

SEVEN PRINCIPLES OF UNIVERSAL DESIGN

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

- Providing the same means of use for all users, identical whenever possible, equivalent when not
- Avoiding segregating or stigmatizing any user
- Ensuring that privacy, security, and safety are equally available to all users
- Making the design appealing to all users

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

- Providing choice in methods of use
- Accommodating right and left-handed access and use
- Facilitating the user's accuracy and precision
- Providing adaptability to the user's pace

(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.

- Eliminating unnecessary complexity
- Remaining consistent with user expectations and intuition
- Accommodating a wide range of literacy and language skills
- Arranging information consistent with its importance
- Providing effective prompting and feedback during and after task completion

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

- Using different modes (pictorial, verbal, tactile) for redundant presentation of essential information
- Providing adequate contrast between essential information and its surroundings
- Maximizing "legibility" of essential information
- Differentiating elements in ways that can be described (i.e., makes it easy to give instructions or directions)
- Providing compatibility with a variety of techniques or devices used by people with sensory limitations

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

- Arranging elements to minimize hazards and errors, (i.e., conveniently placing most used elements and eliminating, isolating, or shielding most hazardous elements)
- Providing warnings of hazards and error
- Providing fail safe features
- Discouraging careless action in tasks that require vigilance

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

- Allowing the user to maintain a neutral body position
- Using reasonable operating forces
- Minimizing repetitive actions
- Minimizing sustained physical effort

(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.

- Providing a clear line of sight to important elements for any seated or standing user
- Making reach to all components comfortable for any seated or standing user
- Accommodating variations in hand and grip size
- Providing adequate space for the use of assistive devices or personal assistance

(Adapted from The Center for Universal Design's "Principles of Universal Design" © Copyright 1997, NC State University, The Center for Universal Design, an initiative of the College of Design. Compiled by advocates of universal design, listed in alphabetical order: Bettye Rose Connell, Mike Jones, Ron Mace, Jim Mueller, Abir Mullick, Elaine Ostroff, Jon Sanford, Ed Steinfeld, Molly Story, & Gregg Vanderheiden. Please visit www.design.ncsu.edu:8120/cud/univ_design/princ_overview.htm for more information.