Higher & Further Education
Case Study
University of Leicester - The Centre for Medicine
The UK’s largest non-residential project built to the ultra-energy efficient Passivhaus standard.

The University of Leicester’s new Centre for Medicine will replace an existing building on the same site and has been designed to reduce annual energy bills by 80%.

The Centre for Medicine defines the future of energy efficient buildings for universities.

Acting as a hub to bring together, for the first time, the University’s leading academics, researchers, clinicians and students; the new Centre will completely transform medical teaching and improve the lives of many patients in the region and beyond.

Professor David Wynford-Thomas, Dean of the School of Medicine and Head of the College of Medicine:

“This new centre will give Leicester medical students probably the most advanced environment and facilities in which to study medicine in the UK.”

The Centre for Medicine campus will be home to the College of Medicine, Biological Sciences and Psychology departments. It will provide teaching rooms, offices, lecture theatres, dry lab research facilities, and support spaces to more than 2,350 staff and students.

The campus features two tower blocks – one of five storeys, one of six – which maximise the use of natural daylighting.

Achieving the Passivhaus targets is a very technical feat; the building envelope – roof, walls and ground floor slab – is highly insulated, with U-values of 0.13W/m²/k. The roof also features a 150m² photovoltaic array. Airtightness is critical. The building is designed to have a permeability of less than 1m³/m²/hr, a testing target on such a large curtain-walled project.

REDUCING ENVIRONMENTAL IMPACT

Willmott Dixon recognises that its operations have a direct impact on the natural and human environment. We actively consider the environmental risk and implications of all our activities and services, and commit to initiatives that lead to a positive contribution to the environment and communities we serve.

We endeavour to deliver all our operations sustainably, efficiently and safely with due consideration of the environment and community, promoting beneficial activities and improvements throughout our business. In doing so, we aim to minimise any adverse impacts of our activities, as far as reasonably practicable. We are committed to actively seeking the cooperation of our clients, sub-contractors, suppliers, the community and our employees to help us to achieve our aims.

In the case of the Centre for Medicine, we have followed BREEAM requirements, and implemented steps including:

• Green travel plan with bike parking on site, car sharing and defined parking areas for crew buses
• Dust suppression
• Site energy usage monitored and displayed on a screen in reception
• Regular road sweeping
• Local Spend targeted and exceeded
• Rainwater harvesting system for site boot wash
### KEY DATA

- **Function areas and their size** - Meeting Rms / Teaching Space - 1903m², Informal learning 523m², Medical School 1106m², Psychology 1464m², Health Sciences, 1305m², Shared Accommodation 817m², Misc / Plant. 2034m²

- **Area of circulation** 3073m²

- **Area of storage** 611m²

- **% area of buildings to be used by community (where relevant)** 3.3%

- **Basic building cost** - £1408.00m²

- **Services costs** - £627/m²

- **External works** - £185/m²

- **Gross floor area** - 12,836m²

- **Total area of site** – 0.76m²

- **Predicted fossil fuel consumption** – Nil

- **Predicted renewable energy generation (Biomass Heat)** - 4.32kWh/yr/m²

- **Predicted electricity consumption** – 51.6kWh/m²

- **Percentage of predicted water use to be provided by rainwater or greywater** = Nil

- **Water use** 3907m³ person/annum

- **BREEAM Rating + Score** - Excellent 74.96%
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