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CUSTOMER SERVICE COUNTER DESIGN GUIDELINES

These design guidelines are to be used by architects, project managers, interior designers and others involved in retrofits/remodels and new construction projects. These guidelines are based on national recommendations from ANSI/HFES 100-2007 (Human Factors Engineering of Computer Workstations) and in accordance with the Campus Ergonomics Strategy for Computer Workstations <http://ehs.ucsc.edu/programs/ergo/> Contact the UC Santa Cruz Campus Ergonomist at 831-459-5430 for more information and for assistance with applying these guidelines.

Application of Guidelines:

Use these guidelines when designing customer service counters to meet UC Santa Cruz ergonomics requirements; and to incorporate maximum flexibility, adjustability, safety and lifetime cost savings for all UC Santa Cruz and community users.

Customer service counters are transaction-based work areas where information is shared and/or transactions occur between people on both sides of a work surface. The design of the space must allow for accessibility for customers while incorporating critical workstation design elements to keep staff safe, i.e. adjustability of the work surface and computer monitor, as well as shallower counters to allow for shorter reaches when handing items back and forth to the customers. Customer service counters are often the focal point when entering a building or department and additional aesthetic criteria may apply.

The guidelines are divided into two types of customer service counters:

- 1) **Type A:** Main customer service counters, which have workstations for multiple staff and have frequent interactions with customers (Student Health Center, Cashier's Office)
- 2) **Type B:** Smaller customer service counters, which have assigned workstations for 1-2 staff and typically have less usage than larger customer service counters (department specific reception counters)

Within each type of customer service counter, two seating design approaches for staff workstations are listed-standard seated workstations and taller seated/standing workstations. Recommendations are provided for both approaches. Preferred and minimum recommendations are provided when applicable; the preferred requirements are recommended more highly than the minimum requirements.

1. Type A Customer Service Counter

A. Type A Customer Service Counter: Seated Workstations at ADA Counter:

1. STAFF DESK – HEIGHT:

Preferred Requirements:

- Height-adjustable workstation with height range of 24-32 inchesⁱ
- L-shaped height-adjustable workstation, with the computer monitor, keyboard and mouse on the desk positioned in the cornerⁱⁱ
- Computer equipment placed directly on top of the desktop. Keyboard trays should not be used.ⁱⁱⁱ
- Task chair should have a seat height range of 15-22 inches. See Checklist for Purchasing Task Chairs at UC for ergonomics requirements.^{iv}

Minimum Requirements:

- If work surface height must be fixed, set at a height of 34 inches with an unobstructed 33 inch floor-to-under-counter height.^v
 - **Note:** This option is not optimal and can increase the employee's risk of injury.^{vi}
- L-shaped workstation with the computer monitor, keyboard and mouse placed in the corner
- Adjustable stool with height range of 20-25 inches with a foot ring and a custom 15° angled platform recessed under the entire workstation to support the feet.^{vii}

2. STAFF DESK - DEPTH:

Requirements:

- 17" depth (minimum) and 22" depth (maximum) in the area where customer interactions occur^{viii}
- At least 24" depth in the corner for the computer monitor
- Under-counter storage units can be attached to the work surface but should allow for full height adjustability of the table. If the storage units are mobile they should not exceed 22 inches in height for the adjustable table.

3. STAFF DESK - WIDTH:

Requirements:

- Minimum unobstructed horizontal knee space clearance of 30 inches under computer workstation and under customer service counter
- Minimum width of 28 inches on work surface for placement of keyboard and mouse
- Adequate desk width for all other frequently-used work tools, including telephone, supplies, and equipment.^{ix}
- Adequate unobstructed width under the desk to allow legroom for the employee while they are using their work tools.^x

4. CUSTOMER TRANSACTION COUNTER:

Requirements:

- Positioned directly in front of or adjacent to the side of the employee's primary work area
- Maximum height of 34 inches
- Maximum depth of 10 inches for customer transaction counters^{xi}

B. Type A Customer Service Counter: Tall Seated / Standing Workstations:

1. STAFF DESK - HEIGHT:

Preferred Requirements:

- Height-adjustable workstation with height range of 32-47 inches^{xii}
- L-shaped workstation with the computer monitor, keyboard and mouse placed in the corner
- Standing station or provide adjustable stool with footring and seat height range of 25 to 30 inches. Provide a custom 15° angled platform recessed under the entire workstation to support the feet.^{xiii} Refer to UC chair checklist for recommended stool features.

Minimum Requirements:

- Fixed work surface height at 36 inches with an unobstructed 35 inch floor to under-counter height
- Attached under-counter storage with minimum horizontal knee space clearance of 30 inches
- Minimum width of 28 inches on work surface for placement of keyboard and mouse
- Adjustable stool with seat height range of 25 to 30 inches and foot ring. Provide a custom 15° angled platform recessed under the entire workstation to support the feet. Refer to UC chair checklist for recommended stool features.

2. STAFF DESK - DEPTH:

Requirements:

- 17" depth (minimum) and 22" depth (maximum) in the area where customer interactions occur
- 24" depth for computer monitor in the corner
- Attached under-counter storage units that allow for minimum horizontal knee space clearance of 30 inches

3. STAFF DESK – WIDTH

Requirements:

- Minimum width of 28 inches on work surface for placement of keyboard and mouse
- Additional desk width for other necessary supplies, including telephone, files, supplies, etc.^{xiv}
- Unobstructed legroom under the desk when using computer and other supplies on desk
- Minimum width of 28 inches on work surface for placement of keyboard and mouse

4. CUSTOMER TRANSACTION COUNTER:

Requirements:

- Directly in front of or adjacent to the side of the employee's primary work area
- Maximum height of 40 inches
- Maximum depth of 10 inches for customer transaction counters to minimize reach during transactions

2. Type B Customer Service Counters

A. Type B Customer Service Counter: Seated Workstations at ADA Counter:

1. STAFF DESK - HEIGHT:

Preferred Requirements:

- Height-adjustable workstation with height range of 24-32 inches^{xv}
- L-shaped workstation with the computer monitor, keyboard and mouse placed in the corner^{xvi}
- Computer equipment placed directly on top of the desktop. Keyboard trays should not be used.^{xvii}
- Task chair should have a seat height range of 15-22 inches. Refer to Checklist for Purchasing Task Chairs at UC.
- Under-counter storage units can be attached to the work surface but should allow for full height adjustability of the table. If the storage units are mobile they should not exceed 22 inches in height.

Minimum Requirements:

- Fixed work surface height at 28.5 inches with an unobstructed 27.5 inch floor to under counter height^{xviii}
- L-shaped workstation with the computer monitor, keyboard and mouse placed in the corner **or**
- Adjustable keyboard tray attached underneath work surface perpendicular to transaction counter; allow room for the employee to turn 90° to help the customer.^{xix}
- Task chair should have a seat height range of 15-22 inches. Refer to Checklist for Purchasing Task Chairs at UC.
- Mobile under-counter storage units should not exceed 27 inches in height

2. STAFF DESK - DEPTH:

Requirements:

- 17" depth (minimum) and 22" depth (maximum) in the area where customer interactions occur^{xx}

3. STAFF DESK - WIDTH:

Requirements:

- Minimum horizontal knee space clearance of 30 inches

4. CUSTOMER TRANSACTION COUNTER:

Requirements:

- Positioned directly in front of or adjacent to the side of the employee's primary work area
- Maximum height of 34 inches

- Maximum depth of 10 inches for customer transaction counters to minimize reach during transaction^{xxi}

B. Type B Customer Service Counters: Seated Workstations at Taller Transaction Counter:

For seated workstations where staff work with their feet on the floor, the height of the taller transaction counter should not exceed 36 inches. This design eliminates staff reaching above shoulder height to hand things back and forth to the client. The upward reach issue often gets overlooked with traditional designs.

1. STAFF DESK - HEIGHT:

Preferred Requirements:

- Height-adjustable workstation with height range of 24-32 inches
- L-shaped workstation with the computer monitor, keyboard and mouse placed in the corner
- Computer equipment placed directly on top of the desktop. Keyboard trays should not be used.
- Task chair with a seat height range of 15-22 inches. Refer to Checklist for Purchasing Task Chairs at UC.
- Under-counter storage units can be attached to the work surface but should allow for full height adjustability of the table. If the storage units are mobile they should not exceed 22 inches in height.

Minimum Requirements:

- Fixed work surface height at 28.5 inches with an unobstructed 27.5 inch floor to under counter height
- L-shaped workstation with the computer monitor, keyboard and mouse placed in the corner **or**
- Adjustable keyboard tray attached underneath work surface perpendicular to transaction counter; allow room for the employee to turn 90° to help the customer
- Task chair with a seat height range of 15-22 inches. Refer to Checklist for Purchasing Task Chairs at UC.
- Mobile under-counter storage units should not exceed 27 inches in height

2. STAFF DESK - DEPTH:

Requirements:

- 17" depth (minimum) and 22" depth (maximum) in the area where customer interactions occur

3. STAFF DESK – WIDTH

Requirements:

- Minimum horizontal knee space clearance of 30 inches

3. CUSTOMER TRANSACTION COUNTER:

Requirements:

- Positioned directly in front of or adjacent to the side of the employee's primary work area
- Maximum height of 36 inches
- Maximum depth of 10 inches for customer transaction counters to minimize reach during transaction

ⁱ Employees must be able to work with their feet on the ground so they can easily transition to the different parts of the workstation.

ⁱⁱ Due to shallower desks, there will only be adequate space in front of the monitor when the computer workstation is positioned in the corner.

ⁱⁱⁱ Keyboard trays will increase the reach to frequently-used items and to the customer, and *will/can* increase the risk of injury to the employees using these workstations.

^{iv} Checklist for Purchasing Task Chairs at UC

^v Fixed-height work surfaces are not recommended because they require use of a keyboard tray to adjust the height of the keyboard and mouse to appropriate levels.

^{vi} This option will not allow the employee's feet to rest flat on the floor. This makes it difficult to transition to different areas of the workstations. Footrests are not recommended as a substitute for height-adjustable work surfaces since they do not provide foot support across the entire, usable work area.

^{vii} This allows staff to have their feet on a supported surface to easily transition to all parts of the workstation (see Architectural Graphic Standards pg. 5)

^{viii} Shallower desks are recommended to reduce reach to the customer

^{ix} A needs assessment should be performed by the design team to determine how much space is required for existing and future equipment and supplies. Consult campus ergonomist as needed.

^x Employees will need legroom under the desk in order to safely use frequently-used work tools and supplies. A needs assessment will determine how much desk space and legroom is required. Filing pedestals should not be placed to obstruct legroom during work tasks.

^{xi} This minimizes reaching during transactions. Reach distance is determined by adding the depth of the customer service counter to the depth of the staff desk.

^{xii} Fixed height work surfaces are not recommended because they require use of a keyboard tray to adjust the height of the keyboard and mouse

^{xiii} An angled and elevated platform allows the employee to easily transition around the workstation without using their arms to pull on the front of the workstation. A chair with a foot ring does not allow for this.

^{xiv} A needs analysis should be performed by the staff and project design team to determine how much room is required for necessary equipment and supplies. The campus ergonomist can assist in performing a task analysis to help determine how much space is needed for the employees to safely perform their jobs.

^{xv} Employees must be able to work with their feet on the ground so they can easily transition to the different parts of the workstation.

^{xvi} Due to shallower desks, there will only be adequate space in front of the monitor when the computer workstation is positioned in the corner.

^{xvii} Keyboard trays will increase the reach to frequently-used items and to the customer, and *will/can* increase the risk of injury to the employees using these workstations.

^{xviii} This height fits the widest range of users and corresponds directly with the adjustability of a task chair with a height range of 15-22 inches.

^{xix} At a dedicated workstation, using a keyboard tray and placing it perpendicular to the transaction counter allows for keyboard and mouse adjustability.

^{xx} Shallower desks are recommended to reduce reach to the customer

^{xxi} This minimizes reaching during transactions. Reach distance is determined by adding the depth of the customer transaction counter to the depth of the staff desk.

References: ANSI/HFES 100-2007 Human Factors Engineering of Computer Workstations standard; The Handbook of Ergonomic Design Guidelines, Humantech Inc., 2009; Human Factors in Engineering and Design, Mark Sanders and Ernest McCormick, 7th edition, McGraw-Hill, Inc. 1993; Humantech Ergonomic Design Guideline for Engineers Manual, Architectural Graphic Standards, Charles Ramsey and Harold Sleeper, 9th edition, John Wiley & Sons, Inc. 1994; ADA Standards for Accessible Design: Titles II and III, Department of Justice, pgs. 114-116, 2010.

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