# UWE Estates and Facilities Design Guide

# **Chapter 3: UWE Strategies**

**Bristol** 

West of

England



CLIENT OF THE YEAR

WINNER

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# 3.1 Change Control

Version Number	Date of Issue	Chapter Ref	Brief Description of Change(s)
1.4	01/05/2019		Various updates throughout as detailed in 2019 version.
1.5	NOV 2019		Various updates throughout as detailed in 2019 version.
2021	Jan 2021		Reference to the Equality & Diversity Team or E&D, has all been updated to Equality Diversity & Inclusivity Team or ED&I.
2021	Jan 2021	3.3	Covid Secure section added.
2021	Jan 2021	3.4	Inserted: "health and wellbeing, equality, diversity & inclusivity"
2021	Jan 2021	3.4.1	Added: "The provision of toilet lids should be considered. An assessment must consider maintenance costs and impacts due to potential breakage or vandalism, whilst taking into account the health and safety benefits of preventing aerosol generation and contamination during flushing with no lids."
2021	Jan 2021	3.4.2	Changed `unisex' to `gender neutral'.
2021	Jan 2021	3.4.2	Added: "Sanitary Bins are to be provided in all toilet facilities. Space for the bins to be located must therefore be incorporated into the design."
2021	Jan 2021	3.4.2.1	Deleted sections as superfluous.
2021	Jan 2021	3.10	Numerous Fire Safety updates throughout.
2021	Jan 2021	3.10.1	Added: "This MUST consider temporary alterations during mobilisation; temporary alterations during construction, and alterations at handover." Added: "The UWE Bristol Fire Safety Management Policy (available on the UWE Intranet or on request from the UWE H&S Team) must be reviewed prior to detailed design in order to ensure that UWE's strategic approach to fire safety and overall assessment of fire risk is not compromised in any way."

	Jan 2021	3.13.2	Added: "Power management must be considered, with the
2021			ability to programme equipment to switch off when buildings /
			areas are not in use."

### **3.2 Introduction to UWE Strategies**

The purpose of this Chapter of the design guide is to examine specific UWE strategies and how they impact on design. They influence all aspects of design. These strategies include:

- COVID Secure
- Accessibility and Inclusivity
- Welfare Facilities
- Security
- Sustainability
- Wellbeing

# **3.3 COVID Secure**

The health, safety and wellbeing of UWE staff, students and visitors is our absolute priority. UWE will follow all Government guidance for businesses to make workplaces 'Covid-secure'. UWE has developed the required Health and Safety documentation to enable us to continue to operate on site work, accommodation, and study spaces in the safest possible way. Please reference the Covid Collection of Tasks and Guides on the UWE Intranet for full and up-to-date information.

It cannot be assumed that design and construction can continue as normal, based on a return to normality pre-Covid19, and as such, adjustments and adaptations of the design must be incorporated to design-in Covid-secure measures. We cannot make everything totally 'safe' but our designs and installations must reduce the risk as much as possible. Personal responsibility and the actions of every individual will be the biggest factor in reducing the transmission of coronavirus.

To ensure that UWE buildings are Covid Secure, current UWE control measures are required for an area to be designated as Covid secure, such as but not limited to signage, hand gels and sanitizer stations, consideration of one way routes and adjacent areas, Perspex dividing screens, and social distancing measures. Some of these Covid secure measures may counteract advice throughout this Design Guide, and therefore Stakeholder and inter-departmental discussion must take place to agree the best outcome for UWE.

### **3.4** Accessible and inclusive design

UWE is committed to providing an environment that is welcoming, accessible and inclusive for a diverse population of students, staff and visitors.

Inclusive design is, quite simply, good design. The UWE Equality Diversity and Inclusivity Team (EDI) produced UWE's Single Equality Scheme which includes an action on embedding inclusive

- Religion and belief
- Sports
- Fire
- Signage and Wayfinding
- Printer Allocation

design principles to new buildings, internal and external spaces at all campuses. It means helping everyone to have a good experience by creating an environment that is welcoming and usable for all.

UWE strives to prevent any section of our community feeling frustrated, ignored, segregated or stigmatized. UWE recognises that people "disabled" by the built environment include:

- People with impairments (including people who have temporary or fluctuating impairments)
- Elderly people
- Children
- Parents with children
- Women and men (or those who identify with neither or both genders)
- People who feel excluded because of lifestyle, sexual orientation, culture, ethnicity, religion, low income or other factors.

UWE is bound by the Public Sector Equality (PSED) duty both as an employer and service provider under Section 149 of the Equality Act 2010. Design teams are expected to adopt best practice inclusive design principles from the outset to support UWE in meeting these duties. The quality of University experience must be equal for all users and delivered to a high standard.

Particular attention is needed during the refurbishment of existing building stock where reasonable adjustments may be needed. UWE buildings have been built at different times to different standards and some are listed. There may be limits on what adjustments can reasonably be made to the built environment and end-users may need to look at the planning and organisation of their activities to accommodate the needs of staff and students. The UWE EDI Team supports project managers to draft Equality Analysis which is circulated online to equalities groups for input, then published when complete. Refurbishment projects can often be used to improve accessibility or introduce features that make the building more inclusive.

To achieve these aims, and create an environment that supports equity, equality and dignity in use, UWE is working to the following principles:

- Providing the same means of use for all users, identical when possible, equivalent when not
- Avoiding stigmatizing or segregating any users
- Respecting the dignity of the individual
- Integrating inclusive principles into the design process
- Mainstreaming inclusive design: It is not an add-on extra or "special needs" interest
- From time to time, UWE EDI holds 'Equality Engagement Events' where major projects can get real time feedback from diverse groups/individuals that may be impacted.

#### 3.4.1 Inclusive Design Features

The purpose of this design guide is not to duplicate the requirements set out in Part M of the Building Regulations and BS 8300. Those documents represent minimum standards and only address issues of physical access. Inclusive principles and design features, which go beyond Part

M and BS 8300, have been embedded throughout this design guide. They have been derived from consultation with stakeholder groups, lessons learned on past projects and contributions from the Centre for Accessible Environments.

It is not UWE's intention to have a stand-alone section on accessible and inclusive design features. Instead, these features will be integrated into the relevant Chapters of the design guide. This will hopefully help ensure that inclusive design is not treated as a 'bolt on' to the design process.

By embedding inclusive design principles into the design guide, project teams on smaller projects (less than £2.5m (exc. VAT) construction value) will be equipped to develop inclusive and accessible designs without the need for external access consultants. Projects of this scale will typically be refurbishments and opportunities will be sought to enhance the accessibility and inclusivity of existing buildings. To achieve that, extant access audits will be used to inform project scopes.

On larger projects (projects with a construction value of £2.5m (exc. VAT) or more) the intention will be to include as many of these design features as possible into the major refurbishment or new building. As explained later, an access consultant must be appointed on projects of this value.

### 3.4.2 General advice for designers

- The design and layout of UWE buildings, interior and exterior fixtures, fittings and furniture and external spaces must be flexible enough to reasonably accommodate future changes.
- Designs will allow sufficient space, or flexibility to create the space, for assistive equipment, assistance dogs, personal assistants and communication support workers etc.
- Staff and student will have the capacity to adjust lighting, acoustics and internal climate wherever reasonable and when compatible with other commitments, such as sustainability.
- Where possible, designers will take a consistent approach to the specification of access equipment across the campus. This can benefit users who require familiarity with equipment and who may not be able to cope with change. This also simplifies repair and replacement.
- Where the design guide or specifications are not adequate to meet a specific need, review
  access features that have worked well on previous projects and specify good quality
  products that are consistent or compatible with those existing. These features must be
  incorporated into this design guide or associated specifications.
- Where the guide states that features are 'to be considered', design teams need to consult more widely (as explained below) to understand what features are reasonable. Where compromises are required due to space, budget or other constraints, or there is no current demand, allow for future retrofitting where reasonable. Examples include pre-fitting pipework to accommodate a future accessible WC or level access shower and pre-wiring above doors to anticipate future power assisted door operators or hold-open devices. Note that UWE wish to minimise the number of automated doors to an absolute minimum, and only install hold-open devices where necessary.
- Sufficient provision must be made for powered wheelchair charging.

- Provide fixtures and fittings that require minimal physical effort to operate. 30N is the
  maximum allowable force to open a door. Ensure fixtures and fittings are in a practical
  location (e.g. a door open device must be adjacent to the door that it operates). Note that
  UWE wish to minimise the number of automated doors to an absolute minimum, and only
  install hold-open devices where necessary
- Consider the wider implications of accessible features. For example, a new ramp along a front elevation, could impact on window cleaning and maintenance for upper floors. During those works, the ramp may be inaccessible and temporary access arrangements needed.

A selected example of design features mentioned elsewhere in the design guide (which will therefore not be discussed in detail here) include:

- Multi-function wellbeing spaces (which can be used for a variety of functions such as space for religious observance, quiet reflection or for new mothers to express and store milk).
- Welfare facilities, including accessible and gender-neutral provision.
- Facilities for faith and religion.
- The need to provide a choice of open plan and enclosed spaces (to cater for different acoustic and cognitive impairments) or to provide privacy where needed.
- Consideration of the impact of temporary routes.
- The electrical chapter requires:
  - The provision of evacuation lifts
  - Visual and audible fire alarms in selected locations
  - Hearing assistance systems in Lecture Theatres, receptions, and teaching spaces
- The chapter on landscaping, biodiversity and infrastructure contains:
  - Requirements for spaces to be provided for three-wheeler motorcycles, tricycles, recumbents an adapted bicycles
  - Requirements for making pedestrian routes accessible
  - Requirements for accessible car parking
  - Mixed selection of external seating including some with seat backs and arms
- The chapter on fabric and structural design addresses:
  - Principles governing selection of furniture and furnishings
  - Visual contrast
  - Acoustic considerations
  - Principles of horizontal and vertical circulation
  - Use of powered doors and hold open devices
  - Accessibility of student accommodation

The UWE Bristol Fire Standards discusses personal emergency evacuation plans (PEEP) as well as discussing some elements of design (e.g. in relation to disabled refuge provision).

### 3.4.3 **Applying the UWE Principles during the RIBA Plan of Work**

On projects with a construction value of £2.5m (exc. VAT) or more, a National Register of Access Consultants (NRAC) accredited Access Consultant must be involved from RIBA stage 2. They must have expertise relating to wider diversity issues e.g. be aware of cultural factors – not just physical.

RIBA Plan of		Core Inclusive Design Activities
Work		
0	Strategic Definition	• The project requester undertakes an equality analysis when requesting a project. This is issued to the UWE Equality Diversity and Inclusivity team for review and
1	Preparation and Brief	<ul> <li>Estates meet with the project requestor and review the equality impact analysis (and any feedback received from the Equality Diversity and Inclusivity team) to understand the impact for the design brief, budget etc.</li> <li>Estates review existing access audits to identify opportunities (and funding sources) for the project to address outstanding actions.</li> <li>During the development of the brief, consider 'adjacencies' (as explained in Chapter 1 of this guide): Identify opportunities to introduce elements into the current project that improve inclusion and access for adjacent buildings. E.g. a new ramp to a building might offer shared access to an adjacent building which lacks a ramp.</li> <li>Undertake a desktop review of any feasibility proposals. This may involve one or more focus groups which may be recommended by the Impact Analysis.</li> </ul>
2 to 4	Design Stages	<ul> <li>For projects with a construction value of £2.5m (exc. VAT) or more Estates will: <ul> <li>Undertake a formal Access Audit of the existing and proposed site to identify issues to be considered in the design process.</li> <li>Consult with the UWE Equality Diversity and Inclusivity Team and with one or more target user focus groups (starting at RIBA stage 2) and agree appropriate communication process and dates for ongoing consultation. The EDI Team will arrange an accessible venue, transport and communication support (but costs are to be funded by the project).</li> <li>The design team develops design to comply with the design guide, including accessibility/inclusivity features. Where features are 'to be considered', they will be discussed with the requester/focus groups to determine which features are reasonable to include in the brief.</li> <li>The access consultant will review designs as they develop, contribute to consultation events and stage gate reviews and provide a commentary in end of stage reports.</li> <li>Derogations are considered and managed by Estates.</li> <li>Develop and regularly review ongoing Design and Access Statement and Building Regulations Approved Document M access tracking schedule as required for statutory authorities, listed building or other 3rd party consents</li> <li>Ensure that all access and inclusion elements in design proposals are comprehensively specified, approved and signed off prior to issuing tender documentation to contractors.</li> </ul></li></ul>

<b>RIBA</b> Plan of		Core Inclusive Design Activities
Wo	ork	
5	Construction	<ul> <li>Regularly review accessibility of temporary signage, access routes, surfaces, hoardings, obstructions and control of dust and noise to ensure that safe inclusive access is maintained during the construction phase.</li> <li>Arrange for Access Consultant to attend site meetings, review material samples and provide ongoing access/inclusion advice during the construction phase as necessary (for projects with a construction value of £2.5m (exc. VAT) or more).</li> </ul>
6	Handover	<ul> <li>Undertake Access Audit (for projects with a construction value of £2.5m (exc. VAT) or more) and Snagging Schedule of completed works and undertake remedial action as required.</li> <li>The UWE softlanding approach may require training/briefing of relevant staff and students in the use of accessible features.</li> <li>Handover documentation to include details of/instruction for use of accessible features.</li> <li>Provide new or revised access management plan for the building.</li> <li>Update emergency evacuation plans to reflect changes to the building(s).</li> </ul>
7	Use	<ul> <li>Monitor accessibility feedback from users over 18 month post-occupancy period and collate findings.</li> <li>Undertake 18 month post-occupancy evaluation.</li> <li>Complete remedial actions and update access management plan as needed.</li> <li>Document findings and lessons learned in the overarching campus access strategy. This could lead to a change of project management processes and will lead to a review of the design guide and associated specifications.</li> </ul>

## **3.5 Strategy for Welfare Facilities**

The effective design of welfare facilities requires close co-ordination between the different design disciplines. Problems can arise if these facilities are seen as the sole province of the 'public health' engineer. Welfare facilities can be the most challenging and emotive issues facing design teams.

Adequate welfare facilities support a number of other UWE strategies such as health and wellbeing, equality, diversity & inclusivity, sports and sustainability (e.g. showers close to bike shelters to promote cycling and support our strategies on wellbeing and reducing car usage).

Compliance with Building Regulations, the Workplace (Health, Safety and Welfare) Regulations and relevant British Standards (e.g. BS 8300) are **not** sufficient on their own to provide a workable solution for UWE.

A 'like-for-like' approach to refurbishment of welfare facilities is **not** acceptable: Standards have changed and the configuration of existing welfare facilities may need significant alterations.

### 3.5.1 General design considerations

UWE has had to deal with a legacy of poorly considered design:

- Accessible toilets that cannot be accessed by a wheelchair user. Sometimes dimensions do not comply with BS8300. In other cases a 'compliant' facility has been positioned in an inaccessible location, for example where a structural column prevents a wheelchair from manoeuvring into the facility (the photo to the right illustrates this general principle).
- Toilets that are too small. The minimum width is 800mm. The Metric handbook and other documents illustrate how these toilets should be set out, including making provision for sanitary bins in gender neutral and female facilities.



- Floors lacking appropriate falls to enable use of floor drainage.
- Inappropriate finishes to walls, e.g. bare paint work which is stained by cast off water. In Chapter 5 Fabric and Structural Design, ceramic wall/floor tiles are to be avoided. Vinyl wall and floor finishes are preferred.
- Hand driers above other fixtures or features that are damaged by cast off water.
- Floor drains not being positioned appropriately to help deal with issues such as cast off water.
- The use of vanity units in accessible facilities preventing wheelchairs moving close to the sink.
- Sinks which do not permit easy access to the plug hole for Cleaning Services to clean. Sinks and handwashing troughs which have 'lips' likely to accumulate mould etc. following extensive use that will prove difficult to clean.

Integrated panel systems (IPS) should be used to conceal toilet cisterns (urinal traps must be exposed to facilitate cleaning). Vanity units are to be used if there is a row of sinks. The provision of toilet lids should be considered. An assessment must consider maintenance costs and impacts due to potential breakage or vandalism, whilst taking into account the health and safety benefits of preventing aerosol generation and contamination during flushing with no lids.

All Cubicles require coat/clothes hooks. In Accessible facilities these must be installed at the correct Doc M height.

Shower facilities and associated changing rooms are to be included wherever practicable. Depending on the anticipated demand on welfare facilities, clothes storage and drying facilities may be required and/or ventilation may require close attention. UWE shower facilities used by high numbers of cyclists have suffered from damp, odour etc. especially if clothes dry naturally.

Any sports facilities on campus are to have accessible WC, shower and change provision. As ever, designers must consider adjacencies e.g. If there are no shower facilities within reasonable walking distance of a new building then there is much more impetus to install them. UWE is keen to use effective design of welfare facilities to support our sustainability ambitions. For example UWE wishes to explore the use of boreholes or greywater, and this could potentially be used for toilet flushing. UWE's requirement for sensor taps and hand driers, and various other design features detailed elsewhere in this guide and the associated specifications, minimises both direct and indirect water usage (e.g. water associated with laundry operations).

### 3.5.2 Creating inclusive and accessible facilities

On all projects, design teams must ensure:

- All WCs that are accessible to ambulant users with lever or easy press taps and locks easily operable with a single, closed fist. Jeflock Accessible toilet locks fully meets this requirement.
- The provision of fully accessible toilets (i.e. gender neutral, accessible WC) to comply with Part M of the Building Regulations in terms of travel distances (which helps dictate numbers required) and BS 8300 in terms of design.
- Visual differentiation for all toilet seats against the white WC pan, for all toilets when the whole facility is being upgraded.
- As per Part M, in any separate-sex toilet, at least one cubicle must be fully designed for ambulant, disabled people in line with BS 8300. Any row with four or more cubicles must also have one enlarged cubicle for people who need extra space (including travelling with luggage).
- The doors of accessible toilets should be power-assisted wherever possible.
- Sanitary Bins are to be provided in all toilet facilities. Space for the bins to be located must therefore be incorporated into the design.
- Ensure that all Accessible WCs can be accessed directly without passing through a Male or Female WC area, as a disabled user may be assisted by a member of the opposite sex.
- Where there is more than one Accessible WC in a building, provide a choice of left and right hand transfer. These can alternate between floors, with lift access.
- Facilities for disabled users must have an alarm, complying with BS 8300, linked to an external flashing and audible beacon with the following poster displayed under the beacon: "When Light Flashes and Alarm Sounds, Contact East Reception on 0117 3289999 for assistance." This alarm should also be interfaced into the building main fire panel to alert Security / Gatehouse directly.
- Fire alarms are visual as well as audible in all accessible WCs and standard WCs, particularly in cubicles where partitions are taken up to the ceiling with no gap above the door.

Designers must ensure that on all new builds and major refurbishments:

- The UWE Equality Diversity and Inclusivity Team, and the Disability Team are consulted to have a meaningful input on the design of welfare facilities. Meetings may be facilitated by the EDI Team.
- They liaise with Faith and Spirituality as to the provision of a Wudu/Ritual Washing facility or any other requirements to support specific faiths.
- Establish if a larger Hygiene Room/Changing Places WC with dual transfer, variable height changing bench, level access shower and tracked ceiling hoist is needed. These benefit users who need personal assistance with using the WC, showering and changing. Location on campus will depend on where demand is likely to be greatest and where it can be most easily reached.

- Wheelchair accessible en-suites to campus residential accommodation to have fused spur power points pre-fitted to accommodate future tracked ceiling hoists and automatic wash and dry shower toilets.
- Part M of the Building Regulations show hand driers positioned 800-1000mm above floor level. UWE prefers them to be the centre of this range to suit people of different heights.

#### 3.5.2.1 *Gender neutral toilets*

As a general principle, UWE aspires for each building to have at least one gender neutral toilet. On large buildings (nominally anything more than 50m in length), facilities will be provided as a minimum on alternate floors. Major refurbishments must be used to consider retrofitting gender neutral provision. These aspirations may not always be achievable as UWE must work within the physical constraints of existing structures, drainage etc.

All Gender Neutral facilities shall have floor to ceiling partitions for privacy, dignity, safety and security reasons.

The preferred choice of signage is as detailed in the "UWE Signage Design Guidelines" document which is owned by the Space Management and Design Team. This is the master guide with regards signs and signage.

Signs must be replaceable with relative ease in response to growing awareness and new thinking around issues of gender identity.

### **3.6 Security Systems Strategy**

Any new buildings or refurbishments which extend, amend or could impair security systems must be discussed with the Security Manager (Head of Operations and Security). They will assess the scheme (in consultation with Estates and the occupying clients) and ensure the design provides the correct level of access control and security for that space. They may advise on specific measures required during the construction phase when security arrangements may be compromised.

Security must be considered holistically from the earliest stages of design. Concerns about, for example, positioning of doors and windows or the creation of 'blind spots' can be addressed early.

Security is only one design consideration. The security strategy aims to ensure a balance is achieved between securing and safeguarding the campuses and the people using them, whilst maintaining open campuses which can be used flexibly and can meet differing user needs.

UWE is not signed up to any specific security standards (e.g. Secured by Design) but this may be required on specific projects.

Where security systems are deployed they must be fit for purpose. Dysfunctional systems lead to a false sense of security and upset in the event of an incident. Security systems used at UWE are:

- Programmable Access Control and Door Monitoring
- Intruder Detection Systems (IDS)
- Physical Locks
- CCTV (with legally-required signage) 24/7 manned guarding presence on each campus.

Further guidance on the infrastructure requirements are set out in a later chapter. Designers must ensure containment for security systems is included and co-ordinated with the rest of the works.

### 3.6.1 A balanced approach

The security strategy is a proportionate response, balancing the risks (including of acts of terrorism) against our ambition to have open, accessible and inclusive campuses. Under the Counterterrorism and Security Act 2015, UWE is a Specified Authority and has an explicit legal duty to prevent people being drawn into terrorism. Our approach to inclusivity, including providing faith spaces, is an important mechanism for fulfilling this duty.

The design guide reflects our assessment of foreseeable security risks and scenarios. We are not over-specifying our structures, glazing etc. to withstand purely hypothetical incidents. However, the risks are reviewed routinely and may lead to changes in future.

### 3.6.2 **Impact of Security on Fire evacuation**

Doors on escape routes and final exits that are fitted with security devices must satisfy the requirements of fire safety: It must be possible for any person to easily and immediately open them in an emergency. 30N is the maximum allowable force to open a door.

## **3.7 Designing a Sustainable University**

UWE's vision is to embed sustainability throughout everything we do, from the courses we teach to the back-of-house services that keep the university running. Our Estate is no exception to this rule, and sustainability must be a strong theme throughout any new development.

UWE has a sustainability plan and can be found on the UWE Intranet. The Plan sets out a series of objectives and targets. Designers must familiarise themselves with these aspirations and consider how their achievement can be supported through the design of new spaces.

The University demonstrates its commitment to environmental sustainability through its certification to the international standard BS:EN ISO14001. The certification requires continuous improvement in environmental performance throughout the whole institution: Our estates, services and educational provision. The standard requires the university to consider the lifecycle impact of its products and services.

### 3.7.1 Sustainable Design Stages

Throughout the design stages, the University expects consideration of the following criteria:

Develop Brief	Use sustainability performance as one criteria in the selection of team members. Sustainable design features and requirements are embedded throughout the Design Guide and designers should be familiar with all relevant chapters. Establish stakeholders sustainability expectations/requirements. Establish and utilise benchmarks, targets or measurements for the project. These could include BREEAM, BRE Green Guide to Specification, BRE Sustainability Check List, RICS SKA HE assessment tool, EPC targets and other relevant standards/methods of assessment (incl. Building Regulations Part L). Begin implementing BSRIA soft landings (which are explained in UWE project management processes).
Concept design	Designers must consider the lifecycle implications of their designs and product selections. Specifically, from concept design onwards projects should seek to minimise resource depletion and environmental degradation, and be resilient to a changing environment, by considering the following criteria: • Maintenance • Materials • Water (incl. future availability and cost) • Energy (incl. future availability and cost) • Climate change (as explained elsewhere) • Waste Evaluate and incorporate new technologies and concepts.
Scheme Design	Prepare prediction checklist of chosen assessment tool. Use post occupancy evaluations/lesson learned from their past projects to make informed decisions e.g. refer to monitoring of energy performance from past projects to provide guidance on how Part L building regulations can be exceeded or achieved in a cost effective manner.
Detailed Design	<ul> <li>Incorporate UWE Design Guide requirements and recognised best practice.</li> <li>Consider clashes through use of BIM to eliminate basic design errors such as: <ul> <li>Tall cupboards blocking vents</li> <li>Partitions being erected without consideration of existing vents and/or radiators (creating one very hot room and one very cold one)</li> <li>TRV positioned behind desks</li> <li>Less-efficient plant selected to suit available space, rather than the design providing sufficient space at the outset.</li> </ul> </li> </ul>
Construction	Procurement of contractors, suppliers and materials based on their ability to meet sustainable KPI's.
Assessment Feedback	Benchmarking against energy use targets Post Occupancy Evaluation

### 3.7.2 Sustainability - Actions to be taken by the design team

UWE's Sustainability Plan contain specific measures that impact on the design of new structures. Specific actions that the design team must make towards meeting these are set out below.

Subject	Specific actions to be taken or considered by the design team			
Campus Development	<ul> <li>Projects with a construction value of £2.5m (exc. VAT) or more: Project briefs may augment the requirements of this design guide by defining specific sustainability/ energy standards to be met under certification schemes such as BREEAM or SKA. Preassessments must be carried out by accredited assessors at key stages of the design process together with a corresponding reconciliation of cost and value.</li> <li>Target CO<sub>2</sub> emissions rate must exceed those set out in approved document L2A by a minimum of 5%. At the design stage the designers must model the in-use energy consumption including unregulated emissions.</li> <li>All designs to comply with detailed stipulations in this design guide.</li> </ul>			
Carbon Management	<ul> <li>New buildings must have an Energy Performance Certificate (EPC) in line with the Directive<sup>1</sup>, to be provided by the person carrying out the construction project.</li> <li>Seek locally sourced materials and services to minimise transport impact.</li> <li>Select products with low whole life carbon emissions.</li> <li>Avoid over-specifying of materials, and consider embedded carbon.</li> <li>Agree a target Energy Performance rating for new buildings. The minimum is B.</li> <li>CIBSE guide TM39 (Building energy metering) must be followed for new buildings and major refurbishments. See the Mechanical Engineering Chapter for further details.</li> <li>Refurbishment projects with a construction value of £2.5m (exc. VAT) or more must consider energy efficiency improvements to existing building fabric and systems (as detailed in the relevant chapters within this design guide).</li> <li>The University's Carbon Management Plan may initiate specific projects to reduce emissions.</li> <li>Orienting and designing buildings to maximise natural light but minimise solar gain</li> <li>High heat gain activities (PC labs, data centres etc) are located: <ul> <li>Away from excessive solar gains (e.g. north facing façade)</li> <li>To maximise free cooling opportunities (e.g. with an external wall)</li> </ul> </li> </ul>			
Renewable energy	The following renewable energy sources must be investigated at all opportunities (and could potentially drive fundamental decisions such as building orientation):       • Solar thermal       • Wind         • Solar PV       • Air source/ground source heat pumps       • Biomass/Biofuel (under particular circumstances)			
Waste & reuse of materials in construction	• UWE has a 95% recovery target for waste. Projects with a construction value over £300,000 exc. VAT must have a site waste management plan (SWMP) to predict waste streams and plan to prevent, reuse and recycle. UWE project management processes explain what is required.			

<sup>&</sup>lt;sup>1</sup> The directive is Energy Performance of Buildings Directive 2002/91/EC. An EPC is also required for refurbishments if a building is modified to have more or fewer parts than it originally had and the modification includes the provision or extension of fixed services for heating, air conditioning or mechanical ventilation. Referenced from 'A Guide to energy performance certificates for the construction, sale and let of non-dwellings' 2<sup>nd</sup> edition July 2008, Communities and Local Government.

Subject	Specific actions to be taken or considered by the design team
	Note that SWMP are essential for the effective planning/costing of the work (e.g.
	making sufficient space allowance for storage or plans for traffic movements).
	• Given the scale of work at UWE, we expect project teams to consider 'adjacencies' and
	co-ordinate their approach to waste management: Waste from one project could
	potentially be reused on another (e.g. inert demolition waste could be used as hard
	core for another project).
	• Designs should be based on the principles of the "circular economy" which is:
	"restorative and regenerative by design, and which aims to keep products, components
	and materials at their highest utility and value at all times".
	Consider recyclability of materials and recycling pathways of high maintenance/short-
	life products (e.g. flooring).
	• Designers to avoid specifying, as far as reasonably practicable, toxic substances (which
	could contribute to an incident, or become hazardous waste in future).
Water	UWE has a standard specification for fittings for WC refurbishments to aid water
	efficiency including WCs, taps, urinals and associated controls.
	Include water conservation measures within the design.
	Use of rainwater and grey-water harvesting must be investigated for new builds and
	major refurbishments. Where possible a gravity fed system must be specified. For
	refurbishments, if retrofitting an internal system is not viable, the collection of
	rainwater must be considered for grounds watering purposes.
	Potential use of boreholes is being investigated at Frenchay.
Biodiversity	Grounds design to comply with Chapter 9 of this design guide to seek the best
	ecological options/opportunities.
Climate	Develop designs for operating under 2020 climatic conditions together with defined
Change	practical strategies for operating under 2050 conditions as set out in section 2.7 of this
adaptation	Guide. Particular attention should be paid to avoiding overheating.

### 3.7.3 **Other considerations informing product selection**

Designers must consider the impact on the environment when selecting materials (e.g. avoid overspecifying the use of cement). UWE encourages all designers to use A rated materials/products from the BRE Green Guide to Specification wherever reasonably practicable, and in addition to use materials in accordance with the RICS SKA HE assessment tool. Other requirements are set out in the Chapter addressing Fabric and Structural design.

### 3.7.4 **Funding Opportunities for Sustainability Measures**

If certain projects require additional funding to enable more sustainable travel or the most energy efficient option to be installed, then the Energy and Travel Teams within Facilities must be consulted to discuss possible opportunities to access external funding.

### **3.8 Design for Wellbeing**

It is believed we spend around 90% of our lives in buildings and these environments significantly impact our health and wellbeing, and ultimately our productivity and performance. Staff costs represent 90% of operating costs of an organisation (compared to 1% for energy costs). Even modest increases in performance and productivity (or reduced turnover, absenteeism etc.) brought about by thoughtful, "human-centred design" can lead to significant benefits for individuals and the organisation. The importance of user experience to our students and staff, and the value of human-centred design, must be considered alongside more traditional measures of whole life cost and capital costs during the design and delivery of campus development.

Measurable aspects of wellbeing such as light, air quality and temperature are no less important than connection to nature and a sense of ownership. Later chapters of the design guide set out UWE's approach to creating a comfortable environment. Often, thoughtfully placed design features can support positive wellbeing, as well as other UWE strategies. For example, trees can reduce solar gains and create a pleasant environment.

Buildings and external landscapes shall be designed with consideration of the university's smoking policy, found <u>here</u> (click 'here' to see it). In brief, building design and signage should discourage people from smoking outside buildings, particularly where smoke can enter doors/windows.

### 3.8.1 Multi-function, wellbeing spaces

Designers and project team must consider providing at least one multi-function space within new buildings or major refurbishments (projects with a construction value of £2.5m (exc. VAT) or more). These spaces can be used for:

- Space for quiet reflection or prayer
- Wellbeing activities (e.g. physiotherapy exercises)
- First aid provision
- New and expectant mothers (including where breastfeeding mothers can express/store milk)
- Diabetics can self-inject etc.

They must be colour neutral and image free and the equivalent size of a one person office. Where reasonable, especially in larger buildings, consideration should be given to two spaces: One to cater for physical wellbeing (first aid etc.), the other for mental/spiritual wellbeing.

Spaces catering for physical wellbeing should be equipped with refrigerators and storage (including a 'sharps bin'). Doors will need to be equipped with locks so that people will not be disturbed.

The justification and requirements of these spaces would need to be made on a project by project basis after consultation with the stakeholders. Sufficient measures must be put in place by the end users to ensure the space does not become a store room or overflow work space.

## 3.9 Religion and Belief

UWE is committed to provide an inclusive learning and working environment where students and staff of all religions or beliefs, or those who have no belief, can thrive.

Designers need to be aware that UWE is facing a growing set of challenges to meet the religious and spiritual needs of our community. In no particular order these are:

- Almost one third of our student population (approximately 10,000 students) identify themselves as having a religion and as such, they may wish to use existing faith facilities
- We are actively recruiting from communities and regions with strong faith traditions and the numbers of students who actively and routinely use faith facilities is increasing
- The existing facilities are struggling to cope with twice the demand they were built to accommodate. However, numerous 'pockets' of provision are not desirable unless there is consideration of how, in practice, they will be supported.
- Historically faith provision has been considered in a piecemeal and reactive manner.
- With the completion of new student residences in Frenchay, we have more students living on site leading to increased demands but also different patterns of demand.
- The existing Community Hub is celebrating it's 40<sup>th</sup> Anniversary in 2019, but (given the comments above) UWE is considering the need for alternative facilities.
- The legal landscape is developing and the Counterterrorism and Security Act 2015 places an explicit legal duty on UWE as a Specified Authority, to prevent people being drawn into terrorism. Our approach to religion and belief is a key element of how we meet that duty.
- Faith provision must be 'front of house' and readily accessible.

Designers <u>must</u> consult the University's Coordinating Chaplain in the Faith and Spirituality Team ahead of any major refurbishment or new build (projects with a construction value of £2.5m (exc. VAT) or more). The Chaplain will organise further consultation as required. For example, the Community Hub is overseen by a board of trustees which must be consulted on changes and faith groups would be consulted on their own specific requirements.

The design team will be assisted in determining what provision may be needed, or how we can improve access to existing facilities. Where specific features are needed (e.g. a faith room or ritual washing facilities), the design team will be advised on what is required.

Generally, faith spaces must be designed to cater for a multitude of faiths (creating a multi-faith space). As explained above, the UWE chaplain must be consulted to help the project team evaluate the likely demand and peak times of use (which will influence the size of the space), design etc.

A later chapter of this guide discusses memorial plaques. In brief, they are not encouraged.

# 3.10 Fire Strategy

#### 3.10.1 Fire Safety Standards

Buildings must be designed using BS 9999 (Code of practice for fire safety in the design, management and use of buildings) unless fire safety engineering using BS 7974 is needed.

The British Standard BS9999 and in particular Clause 35 on External fire spread and building separation must be followed. This applies to the standalone building, as well as the separation distances between adjacent buildings.

The UWE Health and Safety Team must be consulted regarding the proposed fire strategy which should be in line with PAS 911:2007. This MUST consider temporary alterations during mobilisation; temporary alterations during construction, and alterations at handover. Existing or new Evacuation Points may need to be altered / provided to accommodate any increase in numbers of people.

The UWE Bristol Fire Safety Management Policy (available on the UWE Intranet or on request from the UWE H&S Team) must be reviewed prior to detailed design in order to ensure that UWE's strategic approach to fire safety and overall assessment of fire risk is not compromised in any way. The UWE Health and Safety Team have also produced a comprehensive suite of Fire Safety Standards that outline the functional requirements of fire precautions on the UWE estate, including provision for people with disabilities, fire doors etc. The documents can be found on the UWE Intranet.

The Electrical engineering and IT infrastructure chapters of this design guide provides more technical details regarding fire detection and alarm, emergency lighting etc.

#### 3.10.2 Information requirements

All Project teams must consult the UWE Health and Safety team with regard the Fire Strategy information. At the design stage that for all new builds and major refurbishment work, a fire safety strategy must be provided, as referenced in the RIBA Plan of Work. The Fire Strategy will provide a clear set of measures encompassing fire precautions, management of fire safety and fire protection. A fire strategy is essential in setting out the fundamental requirements to provide UWE with relevant information from which to develop and implement effective prevention and protection solutions and appropriate fire safety management.

A Fire Strategy Policy template form is available in the Project Manual templates.

#### 3.10.2.1 **Regulation 38 of the Building Regulations & Fire Safety Information**

All works must comply with the Building Regulations and in particular that the requirement of Regulation 38 is fully met. UWE requires designers and project teams to comply with Regulation 38 of the Building Regulations regardless of the scope of the project. Regulation 38 requires: "*The person carrying out the work shall give fire safety information to the responsible person not later than the date of completion of the work, or the date of occupation... whichever is earlier."* The information will accurately record the physical fire safety precautions in place, and so enable risks to the relevant persons in the building to be understood in a way that allows them to be appropriately addressed. This information is critical to the safety of people in and around UWE

premises and essential in ensuring the premises can be operated and managed correctly. The information will also enable UWE to conduct a suitable and sufficient fire risk assessment for the premises.

Designers must provide Fire Safety Information if they are erecting, extending or changing the use of a building. Fire Safety Information relates to the design and construction of the building or extension, and the services, fittings and equipment provided in or in connection with the building or extension which will assist the responsible person to operate and maintain the building or extension with reasonable safety.

UWE undertakes numerous projects which alter existing fire protection systems but which do not represent an extension or change of use.

A building cannot be accepted if fire protection systems are not operational and if required fire safety information is missing.

#### 3.10.3 **Consultation with UWE Health and Safety Team**

The UWE Health and Safety Team is a key stakeholder. The UWE Health and Safety Team must be notified of projects at RIBA stage 1 to ensure that obligations under CDM 2015 are met. UWE is also the 'Responsible Person' under the Regulatory Reform (Fire Safety Order) 2005 and must have an active role in assessing the impact that the project will have on existing fire safety arrangements during construction and after handover.

Consultation with the UWE Health and Safety Team must commence at the equivalent of RIBA stage 2 (Concept Design). Critical decisions will be reached during this stage about architectural, building services and structural engineering and Fire Safety must be an integral consideration. Construction strategies will have developed to the point that the team will understand the wider impact of the project on UWE operations, staff and students and this may have an impact upon occupation limits.

### 3.10.4 **Design responsibilities for fire safety during construction**

Designers have a role to play in reducing fire risks during the construction phase. The Joint Code on Fire Prevention in Construction Sites provides guidance to designers and places a number of requirements on them. The code generally applies on projects over £2.5m but it can also apply to lower value but high-risk contracts. The code states that "the design should be assessed to ensure that fire risk and potential for damage have been fully considered to keep to a minimum during construction and use." The lead designer must ensure this is done.

On all projects, regardless of value, UWE requires that designers consider the following items which are copied verbatim from the joint code:

- The use of non-combustible and non-flammable materials to reduce fire loads
- Materials and methods that avoid the need for hot work on site
- Design details that prevent the passage of smoke and flames up through a building during the construction phase
- Design of access routes to enable the contractors to construct buildings in such a manner as to retain safe evacuation routes during the construction phase
- Design for fire fighting/alarm systems to allow early use possibly on a partial use basis.
- Noticeboards fitted on walls of fire exit routes may, by the nature of their material and the displayed material, be the fuel of a fire outbreak and cause its spread to risk safe escape of

building's occupants. Reference the UWE Fire Safety Standard FSS14 with regard the fitting of noticeboards. Noticeboards must not be fitted in staircases, landings and lobbies.

HSE guidance HSG168 (Fire Safety in Construction), highlights the need for effective communication between dutyholders. This ensures, for example, fire compartment walls are identified and designs/programmes allow for temporary fire-stopping. The Principal Designer plays a key role in collating and distributing this information and reviewing design risk information. The UWE Health and Safety Team reviews the Principal Contractor's plan for managing fire risks, which is part of the Construction Phase Plan.

### 3.10.5 Third Party Accreditation

All projects and works will utilise third-party certification schemes for fire protection products and related services as an effective means of assuring that the items are fit for purpose, of good quality, reliability and safety, and as a means of demonstrating that UWE has complied with relevant legislation.

Wherever possible, UWE will use UKAS Accredited Third Party Certificated providers. This should ensure the provider is working to the latest appropriate standards and best practice for the specific service they deliver and that annual checks have been made to verify necessary competencies and management systems to ensure that the provider can do what they say.

### 3.10.6 Fire Stopping

All specifications or other designs for fire stopping around linear joint seals, service penetrations and small cavities must conform to the current editions of:

- Section 10 of Approved Document B of the Building Regulations.
- The Association for Specialist Fire Protection (ASFP) Red Book Fire Stopping: Penetration Seals for the Construction Industry.
- ASFP Red Book Fire-stopping: Linear joint seals, penetration seals and cavity barriers
- ASFP Technical Guidance Document TGD 17: Code of practice for the installation and inspection of fire stopping systems in buildings
- ASFP On-site guide to installing fire-stopping

These documents set out what fire-stopping solutions can be considered for different applications and matters to consider during installation. Fire stopping must be an integral design consideration, rather than an afterthought, to ensure that it is aesthetically in keeping/co-ordinated with the fabric and mechanical designs.

Only competent installers are to be used for fitting only certified fire stopping products. Principal contractors are responsible for ensuring the competency of fire stopping installers whom they appoint and should undertake suitable monitoring of work during the construction phase.

UWE standardise on certified approved fire stopping products as supplied only by Quelfire or Rockwool. These products cannot be mixed in the same location. No expanding foam of any description is to be used anywhere, regardless of any fire retardant properties. All fire seals shall be labelled, in accordance with TGD 17, using a label or plate affixed to the seal or adjacent supporting construction. This shall contain the seal number, fire resistance period, and installer company details including name of operative and date of installation. Seal number should use the code CAMPUS/BUILDING CODE/FLOOR/ROOM NUMBER/UNIQUE IDENTIFIER (1, 2, 3 etc.).

All the label/tag information shall be supplied in an excel spreadsheet using the same headings as the label/tag. Photographs of each seal shall be inserted in a final column. If the project is being modelled in BIM, alternative arrangements can be agreed as part of the BIM execution plan.

The location of fire stops must be shown on the as-built drawings, detailing the seal number and thus enabling UWE to cross refer to the excel spreadsheet and undertake routine inspections.

### **3.11 Printer Allocation Policy**

Designers need to make adequate provision for printing. To do that in a consistent and planned manner they need to aware of the UWE Printer Allocation Policy.

In the past, printers have been purchased without regard to the lifetime cost of the device. Savings can be delivered to the University if the proliferation of printers is halted, more people share devices and personal printers become the exception rather than the rule.

The aim of the "Allocation Policy" is to provide guidelines for future printer deployment. Printing and Stationery (PSS) is a key stakeholder for any project and must be consulted as soon as it is clear that printers may need to be moved/removed/replaced or added.

They will help assess current and future printing demands, advise on printer specifications and locations, including the space needed for printing supplies, and help the project team to apply the basic principles of the Printer Strategy. Some general points to note are:

- A space approximately 1.5m x 1.5m is required for each printer which will be floor-standing.
- Smaller machines are available where usage will be low but may need to sit on a worktop or desk.
- Devices will need 1 x TSSO (1 outlet for the machine and 1 for a servicing technician's use).
- Each will require 1 x wired data outlet. Direct connection to a PC will only be permitted in highly exceptional circumstances as this seriously restricts sharing. Connection of printers to the network via WiFi is not currently supported.
- Power and data sockets must not be located in floor boxes where there is any likelihood, now or in the future, of the printer covering the floor box.
- Storage space for paper and other consumables will be required. For larger machines in highuse areas storage for up to 30 boxes of paper may be required.
- Space will be required to maintain and repair the machine. The machine will need to be moved out of position and rotated to access some parts and this has to be conducted in a safe space for the technician and other personnel.
- Consideration must be given to providing sound-deadening screens in areas that will be quiet to avoid disturbing occupiers of the room.

Please note that printers being introduced as part of a project must be purchased out of project funds. There is no central budget for new provision.

#### 3.11.1 **Printer Location Assessment**

The increased use of shared printers and copiers has led to electrical equipment moving from a room, fitted with a door, into escape routes and corridors which people will need to use in an emergency. This creates a fire hazard in what is expected to be a relatively sterile area, free from combustible materials, ignition sources and obstructions.

Under no circumstances must a printer workstation be located:

- In residential accommodation
- In a protected staircase
- Where there is an escape route in a single direction only.
- Where the workstation would reduce the available escape width below 1200mm.

The following standards must be referred to when making decisions about printer locations:

FSS05: Maintaining the Means of Escape

HSS11: Circulation Space

### 3.12 UWE Sport Vision

Providing facilities for health, physical activity and sport will support UWE in meeting the ambitions set out in the UWE Bristol Strategy 2030. Sports facilities are used for a range of purposes beyond physical activity and sports, such as occupational health assessments. There is a strong association between physical activity and physical and mental wellbeing.

Therefore, the UWE Sports Vision is to provide every student with the opportunity to play sport or take part in healthy activity at a time and level appropriate to them.



### 3.12.1 How the Estate supports the UWE Sports Vision

Designers must engage with the Centre for Sport to notify them of forthcoming projects affecting or expanding sports facilities and determine their requirements from the masterplan or specific buildings. They will, in consultation with users, advise on the facilities that are needed and specific design features (e.g. floor finishes) required to make those facilities functional and attractive.

The Centre for Sports can suggest creative uses of relatively small internal or external spaces to help delivers the Sports Vision, and ultimately support Strategy 2020. Therefore, they must be consulted ahead of major refurbishments or new builds.

### 3.13 UWE Transport Strategy

The University promotes the following general principles in regard to design of new and refurbished transport infrastructure on campus. Many of the issues mentioned here are discussed further in the Chapter addressing hard- and soft-landscaping:

- Provision for transport users needs in a hierarchy, with pedestrians, cyclists and disabled users at the top, followed by public transport users and then private motorcycles and cars.
- Application of the UK Governments 'Manual for Streets' guidance (click <u>this link</u> to see it), including especially shared space principles.
- Spatial separation of transport infrastructure on campus, with the central areas of campuses primarily designed for pedestrians, with parking peripheral to the site.
- Consideration of all transport needs, including safe and efficient servicing access and consideration of access for all modes including motorcycle, taxi, emergency vehicles etc.
   Access and maintenance/plant replacement strategies may also require MEWP/Crane access.
- Promoting use of electric vehicles by introducing charging points.
- Legible pedestrian routes for key routes within campus to be strengthened through the design process (see the signage and wayfinding strategy next).

 Cycle facilities in new builds shall have adequate sheltered and secure cycle parking, lockers and showers, including facilities for disabled persons who may use a hand-powered cycle and require wheelchair storage. New cycle parking to follow Bristol City Council guidance (click <u>this</u> <u>link</u> to see it).

The design team must work closely with the Local Authority to ensure that all requirements for the site specific transport strategy, traffic assessment and environmental impact assessment are met.

UWE has a risk assessment addressing the interface of vehicles and pedestrians. Any designs that change or introduce new interfaces must be discussed with the UWE Travel and Access Team.

### 3.14 Signage and Wayfinding Strategy

Effective wayfinding can have a significant impact on the life of the University: It enables staff, students and visitors to navigate and move smoothly through our buildings and estate, helps to reduce confusion or anxiety and creates an inclusive environment. Wayfinding also reinforces the UWE brand, by creating a consistent theme that reflects UWE's values and aspirations, and provides critical information that supports a range of other strategies (e.g. fire and wellbeing). In contrast, ineffective wayfinding (e.g. lack of information about accessible routes or facilities) can create unnecessary barriers and stress. UWE has therefore created a standard specification which sets out in detail the design and application of signage to support efficient wayfinding. Refer to the "UWE Signage Design Guidelines" document, which is owned by the Space Management and Design Team. This is the master guide with regards signs and signage.

Different user groups have varying demands in terms of information required and preferred methods of communication, so UWE has identified a multi-strand strategy to enable improved wayfinding around and between its campuses. This strategy consists of:

- Physical signage and wayfinding totems (both internal and external)
- Electronic signage
- Wayfinding apps and online mapping tools

### 3.14.1 **Physical Signage**

UWE has engaged a specialist signage and wayfinding consultant (ABG Design) to work with the University on a new physical signage strategy consisting of a new signage family. This will be applied to future capital projects and a phased replacement/update programme to existing signage will be undertaken. In brief, project teams need to be aware that:

Different types of signs exist for different functions, providing ever increasing levels of detail to
allow individuals to find their destination. This represented in the image, below. If changes
are being made to the layout of a building (e.g. adding/removing rooms or facilities such as
showers or cycle parks), the wayfinding signs must be traced back to determine what signs
need to be updated. The project budget and programme must allow for these amendments.

- Certain signs require power and/or data or controls (e.g. for lighting and remote change of the display). Projects which install or change signage will need to allow for these supplies.
- Please contact Estates for the current specification for signage.

#### 3.14.2 **Electronic signage**

The dynamic, ever-changing nature of UWE means that physical signage can quickly become outdated and is costly to update. Electronic site display screens and signs can be considered at key locations – particularly at entry points and near receptions/information points. The displayed content can be controlled remotely to highlight current events or important information. Electronic signage must be considered alongside physical static signage. This can be particularly useful for teaching spaces or meeting rooms, where wall-mounted tablets can display live timetables of room bookings or scheduled teaching. Projects must allow for the addition of power and data supplies in these cases. Power management must be considered, with the ability to programme equipment to switch off when buildings / areas are not in use.

### 3.14.3 Wayfinding Apps and mapping tools



Along with physical signage on site (whether fixed or electronic) there is an emerging requirement

for mapping tools which can be used on mobile devices. UWE has engaged with a company called MapsPeople to create a web-based mapping tool, which sits on top of the Google Maps platform. This allows users to navigate across complex sites using step-by-step directions and to select preferences or certain criteria such as accessible routes only. Another feature of the wayfinding app is that users can search for specific facilities which may not otherwise be signpost on physical signage (e.g. specific room numbers). As this is further developed, it is envisaged that this

becomes a more prominent wayfinding tool which can be embedded in various communications such as emails, open day or event information etc. This technology will be developed in consultation with users, including targeted focus groups to ensure it is accessible and inclusive.

### 3.14.4 **An inclusive and accessible Wayfinding Strategy**

In addition to the various, inclusive features mentioned above, the strategy will ensure:

- Accessible routes are shown on signage diagrams.
- Location of accessible and gender neutral WCs, faith or wellbeing spaces are indicated on 'Type 4' floor plans.
- Symbols to WC doors and to other main spaces to be raised and tactile.
- Signage to be of a matte finish.
- All physical maps to be marked with a 'you are here' identifier.

### **3.15 Occupancy Hours**

Our occupancy hours can drive various aspects of the design, such as heating, lighting, security etc. The precise details will need to be established on a project-by-project basis. The Mechanical Engineering Chapter has further information on core hours. In brief, core hours are:

Space	Hours
Office space	08:00 – 18:00pm
Teaching	08:30 – 18:00pm
Sports	07:00 – 22:30pm
Library/IT areas	Up to 24 hours (potentially also throughout vacation periods which must be carefully considered when planning the security strategy)
Student accommodation	24 hr