

UNIVERSTY OF NEWCASTLE INTERIOR DESIGN GUIDELINES

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Traditional custodians

The University of Newcastle acknowledges the traditional custodians of the lands within our campus footprint areas: Awabakal Nation, Darkinjung Nation, Biripai Nation, Worimi Nation, Wonnarua Nation and Eora Nation. We also pay respect to the wisdom of our Elders past, present, and emerging.

The University, through our investment in projects and infrastructure, commits to helping support the health and wellbeing of Country by valuing, respecting and being guided by the knowledge and wisdom of Aboriginal people, who know that if we care for Country, it will care for us.

1 Introduction and objectives

This document outlines the University of Newcastle's principles, minimum requirements and standards for minor refurbishment projects, major refurbishment projects and new building projects.

The Guidelines aim to provide a consistent approach across University projects and spaces, providing:

- standards of quality, accessibility and workplace health and safety
- fitouts embedded with adaptability and ready for future change.

The Guidelines coordinate with the University's approach to space management. The Guidelines maximise the use of space as a significant University asset and align the use of space with the University's strategic aims.

The University actively seeks high quality and innovative spaces that allow our staff and students to work and learn in the best way. The Guidelines do not replace or prevent individual projects having distinctive and innovative design solutions.

This manual refers to internal fitout only and it does not cover issues relating to the base building shell, except where building services directly impact the fitout.

2 Using these guidelines

Infrastructure and Facilities Services (IFS) staff, their consultants and contractors use this document for the planning, design, management, and operation of internal fitouts of University buildings and spaces. The principles within these guidelines may be used to assess allocation of existing spaces. These guidelines apply to all space owned, operated, leased, or licenced by the University.

The document applies to National Construction Code (NCC) Class 5, 6, 7, 8 and 9 buildings. Principals of the Guidelines may apply to University projects involving Class 1, 2, 3, 4 and 10 buildings.

Where a project seeks departure from these Guidelines, seek early approval from Deputy Director, Campus Development, Infrastructure and Facilities Services.

Coordinate the implementation of these Guidelines with other related University organisation units and teams, including Workplace Health and Safety team within Human Resource (HR) Services and Digital Technology Solutions (DTS).

These Guidelines operate within the framework of the University's Space Management Policy 2023 and Space Management Allocation Guideline & Procedure 2023.

Target rates for utilisation of specific space types, and workplace planning allocation ratios are contained with the Space Management Allocation Guideline & Procedure and directly impact the implementation of this Guidelines.

Appendices within this Guideline provide University requirements for finishes, fixture, fittings, and furniture.

3 Design Philosophy

The University seeks fitouts that are flexible, collaborative, comfortable and contemporary.

The University's values of *Equity*, *Excellence*, *Engagement* and *Sustainability* are embedded in these Guidelines.

3.1 Excellence

Excellent workplace, teaching and research environments improve the experiences of staff and students.

Innovative fitouts enable innovative ways of working, teaching, and learning, and prepare the University for future challenges and opportunities.

Excellent facilities assist in attracting and retaining staff and students, attract industry partners, and enable engagement with and beyond our region.

3.2 Design adaptability

Design adaptability is achieved through a modular floor layout and the wide use of freestanding furniture. Interior solutions based on a 'plug and play' or a 'loose fit' approach enable the timely and cost-effective changes to fitouts, and avoid expensive churn works when our ways of working, teaching, and learning change.

3.3 Ergonomic design

The values of good ergonomic design are implemented everywhere. Work Health and Safety (WH&S) requirements are embedded throughout the fitout.

The University seeks to provide spaces that excel in safety and enhances the health, safety and wellbeing of staff and students. We look to move beyond minimum statutory standards.

3.4 Equity and access

Universal Access Design Principles are applied to enable spaces that are equitable, accessible, and welcoming to all.

1. Equitable Use: The design is useful and marketable to people with diverse abilities.

2. Flexibility in Use: The design accommodates a wide range of individual preferences and abilities

3. Simple and Intuitive Use: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

4. Perceptible Information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

5. Tolerance for Error: The design minimizes hazards and the adverse consequences of accidental or unintended actions.

6. Low Physical Effort: The design can be used efficiently and comfortably and with a minimum of fatigue.

7. Size and Space for Approach and Use: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

The University's Access Design Guidelines are used to inform the design of equitable and accessible spaces.

Access to premises generally complies with AS1428.2 ('Design for access and mobility Part 2: Enhanced and additional requirements - Buildings and facilities') enhanced requirements as a project standard, moving beyond the minimum statutory requirements of AS1428.1 ('Design for access and mobility, Part 1: General requirements for access - New building work').

3.5 Sustainability

Fitouts incorporating ecologically sustainable principles minimise environmental impacts and provide a healthier workplace.

Ecologically sustainable design principles are applied to fitouts to lower environmental impact. Ecologically sustainable fitouts assist the University in achieving our 2025 carbon neutrality goal, embedded within the University's Environmental Sustainability Plan 2019-2025.

Fitouts are designed, constructed, and operated in accordance the University's Environmentally Sustainable Design - Project Briefing Document. This includes achieving Green Stair certification where required by the ESD – Project Briefing Document.

Fitouts are financially sustainable and consider whole of life financial impact.

Fitout designs consider ongoing maintenance requirements and maintenance costs; high maintenance designs are avoided.

Fitouts contain durable finishes, fixtures, and furniture with appropriate design lives.

Some business-as-usual furniture elements are standardised to allow rapid relocation and redeployment of furniture as business requirements change. Some business-as-usual finishes are standardised to allow rapid reactive maintenance using standardised spare materials available on campus. Refer to Appendix 1 and Appendix 2.

4 Referenced standards and guidelines

The University aims to provide interior fitouts with an excellent standard of compliance and safety, and aims to exceed minimum standards and mandatory requirements, where feasible.

The Guidelines are read in conjunction with the following standards and documents:

- National Construction Code (NCC) (and Australian Standards and other documents referenced within)
- Work Health and Safety Act 2011 (NSW)
- Disability (Access to Premises Buildings) Standards 2010 (Commonwealth), incorporating Disability (Access to Premises Buildings) Amendment Standards 2020
- Australian Standard AS 1428.2:1992, Design for access and mobility Enhanced and additional requirements Buildings and facilities
- Australian Standard AS/NZS 2982:2010, Laboratory design and construction
- Australian Standards AS 2243 suite, Safety in laboratories, including AS 2243.1:2021, AS 2243.2:2021, AS/NZS 2243.3:2022, AS/NZS 2243.4:2018, AS/NZS 2243.5:2004, AS/NZS 2243.6:2010, AS/NZS 2243.8:2014, and AS/NZS 2243.9:2009.
- Education Services for Overseas Students (ESOS) Act 2000 (Commonwealth)
- Heritage Act 1977 (NSW)
- The University's Heritage and Conservation Register (S170 register), made under Section 170 of the Heritage Act 1977 (NSW)
- Safework NSW Code of Practice: Managing work environment and facilities
- Safework NSW Code of Practice: Managing the risks of respirable crystalline silica from engineered stone in the workplace
- Safework NSW Code of Practice: Managing the risks of plant in the workplace
- Safework NSW Code of Practice: Safe design of structures
- Safework NSW Code of Practice: Hazardous manual tasks

IFS publishes several University standards and specifications that guide the planning, design, management, operation, and maintenance of fitouts. They are designed to be used in conjunction with the early engagement with the IFS Operation, Strategy and Project teams. Appendix 3 includes a list of University standards and specifications, current at the time of this Guideline's publication.

5 Workplace (office space) requirements

Objective and University organisational culture and value	Workplace design requirements					
Helps us create real connections internally and externally	A diverse workplace that optimises the potential for multidisciplinary engagement and collaboration so we can foster, grow, and leverage our networks.					
Amplify transparency, visibility, and connectedness	An open workspace, where people are visible and accessible. Where barriers are broken down between staff, research students and industry partners to allow knowledge to flow easily across and organically across disciplines.					
	A workplace that will encourage people to strike up a conversation with anyone, because everyone seems familiar.					
	Digitally connected, where our people, skills and expertise are visible and accessible.					
Enable flexibility and	Spaces that flex around us as we shape the future.					
scalability into the future	Space that allows our people to have a go at doing things differently, to take risks, to work in new ways. Allowing teams and individuals to organise themselves and their space to best suit their needs.					
Support a diverse mobile workforce	A workplace that gives us the choice and variety to connect in different ways that match all our diverse working patterns. That enhances mobility and allows us to work from any-where, any-time, on any- device.					
	Spaces that support a range of intensity (noisy, buzzy, hushed, and silent) and work modes, with a mix of social, interactive, and quiet reflective settings.					
Provide a platform	A working environment that encourages us to be curious and explore					
for inventiveness and action	A working environment that supports our existing and evolving future activities					
Supports an inclusive and diverse	A workplace that welcomes variety and difference, where people care, help, and trust each other					
University community	A workplace that promotes equitable access for all and meets statutory compliance requirements, work health and safety standards, and appropriate environmental standards.					

5.1 University workplace design principles

5.2 Activity based workplace (ABW)

As the adjective 'activity based' points out, ABW provides work settings that match the kind of activities people perform – project rooms for project work, quiet rooms for quiet work, phone booths for phone calls and so on.

Increasing the quantity and quality of ABW environments within the University represents a fundamental shift in the way space is used and is accompanied by a corresponding shift in workplace culture and operations.

An ABW environment typically consists of the following groups of spaces:

- Workspaces: spaces for desk-bound/computer-related activities
- Collaboration spaces: spaces for meetings and other types of interaction
- Support spaces: spaces for practical activities.

The University expects the implementation of ABW will minimise the number of private office spaces.

These guiding principles on space types cover everything from sizes and quantities to adjacencies and acoustics.

It is important to note that ABW information presented in this Guideline may differ across the University, with different business units working in different ways. A core feature of ABW design at the University is the analysis of current working styles and if the activity is likely to change in the future. Analysis informing the design of ABW workspaces is captured during the project's pre-design phase, and the research and information-gathering activities of the concept design stage. A summary of analysis is reported back to stakeholders in the form of a return brief.

ABW feature	Requirements
Task complexity	The extent to which activities are cognitively demanding (relates to the need for visual and auditory privacy)
Interaction	The extent to which tasks involve face-to-face interaction and collaboration (relates to the need for collaboration spaces)
Task autonomy	The degree to which tasks can be performed independently (relates to the need for access to/ proximity of one's team or supervisor)
Task variation	The degree to which people's tasks differ over the course of a day (relates to the variation of work settings that must be provided)
Mobility	The degree to which employees are mobile, inside and outside the office (relates to the need for 'touch down' spaces)
Technology/ equipment	The kind of 'stuff' people use in their work, such as zoom or white boards (relates to the provision of these items)
Mode	The degree to which activities are formal or informal (relates to the kind of 'look and feel' that is needed in a space).

'Getting the mix right' is the key to a successful ABW fitout, and needs to consider:

5.3 Staff Workspace Planning

The planning of workspace will consider three key zones: Workspaces, Collaboration and Support. Other spaces may also be included where relevant and specific to Colleges and Divisions. A range of workspace types and planning ratios that support the different ways staff work is noted in the University Interior Design Guidelines.

The Workspace zone allows for thinking, quiet work, concentration, and focus activities. It comprises a variety of enclosed and open spaces with access to a range of workpoint setting types, including individual workpoints, group workbenches, focus rooms, focus pods, zoom booths, and support spaces such as conversation rooms and recording rooms. All Workspace zone areas where computer work occurs will meet ergonomic standards in layout and equipment provided.

The Collaboration zone is a place to meet with students, staff, and visitors. These spaces are explicitly designed for collaboration, such as formal meetings, informal chats, brainstorming sessions, one-on-one conversations, 'stand-ups' and other kinds of interactions. Collaboration spaces used as work areas will meet ergonomic standards in layout and equipment provided.

A Support space zone allows for necessary services that support the operations of the workspace and building occupants. It comprises amenities, specialist storage requirements, utility, and concierge.

5.4 Workspace

Workspaces are defined as those spaces that are specifically designed for desk-related activities such as reading, researching, writing, and phoning. The main differentiator between the various kinds of workspaces is the degree of enclosure.



Open workspaces

Workpoints placed in an open area, typically in clusters of 4, 6 or 8 units with low or no partitions between each workpoint. Suitable for collaborative work and general office tasks that require a medium level of concentration. This type will usually make up most work settings.

Semi-open workspaces

Workpoints with semi-high enclosure, providing a sense of visual and acoustic privacy in the absence of floor-toceiling partitions. Suitable for activities which demand medium to high concentration and limited interaction.

Focus rooms

Fully enclosed, soundinsulated room that allows people to escape the buzz of the open work area. Suitable for activities that require concentration and/or privacy. Ideally, the room can also be used for small meetings, phone/zoom calls, and lecture recordings.



Study / library

Enclosed room with multiple workpoints, intended for 'heads-down' work in a group setting. A getaway from the chat and interruptions of open work areas. Like a library reading room (phone-free, muted conversation only). High acoustic privacy with partitions between workpoints.

Phone booth

Enclosed or semi-enclosed area where people can go when they must make or take a phone call or video call that requires a degree of focus and privacy. Can be used as a way of removing noisy activities from open work areas. Can overlap with focus rooms to create flexibility in use.

Project Room

Enclosed room with several workpoints, combined with collaborative features such as meeting tables and whiteboards. Suitable for project work or teamwork that is confidential and/or demands frequent consultation.

Private office

Private offices are the exception rather than the norm and are offered to executive staff only, including Head of School and Director. They provide spaces for frequent confidential and high-value meetings. The office provides dignified and respectful space for difficult conversations.

5.5 Collaboration spaces

Collaboration spaces are spaces that are explicitly designed for collaboration, such as formal meetings, informal chats, brainstorming sessions, one-on-one conversations, 'stand-ups' and other kinds of interactions.



Booth

Huddle

Semi-enclosed space for small meetings, collaboration, and individual work. Typically has high-backed seating, as in a classic diner booth, that provides a sense of visual privacy while still being part of the open space around it. In some cases, booths are ceilinged. An open meeting space with an informal, comfortable feel. It can function as a congregating point for teams or departments. Suitable for informal discussions, relaxation, or work, should people so wish.

Stand-up space

Open or semi-enclosed space for 'stand-ups'. Suitable for informal discussions and meetings that do not require seating. Typically features a large video screen and/or a writable surface.



Small meeting

Medium meeting

An enclosed meeting room for two to four persons. Suitable for small meetings, interviews, and confidential discussions. Typically, available as a bookable space and zoom enabled. Can overlap/be combined with focus rooms to create flexibility in use. Enclosed room for planned group meetings with larger groups (6-12 persons). Should provide wall space for writing/brainstorming and digital technology for presentation viewing and zoom.

Large meeting

Enclosed room for planned group meetings with larger groups (≥ 14 persons), typically providing some formality and privacy. Should provide wall space for writing/brainstorming and digital technology for presentation viewing and zoom.

5.6 Support spaces

Support spaces are practical facilities providing staff with water, food, storage, stationery, and other essentials. As practical spaces they attract people and are used to influence social interaction within the workplace.



Kitchen/breakout area

Facility that gives staff easy access to water, coffee, and tea. Sometimes it is a full kitchen with refrigerator, microwave, and dishwasher for example. Ideally designed as a place that encourages socialisation and a destination where people run in to each other. Smaller micro tea points may emphasise function over socialisation.

Locker space

Area with lockers for the storage of personal items, including tech equipment deployed at workpoints, including keyboards and headsets. Staff members who call the space their 'primary workspace' will receive a locker. Staff who work from the workspace intermittently may have access to a locker.

Storage (shared/individual)

Space for the storage of documents, books, or other team items. Can be individual or group storage. The need for storage is very much dependent on the nature of peoples' work processes and the degree of digitisation.



Print station

Semi-enclosed space containing MFD machine for copying, scanning, and printing, a shredder bin and stationery. Acoustic separation to contain noise is ideal but not essential. Often with mechanical exhaust.

Reception and landing zone

Entrance area to the building with seating for visitors and reception. Large lobbies can double as informal meeting areas when combined with a coffee facility. May be basebuilding or fitout.

Café / large staff lounge

Facility where staff can go to eat. Can be designed and serviced in such a way that the areas can be used as informal meeting and workspace.

Parents room

Private space for breastfeeding children or expressing and storing breast milk. These spaces enable the University's ongoing accreditation as a Breastfeeding Friendly Workplace. University staff, student and visitors use Parents Rooms.

5.7 Specifications for workspace

	Open workspace	Semi-open workspace	Focus rooms	Study library	Phone booth	Project room	Private office
Activities facilitated by this space	Brief collaboration Generic computer work and desk work. Impromptu conversations	Generic computer work and desk work. Individual focus work	Face to face meetings Solo focus work Phone calls Video calls and preparation of low fidelity digital teaching materials	Solo focus work	Phone calls Video calls	Generic computer work Team work Collaboration	Generic computer work and desk work Face to face meetings Solo focus work Phone calls Video calls Difficult conversations
Activity zone	Interactive zone	Quiet zone	Quiet zone May form buffer between interactive zone and quiet zone	Quit zone	Interactive zone	Interactive zone	Quiet zone
Ambiance	Collaborative, open	Private, quiet	Private, quiet	Calm, scholarly	Transitional, focused	Collaborative, workshop-like	Private, quiet, executive
Position	Away from busy circulation areas and social functions	Close to open workspaces	Close to, and visible from, open workspaces	Close to, and visible from, open workspaces , or centralised	Close to, and visible from, open workspaces	Close to, and visible from, open workspaces	Away from busy circulation areas and social functions Close to core of floor plate to allow other spaces unrestricted outlook to facade glazing and benefit of natural light.
Size	4 – 5 m ² including allowance for internal circulation	4 – 5 m ² including allowance for internal circulation	2.5 to 3 m ² per occupant. Not less than 6 m ² for accessibility compliance	3 to 4 m ² per occupant	2 to 3 m ² per occupant. Not less than 6 m ² for accessibility compliance	3 to 4 m ² per occupant	9 to 12 m ²
Quantity and ratios	7 workpoints per 10 staff	1 or 2 workpoints per 20 staff	1 workpoint per 10 staff	1 room per 50 or 100 staff This may vary across business units	1 room to 20 or 30 staff	Varies and dependent on business requirements	Varies and dependent on business requirements

	Open workspace	Semi-open workspace	Focus rooms	Study library	Phone booth	Project room	Private office
Capacity	1	1	1 person working, or 2 people in micro meeting or discussion	Varies and dependent on business requirements	1	Varies and dependent on business requirements	1 person working 3 people in discussion or meeting
Environment	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.
	Access to natural daylighting Outlook to exterior spaces.	Access to natural daylighting Outlook to exterior spaces.	Access to natural daylighting preferred – may be shared with adjoining workspaces. Outlook to exterior	Access to natural daylighting Outlook to exterior spaces.	Access to natural daylighting preferred – may be shared with adjoining workspaces. Outlook to exterior	Access to natural daylighting preferred – may be shared with adjoining workspaces. Outlook to exterior	Access to natural daylighting preferred – may be shared with adjoining workspaces. Outlook to exterior
			spaces not required.		spaces not required.	spaces not required.	spaces not required.
Acoustics	Reverb time <0.5 s Background noise <40 dB	Reverb time <0.5 s Background noise <40 dB	Reverb time <0.7 s Background noise <40 dB	Reverb time <0.7 s Background noise <40 dB	Reverb time <0.7 s Background noise <40 dB	Reverb time <0.7 s Background noise <40 dB	Reverb time <0.7 s Background noise <40 dB
	Sound insulation towards circulation spaces (Rw) >30 dB Sound insulation towards functional space (Rw) >40 dB Sound insulation towards amenities (Rw) >45	Sound insulation towards circulation spaces (Rw) >30 dB Sound insulation towards functional space (Rw) >40 dB Sound insulation towards amenities (Rw) >45	Sound insulation towards circulation spaces (Rw) >30 dB Sound insulation towards functional space (Rw) >40 dB Sound insulation towards amenities (Rw) >45 Acoustic design required when room intended for preparing teaching material.	Sound insulation towards circulation spaces (Rw) >30 dB Sound insulation towards functional space (Rw) >40 dB Sound insulation towards amenities (Rw) >45	Sound insulation towards circulation spaces (Rw) >30 dB Sound insulation towards functional space (Rw) >40 dB Sound insulation towards amenities (Rw) >45	Sound insulation towards circulation spaces (Rw) >40 dB Sound insulation towards functional space (Rw) >45 dB Sound insulation towards amenities (Rw) >45	Sound insulation towards circulation spaces (Rw) >30 dB Sound insulation towards functional space (Rw) >40 dB Sound insulation towards amenities (Rw) >45
Inclusions	Carpet tile floor finish generally Sound absorbing ceiling finish Sit-stand desk and task chair to	Carpet tile floor finish generally Sound absorbing ceiling finish Sit-stand desk and task chair to	Glazed partitions to enable users to see if room is available Carpet tile floor finish generally	Glazed partitions to enable users to see if room is available Carpet tile floor finish generally	Glazed partitions to enable users to see if room is available Carpet tile floor finish generally	Glazed partitions to enable users to see if room is available Carpet tile floor finish generally	Glazed partitions to enable users to see if room is available Carpet tile floor finish generally

Open workspace	Semi-open workspace	Focus rooms	Study library	Phone booth	Project room	Private office
University standards (includes requirements for power servicing the workpoint) Low partition (<1200 mm) or no partition Power outlet to perimeter for future flexibility University WiFi University standard laptop docking station University standard single curved monitor Waste stations to Appendix 4	University standards (includes requirements for power servicing the workpoint) Higher partition for acoustic and visual privacy Power outlet to perimeter for future flexibility University WiFi University standard laptop docking station University standard single curved monitor Waste stations to Appendix 4	Sound absorbing ceiling finish Sound absorbing treatment to at least one non-glazed wall. Sit-stand desk and task chair to University standards (includes requirements for power servicing the workpoint) Consider power outlet and trunking to any common walls for future flexibility University WiFi University standard laptop docking station University standard single curved monitor	Sound absorbing ceiling finish Sound absorbing treatment to at least one non-glazed wall. Small worksurface with task chair. This may be a workbench with high stool/chair or a small sit-stand workstation with task chair. Power outlet and USB outlet at work surface University WiFi Waste stations to Appendix 4	Sound absorbing ceiling finish Sound absorbing treatment to at least one non-glazed wall. Sit-stand desk and task chair to University standards (includes requirements for power servicing the workpoint) Consider power outlet and trunking to any common walls for future flexibility University WiFi University standard laptop docking station University standard single curved monitor	Sound absorbing ceiling finish Sound absorbing treatment to at least one non-glazed wall. Mix of flexible flip top tables for collaboration AND sit-stand desks Task chairs to University standard Power outlet to perimeter for future flexibility University WiFi University standard laptop docking station to desks University standard single curved monitor to desks Flip top tables include nearby power for use of devices. University WiFi Whiteboards and writable surfaces Zoom AV required – size to suit nature of room. Booking panel required.	Sound absorbing ceiling finish Sit-stand desk and task chair to University standards (includes requirements for power servicing the workpoint) 900 mm diameter round meeting table Sled chairs to University standard to small meeting table Power outlet to perimeter for future flexibility University WiFi University standard laptop docking station to desks University standard single curved monitor to desks University WiFi Artwork from University collection Coat hook or other fixture to hang academic gowns is optional.

5.8 Specifications for collaboration spaces

	Booth	Huddle	Stand-up space	Small meeting	Medium meeting	Large meeting
Activities	Face to face meetings	Taking a break	Stand-up meetings	Face to face meetings	Face to face meetings	Formal meetings
facilitated	Generic computer work	Team meetings	Team meetings	Video calls	Video calls	Face to face meetings
by this	Phone calls	Informal collaboration		Discussions with	Video conferencing	Video calls
space				students	Team meetings	Video conferencing
					Discussions with students	Team meetings
Activity zone	Social zone	Social zone	Interactive zone	Interactive zone	Social zone	Social zone
Ambiance	Informal, friendly	Collaborative, relaxed, friendly	Collaborative, high- energy	Informal, friendly	Formal, friendly	Formal, inviting
Position	Away from busy circulation areas and social functions	Close to staff kitchen or other shared facility that attract people	Close to associated work areas	Close to associated work areas	Close to workspace entrance and main circulation space	Centralised, usually grouped with other facilities in a conference zone
Size	5 – 8 m ²	20 – 30 m ²	2.5 - 3 m ² per occupant,	12 m ²	3 m ² per occupant	27 m ² minimum
Quantity	1 or 2 per 50 staff	1 per 100 workstations	Varies and dependent	1 per 10 – 20	1 -2 per 50	Dependent on
and ratios		1 per floor level	on business requirements	workstations	workstations, or 1 per floor level	frequency of large meetings.
Capacity	4 minimum	10 minimum	Varies and dependent on business requirements	4 minimum	6 to 12	>14
Environme	HVAC systems provide	HVAC systems provide	HVAC systems provide	HVAC systems provide	HVAC systems provide	HVAC systems provide
nt	compliant thermal	compliant thermal	compliant thermal	compliant thermal	compliant thermal	compliant thermal
	comfort and ventilation.	comfort and ventilation.	comfort and ventilation.	comfort and ventilation.	comfort and ventilation.	comfort and ventilation.
	Access to natural daylighting preferred –	Access to natural daylighting preferred –	Access to natural daylighting preferred –	Access to natural daylighting preferred –	Access to natural daylighting preferred –	Access to natural daylighting preferred –
	may be shared with	may be shared with	may be shared with	may be shared with	may be shared with	may be shared with
	adjoining workspaces.	adjoining workspaces.	adjoining workspaces.	adjoining workspaces.	adjoining workspaces.	adjoining workspaces.
	Outlook to exterior spaces not required.	Outlook to exterior spaces not required.	Outlook to exterior spaces not required.	Outlook to exterior spaces not required.	Outlook to exterior spaces preferred.	Outlook to exterior spaces preferred.

	Booth	Huddle	Stand-up space	Small meeting	Medium meeting	Large meeting
Acoustics	Reverb time <0.5 s	Reverb time <0.5 s	Reverb time <0.5 s	Reverb time <0.7 s	Reverb time <0.7 s	Reverb time <0.7 s
	Background noise <40 dB	Background noise <40 dB	Background noise <40 dB	Background noise <40 dB	Background noise <40 dB	Background noise <40 dB
				Sound insulation towards circulation spaces (Rw) >35 dB	Sound insulation towards circulation spaces (Rw) >35 dB	Sound insulation towards circulation spaces (Rw) >35 dB
				Sound insulation towards functional space (Rw) >45 dB	Sound insulation towards functional space (Rw) >45 dB	Sound insulation towards functional space (Rw) >45 dB
				Sound insulation towards amenities (Rw) >45	Sound insulation towards amenities (Rw) >45	Sound insulation towards amenities (Rw) >45

	Booth	Huddle	Stand-up space	Small meeting	Medium meeting	Large meeting
nclusions	Carpet tile floor finish generally Sound absorbing ceiling finish Consider power outlet and trunking to any common walls for future flexibility University WiFi Access to power outlets for ad hoc use of devices (one outlet per occupant) High back booth table and seating setting or other loose furniture	Carpet tile floor finish generally Sound absorbing ceiling finish Consider power outlet and trunking to any common walls for future flexibility University WiFi Access to power outlets for ad hoc use of devices (one outlet per occupant) Selected artwork from the University's collection. Small AV Zoom technology to University DTS standards	Carpet tile floor finish generally Sound absorbing ceiling finish Consider power outlet and trunking to any common walls for future flexibility University WiFi Large AV Zoom technology to University DTS standards Whiteboards or writable surfaces	Glazed partitions to enable users to see if room is available, with blinds or film to control visual privacy Carpet tile floor finish generally Sound absorbing ceiling finish Sound absorbing treatment to at least one non-glazed wall. 1200 mm diameter round meeting table Sled base chairs to University standard Consider power outlet and trunking to any common walls for future flexibility University WiFi Whiteboards and writable surfaces optional Small Zoom AV tech required Booking panel required	Glazed partitions to enable users to see if room is available, with blinds or film to control visual privacy Carpet tile floor finish generally Sound absorbing ceiling finish Sound absorbing treatment to at least one non-glazed wall. Modular meeting tables Sled base chairs to University standard Power outlet to perimeter for future flexibility Power to meeting table – consider USB C provision University WiFi Whiteboards and writable surfaces optional Medium Zoom AV tech required Booking panel required	Glazed partitions to enable users to see if room is available, with blinds or film to control visual privacy Carpet tile floor finish generally Sound absorbing ceilir finish Sound absorbing treatment to at least or non-glazed wall. Modular meeting table or single large board room table Sled base chairs to University standard Power outlet to perimeter for future flexibility Power to meeting table – consider USB C provision University WiFi Whiteboards and writable surfaces optional Large Zoom AV tech Booking panel required Selected artwork from the University's collection.

5.9 Specifications for support spaces

	Kitchenette / break out	Lockers	Storage (shared and individual	Print station	Reception / landing zone	Café / large staff hub	Parents room
Activities facilitated by this space	Getting coffee or a snack Taking a break Impromptu conversations	Storing personal items, including items that support personal day to day work	Storing team items Storing books	Printing, scanning, secure destruction facilities Storing shared office supplies and stationery	Visitor reception Waiting Informal meetings Social learning and discussions with students Small University events Engagement with community	Brief collaboration Getting coffee or a snack Taking a break Impromptu conversations Engagement with community	Breastfeeding children. Expressing and storing breast milk. Forms part of University's Breastfeeding Friendly Workplace (BFW) accreditation
Activity zone	Social Zone	Social zone	Interactive zone	Social Zone	Social zone	Social zone	Social zone
Ambiance	Relaxing, inviting	Functional	Functional	Functional	Welcoming, understated refinement, engaging	Buzzy, comfortable Different to workspaces	Functional, private
Position	Close to work area with access to external or atrium glazing where possible	Close to entrance of workspace or close to team zones/anchors	Close to workpoints or alternative location dependent on use	Close to main circulation, away from open work areas	Ground floor. Close to lift, stairs, central meeting rooms	Central	Close to lobbies or centralised Close to accessible toilets and baby change facilities Adjacent to a pram accessible route.
Size	6 – 15 m ² , depending on facilities	0.5 – 0.75 m ² for 3 lockers (including allowance for direct circulation space)	Varies with business requirements. No more than 0.5 m ² per person.	5 m ²	Varies and dependent on building	Varies, dependent on building As a guide, 2.5 m ² per seat	12 - 14 m ²
Quantity and ratios	1 per 50 staff, or 1 per floor	1 bank of lockers per floor or zone. 1 locker per person	1 storage point per team or group	1 per floor of zone	1 per building	1 per building	1 or 2 rooms for new builds with large staff and student populations. 1 room for major refurbs with large staff and student populations

	Kitchenette / break out	Lockers	Storage (shared and individual	Print station	Reception / landing zone	Café / large staff hub	Parents room
							For smaller projects and existing buildings, 1 parent room per small precincts of buildings.
Capacity	Varies	N/A	N/A	2 or 3	Varies	Varies	Small family groups, including parents, babies, and siblings.
Environment	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.	HVAC systems provide compliant thermal comfort and ventilation.
	Access to natural daylighting preferred – may be shared with adjoining workspaces.	Access to natural daylighting preferred – may be shared with adjoining workspaces.	Access to natural daylighting preferred – may be shared with adjoining workspaces.	Access to natural daylighting preferred – may be shared with adjoining workspaces.	Access to natural daylighting required adjoining workspaces. Outlook to exterior spaces required	Access to natural daylighting required Outlook to exterior spaces required	Access to natural daylighting preferred – adjust for privacy Outlook to exterior spaces not required External outlook not
	Outlook to exterior spaces not required	Outlook to exterior spaces not required.	Outlook to exterior spaces not required	Outlook to exterior spaces not required Local exhaust over print area			required for privacy
Acoustics	Reverb time <1 s	Reverb time <1 s	N/A	Reverb time <1 s	Reverb time <1 s	Reverb time <0.9 s	Reverb time <0.7 s
	Background noise <50 dB	Background noise <45 dB		Background noise <45 dB	Background noise <40 dB	Background noise <40 dB	Background noise <40 dB
	Sound insulation towards circulation spaces (Rw) >30 dB Sound insulation towards functional	Sound insulation towards circulation spaces (Rw) >30 dB Sound insulation towards functional		Sound insulation towards circulation spaces (Rw) >30 dB Sound insulation towards functional	Sound insulation towards circulation spaces (Rw) >30 dB Sound insulation towards functional	Sound insulation towards circulation spaces (Rw) >30 dB Sound insulation towards functional	Sound insulation towards circulation spaces (Rw) >35 dB Sound insulation towards functional
	space (Rw) >50 dB Sound insulation towards amenities (Rw) >45	space (Rw) >45 dB Sound insulation towards amenities (Rw) >45		space (Rw) >45 dB Sound insulation towards amenities (Rw) >45	space (Rw) >40 dB Sound insulation towards amenities (Rw) >45	space (Rw) >40 dB Sound insulation towards amenities (Rw) >45	space (Rw) >45 dB Sound insulation towards amenities (Rw) >45

Inclusions	Resilient floor finish Sound absorbing ceiling finish Counter space and cupboards with recess for wheelchair use Splashback Power outlets counter to service equipment University WiFi Sink with hot and cold tap and drainer Instantaneous under bench boiling and chilled water unit –sparkling water not permitted Small dishwasher optional Microwave, positioned at or just above counter height Sandwich press Toaster Refrigerator Soap dispenser Paper towel dispenser Waste station to Appendix 4 WHS notice board may be located here	Carpet tile floor finish generally Sound absorbing ceiling finish University WiFi Lockers: 400 mm wide x 500 mm deep. 3 cabinets stacked vertically – each locker nominal 450 mm high, with nominal 450 mm closed inactive base to enable safe and equitable access to bottom row. Mix of allocated lockers (sole private and dual shared private) and public (available for drop in use). Locking preferably managed centrally with integration into Gallagher security system using staff and student cards 1 x Gallagher- enabled control panel per bank of lockers Individual locking with battery and pin pads only used by exception Power and data supply to locker bank	Carpet tile floor finish generally – some uses may warrant resilient finish Sound absorbing ceiling finish University WiFi Modular storage furniture, including lockable tambours and open shelving Items accessed regularly are stored no higher than 1500 mm above floor level Storage of paper records and documents discouraged – used digital forms wherever possible.	Carpet tile floor finish generally Sound absorbing ceiling finish Tambours units for storage of stationery and office supplies Benchtop to tambour units for collating documents Power outlets to perimeter for future flexibility Power outlets to benchtop for laminators and similar office equipment Space for secure destruction bin (typically 240 L wheelie bin) University WiFi Cabled dual data outlet for multifunction copier and printer WHS notice board may be located here Single multi-function printer copier to University DTS standard. Waste station to Appendix 4	High quality tiled floor finish. High quality carpet tile floor finish only used as inset treatment in low traffic areas. Sound absorbing ceiling finish Mix of soft furniture to encourage gathering and informal discussions and ad hoc individual work. Furniture selections based on inclusiveness and accessibility for all. Concierge point (optional) Interactive digital building directory (optional) Large digital displays for University comms (including events comms) Power outlets throughout the space, including consideration of connections for temporary event coffee cart University collection Storage cupboard or small store room nearby for events collateral and	Splash resistant and hygienic floor finish Sound absorbing ceiling finish Café tables and benches with a mix of settings and sizes Commercial food preparation spaces (optional) If commercial food offering is not included, refer to Kitchen / breakout inclusions Large digital displays for University comms (including events comms) Power outlets throughout the space University WiFi Artwork from University collection Storage cupboard Waste station to Appendix 4	Resilient floor finish Sound absorbing ceiling finish Breastfeeding chair Coffee table located near nursing chair, Lockable door with privacy bolt microwave 120L bar fridge (or access to one nearby that is lockable) Sink facilities with hot and cold water Soap and paper towel dispensers, Waste bins Power outlets near nursing chair Labelled with BFW signage on door & display ABA National Helpline in the room Space for pram parking a small play area for siblings. Coordinate BFW requirements with Equity Diversity and Inclusion unit.
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6 Teaching and learning spaces

6.1 Principles for general teaching and learning spaces

The University seeks excellent contemporary teaching spaces to support student learning on campus.

Flat floor multi-function classrooms are the preferred format for general teaching and learning spaces. Excellent teaching spaces promote immersive, engaged, and collaborative learning, and bring activation to campuses.

Access to general teaching and learning spaces is shared via the University's centrally managed Timetable system.

This Guideline provides requirements for the following types of general teaching and learning spaces, aligned with TEFMA Space Planning Guidelines Ed 4. For other teaching spaces, refer to the TEFMA Space Planning Guidelines and IFS staff.

T&L space type	Description
Active classrooms	As learning and teaching becomes increasingly collaborative and interactive, learning space designs have adapted to enable a greater array of learning and teaching activities. Active classrooms have a larger footprint per occupant over traditional classrooms, to account for small group settings, increased circulation, and access to a high level of AV and technology as well as writable surfaces. These types of classrooms may remove the idea of having a 'front' to the classroom. These spaces feature flexibility and collaboration within their fitouts.
Lecture theatres	Many universities are assessing the value of traditional tiered lecture theatres. The University generally does not support the construction of new tiered lecture theatres, with a preference for flat floor spaces that offer multiple functions and future flexibility of use.
	Existing lecture theatres may be refurbished to increase aspects of active classrooms into the tiered format.
Seminar and tutorial	Tutorial and Seminar rooms represent a traditional classroom format. They include a 'front' to the classroom, with rows of desks, groups of tables, or a horseshoe arrangement of desks.
	This format of classroom is suitable for capacities of 30 – 40 students. Some academic programs, and their accreditation processes, require capacities lower than 30.
	The settings are well suited to Socratic-style teaching and learning, where the educator facilitates a discussion. Collaboration is limited in this format.
Problem based learning	These smaller learning spaces often operate as breakout spaces to larger forum spaces, such as Harvard-style classrooms. They essentially look like meeting rooms and are equipped with writeable surfaces and digital screen technologies.
	This format is embedded in the University's Joint Medical Program. Other academic areas may also use this format.

6.2 Specifications for general teaching and learning spaces

	Active classrooms	Lecture theatres	Seminar and tutorial	Problem based learning
Activities	Formal teaching and learning.	Formal teaching and learning.	Formal teaching and learning.	Formal teaching and learning.
facilitated by	Exams	Public lectures	Exams	Workshops and smaller community
this space	Workshops and smaller community	Large community events	Workshops and smaller community	events
	events	Town hall staff meetings	events	Small staff meetings
	Large staff meetings	-	Large staff meetings	Drop in social learning by students
	Drop in social learning by students when space not otherwise used		Drop in social learning by students when space not otherwise used	when space not otherwise used
Ambiance	Welcoming, engaging	Functional	Welcoming, engaging	Welcoming, engaging
				Sometimes clinical
Position	Close to social learning spaces	Adjacent to large gathering spaces	Close to social learning spaces	Close to social learning spaces
	Close to centres of student activity.	(provides waiting and spill space	Close to centres of student activity.	Close to centres of student activity
	Adjacent to other active classrooms and seminar tutorial rooms.	before and after use)	Adjacent to active classrooms and other seminar tutorial rooms.	Sometimes close to specialist clinical learning spaces
Size	2.5 – 3 m ² per student	Generally existing sizes, at a rate of 1	> 2 m ² per student	2.5 – 3 m ²
		– 1.5 m ² per student	2.5 – 3 m ² per student preferred for future flexibility	
Student	> 30	Varies, but generally greater than 110.	30 – 40 preferred.	10 - 12
Capacity	Larger formats are often preferred, including 50, 70, 90, and 110.	Capacities beyond 500 may present difficulties for student learning.	Some programs including English Language Bridging Program have a	
	Refurbishment works to existing spaces typically reduce capacity		limit of 18 students.	
Environment	Direct access to natural daylighting preferred	Direct access to natural daylighting not required	Direct access to natural daylighting preferred	Direct access to natural daylighting not required
	External outlook preferred	External outlook not required	External outlook preferred	External outlook not required
	Air conditioned.	Air conditioned.	Air conditioned.	Air conditioned
	Access to operable windows preferred.	Access to operable windows not required	Access to operable windows preferred.	Access to operable windows not required
		Mechanical ventilation required.		Mechanical ventilation required

	Active classrooms	Lecture theatres	Seminar and tutorial	Problem based learning
Acoustics	Reverb time <0.7 s	The large nature of this spaces	Reverb time <0.7 s	Reverb time <0.7 s
	Background noise <35 dB	typically requires an engineering	Background noise <35 dB	Background noise <35 dB
	Sound insulation towards circulation spaces (Rw) >30 dB	acoustic solution	Sound insulation towards circulation spaces (Rw) >30 dB	Sound insulation towards circulation spaces (Rw) >30 dB
	Sound insulation towards functional space (Rw) >45 dB		Sound insulation towards functional space (Rw) >45 dB	Sound insulation towards functional space (Rw) >45 dB
	Sound insulation towards amenities (Rw) >45		Sound insulation towards amenities (Rw) >45	Sound insulation towards amenities (Rw) >45
Inclusions	Carpet tile floor finish generally Sound absorbing ceiling finish Acoustic wall treatments Power outlets to perimeter. Power outlets at the table preferred. University WiFi Accessible lectern, preferably with electric height adjustment. AV distributed through the room for collaborative teaching in the round. Refer to University AV design standards for technology requirements. Provide power and cabled data to AV equipment. Student tables in pods of 6 or greater, with task chairs or sled base chairs. Student tables with power to the table are generally fixed and are not repositionable. At least one accessible student table for every 50 student seats. AV tech at the student table preferred	Carpet tile floor finish generally Sound absorbing ceiling finish Acoustic wall treatments Power outlets to perimeter. Power outlets at the table preferred. University WiFi Accessible lectern, preferably with electric height adjustment. Refer to University AV design standards for technology requirements. Provide power and cabled data to AV equipment. Wheelchair spaces Student tables at each seat preferred, with integrated microphones and power outlets. Provide generous circulation space within the theatres, including spaces for parking of prams and other accessibility equipment. Whiteboards and writable surfaces to edges of theatre enhance the wide	Carpet tile floor finish generally Sound absorbing ceiling finish Acoustic wall treatments Power outlets to perimeter. Power outlets at the table preferred. University WiFi Accessible lectern, preferably with electric height adjustment. AV focused towards 'front' of classroom. Refer to University AV design standards for technology requirements. Provide power and cabled data to AV equipment. Dual student tables, typically modular 1600 x 800 mm with task chair or sled base chair. Furniture feet include mobility to ensure no snags to carpet. At least one accessible student table for every 50 student seats. Provide generous circulation space within the classroom, including spaces	Carpet tile floor finish generally. Some clinical rooms may require resilient finish Sound absorbing ceiling finish Acoustic wall treatments Power outlets to perimeter. Power outlets at the table preferred. University WiFi AV focused towards 'front' of room. Refer to University AV design standards for technology requirements. Provide power and cabled data to AV equipment. Student tables, typically modular 1600 x 800 mm, arranged into a single large meeting format, with task chairs or sled base chairs. At least one accessible student table Whiteboards and writable surfaces to edges of theatre enhance the wide spread use by a variety of academic disciplines. Optional: Depending on academic
	for high technology TEAL classrooms. Provide generous circulation space within the classroom, including spaces for parking of prams and other accessibility equipment. Whiteboards and writable surfaces to edges of classroom enhance the wide	disciplines.	for parking of prams and other accessibility equipment. Whiteboards and writable surfaces to edges of theatre enhance the wide spread use by a variety of academic disciplines.	use, some spaces may include clinical equipment. Seek advice from users where this may be required.

Active classrooms	Lecture theatres	Seminar and tutorial	Problem based learning
spread use by a variety of academic			
disciplines.			

6.3 Principles for specialist teaching and learning spaces

Specialist teaching and learning spaces includes teaching laboratories, teaching workshops, makerspaces, and clinical spaces where specific safety requirements inherent in the room restrict the use of the space.

The University seeks excellent contemporary specialist spaces to support student learning on campus. Specialist teaching space often feature equipment and experience that lead to high student engagement and high student satisfaction. These types of space can be exciting spaces that offer students hands on experience with complicated and specialist equipment not seen in other areas of the University. For some academic disciplines, experience in contemporary and professional specialist labs is crucial to graduate employment.

Access to general teaching and learning spaces is shared via the University's centrally managed Timetable system. Specialist spaces, by virtue of their specific safety requirements, are typically staffed by a technical team from a College or School. The availability of access is sometimes dependent on staff availability and sharing the cost of technical staff.

Accessibility in specialist places requires design effort to ensure the space is available for the widest range of the student population. Where specific safety requirements may preclude universal access, this is approved by exception only. The University expects every student, regardless of ability or disability, is offered participation and experience in these spaces alongside their peers. To achieve accessible specialist spaces, the University recommends the fitout design includes advice from an access consultant registered with the Association of Consultants in Access Australia.

This Guideline provides outline requirements for the following types of specialist teaching and learning spaces, aligned with TEFMA Space Planning Guidelines Ed 4. Due to the specialist nature of each space, the University does not provide general specifications. Successful specialist teaching fitouts include attention to safety and integration of specialist building services.

Specialist teaching space type	Description
Super lab	A large capacity science laboratory in which students can learn as one large class or separate smaller classes taught in parallel within the same environment.
	Benefits of the super lab include higher student experience, higher flexibility and higher utilisation over traditional wet labs and dry labs.
	Capacity ranges from 60 to 240.
	Space allowance from $6 - 7 \text{ m}^2$ per occupant, including preparation spaces.
Wet lab	Traditional wet science or medical laboratory with sinks available to each lab bench workpoint.
	The size of lab allows some specialisation, with highly specialised equipment focussed on a single or limited academic discipline. Examples include an anatomy lab or an organic chemistry lab.
	Capacity ranges from 40 to 50.
	Space allowance from 6 – 7 m ² per occupant, including preparation spaces. Some specialist instrument rooms may require additional space beyond this allowance.

Specialist teaching space type	Description
Dry lab	Traditional dry science or engineering laboratory.
	The size of lab allows some specialisation, with highly specialised equipment focussed on a single or limited academic discipline. Examples include electrical lab or physics lab.
	Capacity ranges from 40 to 50.
	Space allowance from $6 - 7 \text{ m}^2$ per occupant, including preparation spaces. Some specialist instrument rooms, and experiment space may require additional space beyond this allowance. An outlier example is a robotics lab with a robotic testing space.
Maker space	Workshop space allowing students to fabricate, test, make and break products and protypes. Maker spaces can be profiled by risk:
	 low risk maker spaces require an initial general induction, and may include low risk tools such as sewing machines, printers, and workbenches
	 medium risk maker spaces require an initial induction and a moderate level of staff supervision, and may include light hand tools and soldering equipment
	 high risk maker spaces require specific inductions and high level of staff supervision, and may include laser cutters, CNC machines, and large workshop power tools like lathes, all typically with specialist building services to support operation.
	Capacity varies and depends on business requirements for each project.
	Space allowance from 5 m ² per occupant, including preparation spaces. Some high-risk maker spaces include larges items of equipment that increases the space allowance significantly. Similarly, some maker spaces include materials storage space not included in this allowance.

7 Other space types

Other space types include:

- Social learning space
- Research laboratory space
- Library space
- Campus partner spaces

This Guideline does not provide specific University advice for these space types. Refer to TEFMA Space Planning Guidelines Ed 4 for these spaces, accompanied by early consultation with IFS staff.

8 Appendix 1: Furniture standards

8.1 Purpose of this Appendix

Selections in this Appendix offer a guide to the University's business as usual project and facilities demands.

Selections in this Appendix do not preclude innovative design solutions that benefit students, staff, and wider University community.

The implementation of standard selections:

- offer a suite of standard selections that cover a variety of applications and reflects University lessons learned
- provide project guidance in the absence of detailed design advice, and
- allows the University to rapidly attend to reactive maintenance requests while maintaining the quality of completed projects.

8.2 Workstations

The University has adopted electric sit/stand desk as a standard for all staff workspaces, with common features and sizes to allow easy adaption and relocation across the estate.

Please refer to Universities Electric sit-stand workstation specification.

8.3 Task Chairs

Height adjustable task chairs include the following features:

- Heavy duty adjustment for seat height, seat depth, backrest and seat tilt, and lumbar support.
- Mid height backrest that is designed to support the lumbar for the shortest to tallest percentiles.
- 5-star swivel base with castors (hard wheel for carpeted floors, cushioned wheel for hard floors) alloy base preferred architecturally
- gas lift, with height adjustability range from 400 550 mm
- no arms with the option of retrofitting arms based on individual requirements (some individuals such as pregnant woman and those with chronic back injuries need armrests to assist in getting in and out of the task chair)
- mesh back, black finish preferred as a University standard architectural finish (other materials and colours can also be considered)
- fabrics with darker colours, including black, for durability and resistance to marking
- Australasian Furnishing Research & Development Institute (AFRDI) Level 5 minimum certification
- the chair maintenance and sustainability should be consistent with the University's recycling and sustainability guidelines
- bariatric chairs, where required, meet the requirements above with an increased weight rating of 250kg.

8.4 Meeting/Visitors Chairs

0 hours to 2 hours use: padded or mesh fixed height seats with a compressed height of 450mm and a backrest providing lumbar support. These may be on sled base, and/or stackable.

2 hours to 4 hours use: upholstered or mesh seat with compressed height of 450mm and upholstered or mesh backrest providing lumbar support.

More than 4 hours use: height adjustable seat with at least mid-height backrest

Meeting and visitor chairs include the following features:

- weight less than 15kg for ease of moving
- fabrics with darker colours, including black, for durability and resistance to marking
- AFRDI Level 4 or 5 minimum certification

8.5 High bar Stools

Bar stools include the following features:

- four leg, free standing, or with sled base. A footrest 450mm below the seat height is required. It is preferrable if this is provided on at least three sides of the stool.
- no backrest
- seat to cater for the smallest and largest percentiles of the population
- where seat is upholstered, use fabrics with darker colours, including black, for durability and resistance to marking
- no arms
- AFRDI Level 5 minimum certification.
- the stool height should be selected based on the adjacent work surface height. The preferred height to enable easy transition from standing to sitting is between 650mm and 675mm high stool. These are compatible with work surfaces between 900mm and 950mm high. Alternatively, a 750mm high stool works with a 1000mm high work surface.
- where frequent changes from sitting to standing are anticipated, the bench height between 900mm and 950mm together with the stool height of 650mm to 675mm is to be encouraged.

8.6 High drafting chairs

High drafting chairs for use at high workstations or counters include the following features:

- Heavy duty adjustment for seat height, seat depth, backrest and seat tilt, and lumbar support.
- Mid height backrest that is designed to support the lumbar for the shortest to tallest percentiles.
- 5-star swivel base with castors (hard wheel for carpeted floors, cushioned wheel for hard floors) alloy base preferred architecturally
- gas lift, with height adjustability range from 650 780 mm

- no arms with the option of retrofitting arms based on individual requirements (some individuals such as pregnant woman and those with chronic back injuries need armrests to assist in getting in and out of the task chair)
- mesh back, black finish preferred as a University standard architectural finish (other materials and colours can also be considered)
- fabrics with darker colours, including black, for durability and resistance to marking
- Australasian Furnishing Research & Development Institute (AFRDI) Level 5 minimum certification
- the chair maintenance and sustainability should be consistent with the University's recycling and sustainability guidelines
- bariatric chairs, where required, meet the requirements above with an increased weight rating of 250kg.

8.7 Laboratory stools

Laboratory stools include the following features:

- heavy duty adjustment for seat height, seat depth, backrest and seat tilt, and lumbar support.
- mid height backrest that is designed to support the lumbar for the shortest to tallest percentiles.
- 5-star swivel base with castors (hard wheel for carpeted floors, cushioned wheel for hard floors)
- gas lift, with height adjustability range from 650 780 mm
- no arms with the option of retrofitting arms based on individual requirements (some individuals such as pregnant woman and those with chronic back injuries need armrests to assist in getting in and out of the task chair)
- non-porous closed cell finishes with darker colours, including black, for durability, resistance to marking, and resistance to laboratory processes and chemicals
- Australasian Furnishing Research & Development Institute (AFRDI) Level 5 minimum certification
- the chair maintenance and sustainability should be consistent with the University's recycling and sustainability guidelines
- bariatric chairs, where required, meet the requirements above with an increased weight rating of 250kg.

8.8 Lounge seating (including banquettes)

Lounge seating must be commercial grade and with design and dimensions that provide comfort for a wide range of body shapes and size. Lounge seating includes the following features:

• seat height selected to enable the feet to rest on the floor with minimal pressure under the thighs. The recommended compressed seating height is 450mm. Where the lounge is used for short periods, i.e., less than one hour and/or there is frequent standing up, the compressed seat height can be up to 500mm.

- seat depth should be 450mm to 500mm to the backrest.
- the front edge of the seat should have a waterfall profile to minimise local pressure on the back of the knees.
- backrest design provides support to the lumbar back.
- Individual lounge seats with arms should enable the largest percentiles of the population to comfortably sit between the armrests with a minimum width of the seat to the armrests of 500mm.
- finishes with darker colours for durability and resistance to marking
- fabrics with darker colours, including black, for durability and resistance to marking

8.9 Tables

Tables are provided in a variety of sizes to accommodate a variety of uses. Generally, tables are commercial grade and include the following features:

- Height of table for seated applications is 720 mm
- table top material: E₀ MDF panel finished top and bottom with high-pressure laminate and with 2.0 mm ABS edge
- acceptable standard laminate colours include warm white with 'ply' ABS edging other colours require architectural coordination
- flip top tables to be used as a preference for flexibility, 1500 x 750 mm, or 1600 x 800 mm for modularity, with commercial grade mechanism, lockable castors, and linkage capability
- worksurface on flip top tables must remain stable in when in use
- if a four-leg base is used, include legs with foot levelling adjustment
- tables for specific functions such as events spaces, may have different requirements and are not necessarily included within these requirements.

8.10 Electric sit-stand workstations

Electric sit-stand workstations are provided as a key component to staff workspace.

Workstations are provided in the following common sizes.

- Staff (current approach): 1600 mm W x 750 mm D
- Staff (legacy approach): 1800 mm W x 750 mm D
- Higher degree by research candidates: 1500 mm W x 750 mm D
- Hot desks: 1500 mm W x 750 mm D

The following principles are to be read in conjunction with the University's Electric Sit-Stand Workstation Specification (UON-BSS-001):

- a default worktop height of 720 mm (this also applies to any static workstations)
- a six-to-stand height between 620mm and 1220 mm
- a workstation depth and mounting position for monitors that enable a minimum viewing distance of 600 mm from the edge of the workstation to the face of the monitor(s).

- clear thigh space with 450 mm for the knees from the front of the workstation.
- clear space on the floor underneath the workstation of at least 600 mm for the feet.
- a section between the rear of the workstation along the entire length where a clamp for monitor arms could be installed
- an integrated cable management system under the workstation to eliminate any loose cables being on the floor or within the leg space.
- a gap of 25 mm between the ends of adjoining height adjustable work surfaces this is to eliminate finger entrapment risks
- L shaped worktops are generally not provided within the University.

9 Appendix 2: Finishes standards

9.1 Purpose of this Appendix

Selections in this Appendix offer a guide to the University's business as usual project and facilities demands.

Selections in this Appendix do not preclude innovative design solutions that benefit students, staff, and wider University community.

The implementation of standard selections offers:

- a suite of standard selections that cover a variety of applications and reflects University lessons learned
- project guidance in the absence of design advice, and
- allows the University to rapidly attend to reactive maintenance requests while maintaining the quality of completed projects.

9.2 Carpet finishes

The University requires commercial grade carpets, graded 40 oz or higher for durability.

Supplier	Product	Colourway	Availability	Specific Building
Milliken Ontera	Morse	Kebel	Non-stock,	CH Building
			legacy	L Building
				SER Building
Milliken Ontera	Karona 3 'Lightning'	Alto	Stock	Other locations

The University has two standard carpet tile selections:

The colour, construction and installation pattern of the carpet considers long-term impacts of traffic and soiling.

University standard selections are used in high traffic areas, including entries, corridors, stairs, and lobbies. In general floor areas, the standard selection is applied to at least 60% of the floor area, with feature or highlight carpet finishes used elsewhere.

A non-standard carpet selection is supported by an additional 10% area allowance for patching and repairs after handover. This allowance is not available for use prior to handover and cannot be used to rectify defects during a projects Defects Liability Period. Project design to include suitable storage locations for 10% patching and repairs allowance.

9.3 Resilient floor finishes

The University requires commercial grade resilient floor finishes, at least 2 mm thick, presealed, and with a slip resistance suitable for their application.

Resilient floor finishes are recommended in:

• breakout areas/kitchenettes,

- utility/storage areas
- communications/data room
- specialist facilities, where required.

Laboratory floors often require a higher performance than standard areas.

Static-dissipative floor finishes are used in communications/data rooms and some laboratories where a static-controlled environment is where required. Where performance levels for static-dissipative floors are critical to the operation of a specialist facility, the performance level will be nominated by the University in consultation with University technical staff. Static-dissipative floor finishes must include earthing and conductive accessories necessary to complete the system.

9.4 Floor tiles and other hard floor finishes

Floor tiles and other hard floor finishes are commercial grade, slip-resistant and scuff resistant. The cleanability of surfaces is considered. Floor tiles or other hard floor finishes, including terrazzo, are considered for use in high traffic zones, such as public reception and amenities areas.

Floor tiling system include epoxy grouting.

In high intensity wet laboratory areas, finishes such as epoxy may be required.

9.5 Tactile ground surface indicators

Tactile ground surface indicators (TGSI) must meet or exceed the requirements of AS1428.1.

Stainless steel TGSI are preferred externally. Fixing studs externally are a minimum of 18 mm deep – this depth generally provides suitable resistance to uplift damage.

9.6 Skirting

Skirtings are installed to suit floor and wall finishes. Skirting is generally:

- 150mm vinyl featheredge, or
- 150mm aluminium or metal, screw fixed, or
- 150mm ducted skirting.

Ducted skirting is preferred to the perimeter of large open office spaces to support 'plug and play' furniture layouts with minimum disruption to power systems.

9.7 Paint finishes

Paint selection, including colour selection, may vary in different application across the University estate.

The following standard paint selections are the University's preference for back of house spaces, straightforward operational maintenance request or small 'business as usual' projects:

Items	Colour	Gloss level	Other requirements
Walls generally	Dulux 'Lexicon Quarter'	Low sheen	Areas of wall intended for adhesive print wall coverings
	Dulux 'PMS White'		require flat finish without any stain-resistant additives.
	Dulux 'Whisper White'		
	Dulux 'Natural White'		Some wet areas require higher gloss levels.
			Consider protective systems where high traffic or use of chairs may damage and scuff painted wall finishes.
Door frames	Dulux 'Juvenile'	Full gloss or semi-gloss	
Doors	Dulux 'Juvenile'	Full gloss or semi-gloss	

All colour selections must comply with the luminance contrast provisions of AS1428.1

9.8 Wall tiles

Wall tiles provide an impervious surface and are resistant to dirt, stain and burning. Wall tiling system include epoxy grouting.

9.9 Splashbacks

Splashbacks are impervious surfaces intended to resistant mechanical damage and moisture damage. Acceptable materials include:

- wall tiles
- resilient finish sheet
- acrylic sheet
- glass sheet with colour back
- metal sheet, with an appropriate impervious finish.

The University does not accept any paint system as a splashback.

Consider requirements for coving to the junction of splashback and worksurface. Some laboratory environment and food preparation spaces require specific coving treatments.

9.10 Benchtops generally

Benchtops in kitchens, utility areas and general use spaces require durable finishes.

The University does not accept engineered quartz stone benchtops due to work health and safety issues involved in the manufacturer, fabrication, preparation, and demolition of the material.

9.11 Laboratory benches

Laboratory benches require specialist and durable finishes to meet the scientific requirements of the space. Acceptable materials include:

- solid surface materials such as Corian
- compact high pressure laminate materials such as Trespa
- solid natural stone materials, such as polished granite slabs specifically intended for laboratory environments.

Benchtop framing is designed to accommodate expected laboratory loads, including the weight of the benchtop, and loading from laboratory equipment.

9.12 Door hardware

The University requires consistency of design, manufacture and of door hardware. The UON Lock Hardware, Cylinder and Key Standards are designed to provide architects and project managers guidance various phases of the project.

9.13 Window treatments

The University preferred window treatments, where required, are roller blinds with chain adjustment. Single 'solar filter' roller blinds are provided where required. A double roller blind with additional 'black-out' fabric can be fitted if additional glare control is required.

Blind fabric, including material, solar reflectance, solar transmission, and colour, is selected to manage thermal comfort and light control, and coordinated with HVAC design and performance.

10 Appendix 3: University standards and specifications

This list of University standards and specification is current as of March 2023. University standards and specifications are frequently updated to address contemporary issues and lessons learned from completed project.

Updated and current information is available on the University's website:

https://www.newcastle.edu.au/engage/business-and-industry/do-business-with-us/contractors-and-suppliers/specifications-and-standards

Architecture and Int	erior Design
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Description	Version	Date
Access Design Guideline	1.1	-
UON Interior Design Guidelines	1.0	-
UON-BSS-001 Electric Sit-Stand Workstation Specifications	1.0	-

Audio visual

Description	
IT Services - Audio Visual Standard Schematics - AV1-2 Schematic	
IT Services - Audio Visual Standard Schematics - AV1-4 Power & Data	
IT Services - Audio Visual Standard Schematics - AV3-4 Schematic	
IT Services - Audio Visual Standard Schematics - Zoom Rooms Category 2	
IT Services - Interactive Technologies Standards - 2020	

Drafting

Document	Version	Date	
UON-DSS-001 CAD - BIM Drafting and Document Standards	2.1	-	

Electrical

Description	Version	Date
Electrical Specification Updates	1.0	January 2021
Electrical Specification Updates	1.0	January 2020
UON-ESS-100 Specification Index	1.0	-
UON-ESS-101 General Electrical Specification	1.4	-
UON-ESS-102 Distribution Board Specification	1.3	-
UON-ESS-103 External Lighting Specification	1.3	-
UON-ESS-104 Emergency Lighting and Illuminated Exit Signs	1.3	-
UON-ESS-105 Electrical Preferred Equipment List	1.4	-
UON-ESS-106 Generators and Emergency Power Supplies	1.4	-
UON-ESS-109 Supply and Installation of Photo Voltaic Array	1.1	-
UON-ESS-111 Interior Lighting and Control	1.3	-
UON-ESS-112 Main Switchboard Specification	1.3	-
UON-ESS-113 High Voltage Substation Specification	2.2	-

Engineering services design overview

Description	Version	Date
Project Briefing Document - Engineering Services Briefing Document	2.1	-

Environment and sustainability

Description	Version	Date
161220 Functional Description UON ESD Guidelines Tool	6.0	-
Callaghan Landscape Management Implementation Plan_Bush Areas Only 141212	1.0	-
Environmentally Sustainable Design - Project Briefing Document	2.0	-
UON Tree Management Procedure for Callaghan Campus	2.2	January 2019

Fire

Description	Version	Date
UON Fire Services Guiding Principles	1.0	-

Heritage

Description	Version	Date
University Heritage and Conservation Register	3.0	June 2022

Hydraulics

Description	Version	Date
UON Hydraulic Services Guiding Principles	1.0	-

IT architecture and design principles

Description
IFS Technology Design Principles - Abridged - v1.0
IT Services - Architecture Principles - Abridged - v1.0

Mechanical

Listed below is a series of project documents for mechanical design. Please note some information is captured in the Engineering services overview. For any mechanical design early engagement with the IFS Mechanical Engineer is required.

Description	Version	Date
Standard Work Procedure AC1 Split System Install	1.0	-
The University of Newcastle - HVAC Specification	1.0	-
UON Siemens Naming Convention Document	1.0	-

Project handover, defects liability period and post completion maintenance

Description	Version	Date
Project - O&M Folder Structure Template	1.0	-
Maximo Asset Data Collection Template	1.4	-
Project Completion IFS Sign-off	1.0	-
UON Post-Completion Maintenance and Defects Management Procedure 181005 Draft	1.0	-
UON Project Handover Guideline 010920	1.2	-

Public domain

Description	Version	Date
Public Domain Manual	1.2	September 2021

Security, CCTV, and access control

For all Security and Access control please consult with the UON IFS Project manager and relevant IFS Operational Staff.

Telecommunication and data cabling

Description

IT Services - IT Communication Technical Specification - 2020

Vertical transport

Description	Version	Date
Building Code of Australia on Lifts	1.0	September 2005
Guidelines for the Design of Vertical Transport	2.0	August 2014

11 Appendix 4: Waste management guidelines

Introduction

This appendix outlines waste management design and project requirements for workspaces and teaching spaces. The principles included may apply to other University spaces.

These guidelines work on improving recycling and waste segregation goals by:

- generating less waste
- increasing the percentage of materials for recycling and reprocessing
- reducing damage to our environment caused by waste
- standardising waste management approaches and infrastructure across the University

Bin Systems

Waste bins for individual desks, offices or workpoints are not supported by the University. This approach supports flexible approaches to working and higher utilisation of individual workpoints. This means:

- no individual under-desk bins
- no individual desk tides (these bins do not support flexible working approaches and are complex to manage when individual workpoints are accessed by two or more people.

Layout guidelines for communal bin stations are:

- visible position and easily accessible
- placed in corridors and approach areas, mostly in high foot traffic areas
- one waste station per 3 or 4 typical classrooms with a capacity of 30 people (or one waste station for every 90 to 120 student teaching seats)
- one waste station per 10 staff workpoints, with bins generally not further than 15 meters any one workpoint
- red landfill bin 60 L to all spaces
- yellow comingled recycling 60 L to all spaces
- blue paper recycling 60 L next to printers or high communal paper waste areas only
- green bins 60 L or 30 L within kitchen or food areas only

The University's waste contract standard bins are Cleanaway, supplied as part of the waste contract.

In premium buildings, or premium public-facing parts of buildings, waste stations are:

- designed into joinery units rather than freestanding, or
- if free standing, consist of Method Recycling & Waste Bins rather than standard Cleanaway bins.



Indicative photo of Cleanaway waste station – number of bins varies with location.



Indicative photo of Method waste station – number of bins varies with location.

Bin systems instructional graphics

Bin instructional graphics are placed on the front face of Cleanaway. Method bins do not include sticker instructional graphics.



Design

Locations of waste stations and graphics are considered during the design process. This approach:

- assists the University in achieving our sustainability targets with our Environmental Sustainability Plan 2019-2025
- reduces visual impact and other design impacts of waste bins
- ensures completed projects have appropriate bin coverage as soon as spaces become operational.

Design drawings show bin locations at the earlier design opportunity. Project teams and design consultants seek early feedback from IFS Precinct Managers on bin provision and locations.

Bins included as built-in components of joinery require attention to detail and review by IFS Precinct Managers. Submit detail drawings and/or shop drawings at the earliest design opportunity to allow IFS review of operational suitability.

Procurement

All bins within this guide are supplied to projects as a component of the University's waste management contract. This means projects are:

- not responsible for funding purchase of bins
- responsible for timely request of bins to suit project program, including liaison with IFS Precinct Managers
- responsible for receiving bins and installing bins.