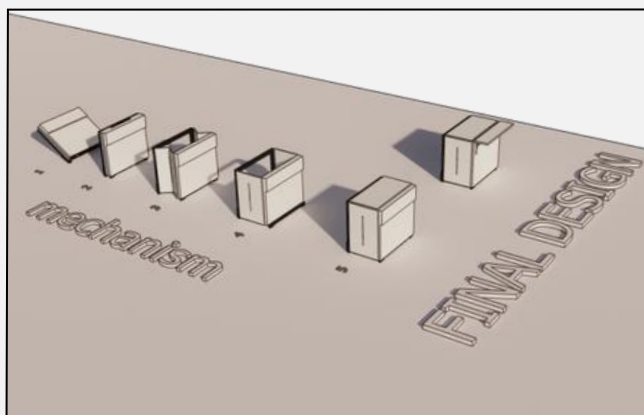


Figure 31. Foldable kiosk at Laman KAED.  
(Source: Author, 2025)

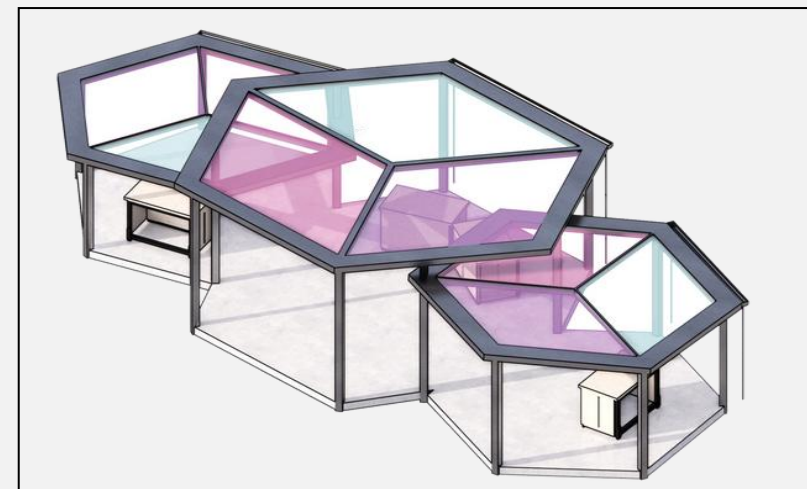


Figure 32. Hexagonal roofs for kiosk.  
(Source: Author, 2025)

## Leisure Area

A dual-purpose structure designed as both a projector screen and a photoshoot signage. It is cost-effective, requiring minimal budget, while remaining inclusive and user-friendly for all visitors.



Figure 33. Photospot can also serve as a flexible screen or backdrop.  
(Source: Author, 2025)



Figure 34. Leisure area.  
(Source: Author, 2025)

## Pavement

The pavement width has been increased to 2000 mm to improve accessibility for persons with disabilities (PWD), ensuring smoother and more comfortable access to ILMSCAPE, Laman KAED. This adjustment not only complies with inclusive design standards but also enhances circulation by providing a clearer, safer, and more efficient accessway for all users.



Figure 35. Pavement.

(Source: Author, 2025)

## Open Seating Area

The open seating area at Laman KAED is designed to provide a spacious setting with clear views towards the Rumah Kutai, serving as a visual attraction that encourages visitors to explore the site from outside. It offers students a comfortable and inviting place to sit, relax, and interact, strengthening its role as a social hub. Each seating area is complemented by natural shading, ensuring comfort and usability throughout the day while enhancing the overall environmental quality of the space.



Figure 36. Open seating area.

(Source: Author, 2025)

## Communal Seating Area

The circular clustered seating fosters group interaction by bringing people together and providing an informal space for idea exchange, brainstorming, and discussions outside the classroom. Shaded by trees and supported with flexible seating, it creates a relaxed atmosphere that encourages longer conversations. The space can also be used at night, as hanging lights create an inviting ambience that encourages students to gather not only for academic purposes but also as a casual hangout spot.



Figure 37. Communal seating area.

(Source: Author, 2025)

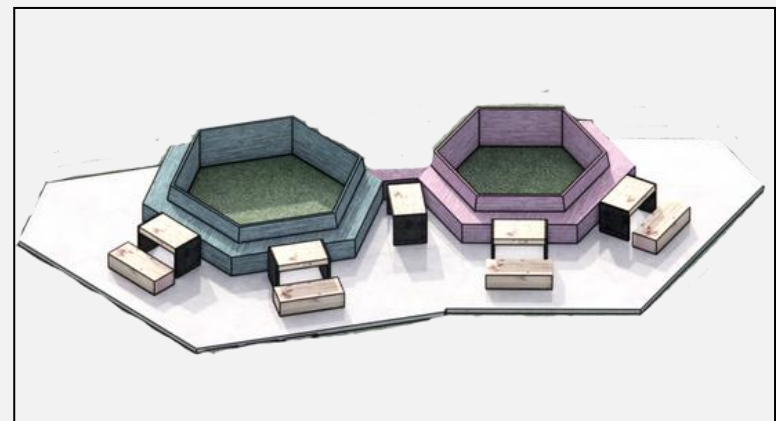


Figure 38. Communal seating.

(Source: Author, 2025)

## Educational Area

The area is proposed as an educational space for KAED students, providing dedicated zones to support their creative works. For example, a mini garden could be introduced for Landscape Architecture students to experiment with and observe new plant species, fostering hands-on learning and innovation.



Figure 39. Educational area.

(Source: Author, 2025)

## Enhanced Existing Space

The souvenir shop serves as a hybrid zone for quieter use, offering charging spots and new table sets for comfort. Designed by MeranT Studio with wood pallets, it maximises the under-stair space while also functioning as a storeroom for rental items like bean bags and foldable kiosks.



Figure 40. Souvenir shop at Laman KAED.  
(Source: Author, 2025)



Figure 41. Souvenir shop at Laman KAED (Rendered).  
(Source: Author, 2025)

## MEASURED DRAWING

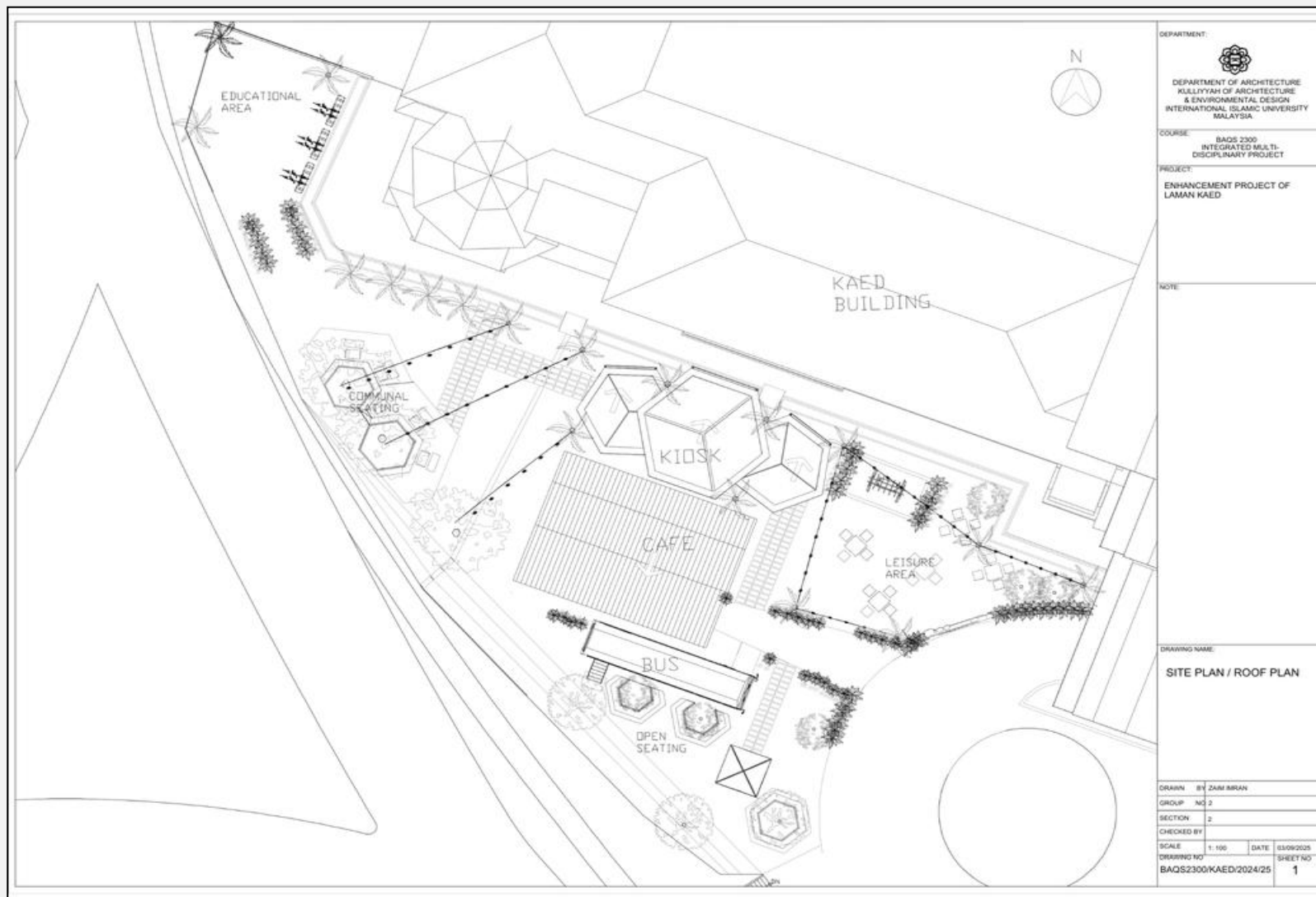


Figure 42. Site plan (not to scale).  
(Source: Author, 2025)

## RENDERED PICTURES



Figure 43. Ilmscape entrance.  
(Source: Author, 2025)



Figure 44. View around communal seating area to kiosk.  
(Source: Author, 2025)



Figure 45. View to Ilmscape educational area.  
(Source: Author, 2025)

## COST ESTIMATION AND SPECIFICATION

The cost estimation for the project amounts to RM50,000.00, covering key components such as preliminaries, kiosks, landscaping works, electrical services, and contingencies. The largest portion is allocated to landscaping works, followed by kiosks and WBLFF, reflecting the project's emphasis on creating a functional, sustainable, and engaging environment for students and visitors.

PRELIMINARIES	RM 1,500.00
WBLFF	RM 11,760.50
KIOSK	RM 13,718.00
LANDSCAPING WORKS	RM 19,566.50
ELECTRICAL SERVICES	RM 2,960.00
CONTINGENCIES	RM 585.00

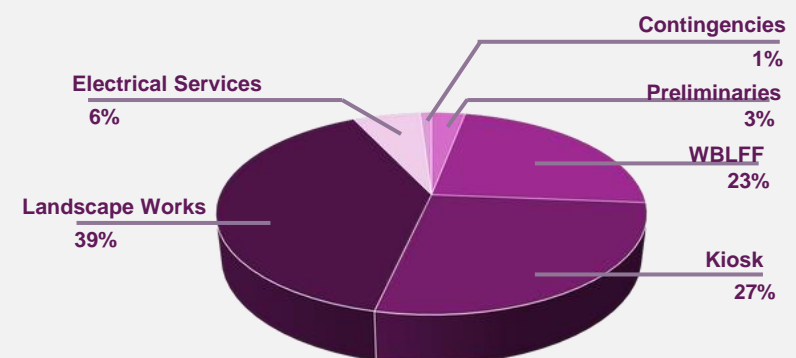


Figure 46. Cost estimation and specification.  
(Source: Author, 2025)

## CONCLUSION

The proposed redevelopment of Laman KAED by MeranT Studio highlights the importance of creating a multifunctional and inclusive outdoor space that reflects the values of stability, growth, and collaboration. Through the integration of academic, cultural, and social functions, the design transforms the underutilised site into a vibrant hub that supports student life both inside and outside the classroom. By addressing issues of accessibility, comfort, and engagement, while introducing flexible facilities such as kiosks, seating areas, and educational zones, the project provides long-term potential for sustainability and community-building. Ultimately, this initiative not only enhances the physical environment of KAED but also strengthens its role as a dynamic space for creativity, learning, and meaningful interaction.

## ACKNOWLEDGEMENT

This project has been a valuable learning journey for the members of Group 2 MeranT Studio. In order to achieve outstanding results, the team is excited to use the knowledge acquired and the connections formed to future projects. The authors extend their sincere appreciation to the lecturers of BAQS 2300 Integrated Multi-Disciplinary Project, 2025, at the Kulliyyah of Architecture and Environmental Design (KAED), IIUM, as well as to all contributing parties and institutions for their invaluable role in making this project a success.

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5	Aisyah Natasya Binti Ali Usni	2310376
6	Widad Binti Shahrir	2210734
7	Farah Qistina Binti Khairul Azhar	2310152
8	Muhammad Akif Bin Alias	2213843
9	Firdaus Syargawi Bin Saiful Samsuri	2212683
10	Muhammad Akmal Faris Bin Ayob	2216637
11	Aiman Danial Bin Mohamad Zaki	2218561
12	Haida Nazhifah Binti Hairul Nizam	2215692
13	Qistina Aisya Binti Mohd Rizam	2310550
14	Usman Hakim Bin Badrul Hisham	2310283
15	Zaim Imran Bin Muhammad Zulhilmi	2310467
16	Muhammad Taufiq Bin Abdul Mutalib	2210331
17	Abdul Hakim Bin Kamarozaman	2210417
18	Rahman Tasnuva	2121678

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