education design unit

Making campuses where students want to be

- Strategic imperatives
- Carbon + energy use
- Relevant buildings + internal settings:
 Design principles
- Productive external spaces:
 Design principles

Strategic imperatives

HE community: Interest groups

University leadership

Students

Academic faculty

Administrative/professional services staff

Estates + FM

Conference + external lettings teams

Alumni + donors

Public

Public opinion matters

- Parents
- Neighbours
- Planning authorities
- Government
- Emerging competition

The Times, 10 September Universities ordered to teach face to face

The Times 29 September Tony Blair's son Euan 'makes £160m' by ignoring his fathers education policy

Universities ordered to teach face to face



Tony Blair's son Euan 'makes £160m' by ignoring his father's education policy



Covid watershed? Concerns + trends before

Universities corporately:

Efficiency / Pressures on finance / Institutional appeal

Faculty:

Autonomy / Navigating evolution in teaching

Students:

Teaching quality / Social experience / Wellbeing + safety / Choice of participation - on + off campus

Estates:

Provision for individual + group learning modes Campus quality – Functionality / Comfort / Aesthetics / Wellbeing Social + outdoor settings The carbon + energy agenda



Now + looking ahead: What's different?

The same themes + concerns – just more emphatic, while also more uncertain

The drivers are in tension

The safe steer is fundamental quality with flexibility

By strengthening institutions:

- Meeting the multiple drivers
- Compromising no one



HE estates' success: High level steers

Strategy:

Auditing quality / Identifying opportunities

Managing space: Timetabling / Porterage / Catering / IT / User protocols / Maintenance / Communicating options to users

Design moves: Retrofit / New build

Unleashing value: Leveraging existing assets / Addressing detail



Carbon + energy use

Underlying trends

- Net zero carbon trajectories
 - Electrification of heat
 - Increasing focus on embodied carbon
 - Rising expectations of quality of experience
 - Convergent evolution of commercial offices and learning spaces



Agile working and energy use

- Power, data and comfort everywhere, circulation spaces become as important as rooms
- Less predictable occupancy patterns, responsive demand control
- Efficient remote access models
- Likely to drive demand for seats, desks and monitors, select efficient equipment



Adapting spaces

- Use as opportunity for improving efficiency of existing systems
- Building fabric
- Commissioning
- Controls
- Metering / data collection



Focus on quality

- Good passive design makes spaces attractive
- Daylight / solar shading
- Insulation
- Natural ventilation
- 'Light and airy'



Low energy refurb

- Is possible even in historic buildings





Agile buildings?

- Allow occupation to reduce to accommodate extremes?
- Hot weather
- Epidemics



Relevant buildings + internal settings: Design principles

Natural light

- Quality and quantity
- Used as an attractor
- Creating positive associations
- Winter months / dull days
- Creating clear contrasts



Acoustics

- Perception
- Sound can be experienced as engaging or disturbing
- Sound absorption
- Speech intelligibility



Belonging and concentration

- Different types of spaces
- Feeling part of a wider community
- Flexible, open, and collaborative
- Contained / quiet / solo spaces
- The benefits of atria



Visibly diverse settings

- From individual study to group work, in person lectures and socialising
- Whole articulated as a collection of parts
- Ground floor as an extension of the outside
- Thresholds from public, private, hard and soft landscape
- Connecting between inside and outside



Ease of movement between uses

- Think micro-cities
- Corridors as streets and squares
- Built in furniture as landmarks
- Hall / central space where all can converge
- Visibility / legibility



Wellbeing and appeal

- Connecting with nature / communities
- Natural light
- Internal landscape / climbing plants
- Aspect / orientation
- Air quality



Productive external spaces: Design principles

Connecting with communities

Transport nodes and connections:

Creating safe and supportive routes into adjacent urban environments

Community support and activation:

Sharing and maximising the use of resources for the benefit of wider community

Social landscape:

Developing positive social spaces at the threshold of campus and its neighbours

Inclusive environments:

Championing the creation of inclusive and universally designed internal and external landscapes



Biophilic learning environments

Outdoor classrooms:

Creating a diversity of spaces to support agile learning

Productive environments:

Developing natural landscapes that improve concentration and productivity

Natural habitats:

Supporting a range of habitats to sustain a greater diversity of campus life

Green + blue networks:

Forming wider sustainable connections and contextualising the role of a campus in its environment



Connecting inside + out

Thresholds:

Enhancing and celebrating the interface between interior and exterior environment

Extending the ground plane:

Creating open and flexible spaces that bring the user into more direct contact with nature

Social edge:

Developing programme strategies that support social interaction within this zone

Capturing views:

Both views out into a natural landscape or back into the active interiors of a building



Microclimates

Thermal comfort:

Address user comfort thresholds in design

Seasonal variation:

Aligning the external environment with the academic year

Shelter:

Create horizontal and vertical buffers within external environments

Supportive microclimates: Maximising the appeal of external spaces

Vegetation + water: Managing microclimates with water and landscape



Wellbeing + health

- Restorative environments
- Biophilia
- Reflecting light into internal spaces

STATISTICS.

- Active landscapes
- Air quality



