SPEC NOTE: This section is meant for the Consultants’ use during design unless portions of the work are to be designed by specialty subcontractors and suppliers. It may not be needed for all projects and as such portions of this guide may be adapted to be incorporated into individual technical sections.

# GENERAL

## Related Sections

### Section 10 00 10 Special Room Requirements (Custodial)

### Section 12 00 00 Furnishings (Computer Workstations)

### Section 12 35 53 Laboratory Casework (Wet Laboratories)

### Section 11 82 00 Waste Handling Equipment (Waste Management)

## Coordination Requirements

### UBC’s Ergonomics Advisor, Workplace Health Services, Human Resources, at 604-822-9040 (ergonomics.info@ubc.ca)

# DESIGN REQUIREMENTS

## Computer Workstations

# *UBC Ergonomics Checklist for Computer Workstation for Designers*

| **Category** | **Guideline** | **✓** |
| --- | --- | --- |
| Support | * Contact UBC’s Ergonomics Program: 2-9040 or ergonomics.info@ubc.ca
 |  |
| Desk Depth | * Depth of computer work surface is ≥30”; ≥24” is acceptable if keyboard tray available

Note: depth refers to usable space; transaction counter overhang does not count towards the desk depth |  |
| Height Adjustable Desks | * Height Range: 22.6” to 48.7”
* Height adjustable desks are preferred; if it is not possible to purchase individually, consider providing at least one as a shared resource
* See[Height Adjustable Desks Purchasing](https://hr.ubc.ca/sites/default/files/2020-09/Height%20Adjustable%20Desks%20Purchasing%20Guidelines%201_2.pdf) for more information
 |  |
| Fixed Height Desks | * Height: 28.5”
* If possible, allow flexibility (e.g. panel hung) so that the desk height can be adjusted between 26 and 32” and/or provide option for keyboard tray and ensure installation is possible
 |  |
| Pedestal | * Consider mobile pedestal with 1-box/1-file; this will allow desks to be positioned lower than the standard 30”, and will allow users to change between right and left-handed configurations
 |  |
| Desk Width | * Preferred: ≥60; minimum: ≥36” width
 |  |
| Depth under desk  | * ≥23.5” for leg clearance
* Ensure that stability bar does not interfere with knee clearance or installation of keyboard tray
 |  |
| Keyboard tray | * ≥26” width (sufficient space for keyboard and mouse)
* Mouse level[[1]](#footnote-1) with keyboard; no knob height adjustable; removable palm rest
* Keyboard trays do not have to be installed at each workstation but users must have the option for a keyboard tray if the desk height is not adjustable.
 |  |
| Monitor  | * Height and tilt adjustable
* Monitor arms that allow monitors to be positioned low will be needed for those with bifocals, touchscreen technology and/or monitors that sit high on the desk (e.g. Mac monitors)
 |  |
| Monitor-glare | * Provide sufficient blinds with user control
* Position monitors between banks of lights (not directly under lights) & perpendicular to window (reduce glare)
 |  |
| Chair | * See [UBC’s Ergo Guidelines for Office Chairs](http://www.hr.ubc.ca/wellbeing-benefits/files/UBC-Guidelines-for-Purchasing-an-Office-Chair.pdf)  for criteria and [pre-approved list of chairs](http://www.hr.ubc.ca/wellbeing-benefits/files/HR-Training-Room-Chairs.pdf)
 |  |
| Access to Electrical  | * To the extent possible, provide convenient access to power, preferably at desk level when this will not interfere with daily use or future configurations (consider that a height adjustable desk may be installed at a later date).
 |  |
| Reception Desk | * Design to allow staff and customer to be at the same height (both seated or both at standing height with a higher chair available for staff)
 |  |
| Training | * Intro to Sit-Stand Desks and Ergo your Office[workshops](http://www.hr.ubc.ca/wellbeing-benefits/workplace-health/ergonomics/training-workshops/) are available
 |  |
| Office Ergo Rep | * Departments should have at least 1 [Office Ergo Rep](http://www.hr.ubc.ca/wellbeing-benefits/workplace-health/ergonomics/office-ergonomics/office-ergo-reps/) to assist with initial set up
 |  |

## Wet Laboratories

### Preferred if work surfaces are height adjustable, electric/pneumatic preferred; peg/crank height adjustable is acceptable.

### For fixed height tables consider the work to be performed: large benchtop centrifuges should be placed on lower tables rather than the standard counter height of 36”.

### Leg clearance for seated work sections: 24”deep X 30” wide (i.e. no drawers including pencil drawers in this space).

### Height adjustable biosafety cabinets.

### Preferred if biosafety cabinets can have a 14” opening or as large as possible given other safety concerns, and angled glass to ease.

### 2-step platform should be provided in front of mid-sized liquid nitrogen dewars and overhead lift for large liquid nitrogen dewars.

### Provide comfortable & supportive lab chairs (height adjustable, backrest height and angle adjustable and foot ring height adjustable).

## Building Services (Custodial) Residences

### Refer to Section 10 00 10 Special Room Requirements, paragraph 1.11.

### Ensure main storage room is large enough to accommodate equipment such as auto floor cleaners and a washer/drier (for mop heads)-consider raised platform for frontload washer.

### Accessible service elevators in every building large enough for custodial equipment, such as trash carts, floor scrubbers and large no-touch cleaning systems.

### Ease of cleaning/maintenance: provide surfaces that are easy to clean and easy access to equipment for maintenance and ensure flooring is slip resistant.

### Ensure materials used for walls and sub-floors support the moisture of no-touch cleaning systems.

### Ensure flooring slopes down to drain-avoid placing drain higher than flooring.

### Consider installing shower hoses-this will make it easier for building service workers when cleaning showers.

### Install toilet systems that have a high Waste Removal Performance Measure (MaP3) rating.

### Ensure furniture in resident rooms can be moved with <30lbs of force.

### Ensure resident room layout provides sufficient space for staff to be able to make beds.

## Food Services

### Review ergonomic risk in CAD design with UBC’s Ergonomics Advisor (604-822-9040; ergonomics.info@ubc.ca)

### Pass through to customer: Provide barrier free area to allow staff to comfortably pass food to customers; keep frequent reaching to <14” and below chest level.

### Rationale: minimize extended frequent reaching (CSA Z1004-12, B.3.3.2 (p.74), frequent reach zone <14”).

### Pass through between cook and sales attendant: Provide area that requires minimal reach for both staff and sales attendants.

### Rationale: minimize extended frequent reaching (CSA Z1004-12, B.3.3.2 (p.74), frequent reach zone <14”).

### Working Heights: provide height adjustable preferred; if that is not possible other options for varying work heights to accommodate the different types of tasks require.

### Rationale: tasks that require precision are best done at a table slightly above elbow height while tasks that require force at best done at a table below elbow height (CSA Z1004-12, tool 3b, p.80; precise work: 1.5 to 2” above elbow; light work: 2 to 4” below elbow; and, heavy work: 7 to 15” below elbow height).

### Garbage, compost & recycling: Provide sufficient space for compost bins near to where they will be needed; ensure compost bins are on wheels for transport or if not, the bins should be small for lifting/carrying; ensure there is a clear pathway between point of origin and destination.

### Storage area(s): specific square footage will vary; design to provide more than enough space to store all the needed items and allow space for expansion as it is likely that storage requirements will increase over time.

### Rationale: Planning for sufficient storage space is critical to reducing musculoskeletal injury risks; insufficient space results in staff working in awkward postures and double handling products which significantly increases the risk of injury.

### Ease of cleaning/maintenance: provide surfaces that are easy to clean and easy access to equipment for maintenance and ensure flooring is slip resistant.

## Waste Management

### Refer to Section 11 82 00 Waste Handling Management.

### Addition to 1.1.2.5: Ramp/Ground level access should be provided near the loading dock or primary point of exit when staff are bringing compost/recycling bins to designated pickup area.

### Rationale: ease of access-avoid need for staff to bump bins down a set of stairs or walk long way around building.

### Height of waste containers (dumpsters): ≤36” at opening or provide platform/dock.

### Rationale: eliminate above shoulder level reaching for staff when throwing out garbage.

### Clear/smooth path with minimal distance when pushing compost/recycling bins to designated pickup area.

### Rationale: recycling/compost bins, particularly compost bins, can become heavy and/or difficult to push particularly over uneven surfaces.

### Compactor. Provide sufficient space for electronic assist tow to remove compactor from building when bringing to designated pick-up (confirm clearance with CAD drawings).

### Rationale: Large compactors require >50lbs of pull force; electronic assist tow will need to be provided to reduce musculoskeletal injury risk factors.

\*\*\*END OF SECTION\*\*\*

1. Articulating swivel up mouse platform may be acceptable if it keeps mouse close and is easy to switch between the right and left [↑](#footnote-ref-1)