Commitment to Opportunity

The U.S. Census Bureau estimates that 56.7 million Americans (18.7% of the population) have some type of disability. Of this number, an estimated 38.3 million (12.6%) have a disability characterized as “severe.”

The University of Iowa seeks to provide an inviting, welcoming, and supportive environment for all people, including all people with disabilities. To this end, the university recognizes it is critical that we accommodate employee needs, assure access to university services, provide accessible pedestrian circulation paths, and improve building accessibility.

Improved access and usability enhance the value of buildings for all of us and create a welcoming campus climate of grace and dignity for those experiencing a disability. To expand opportunities for full participation in University of Iowa events, employment, and academics, the university has accepted the challenge of moving beyond federal mandates towards universal design in buildings.

Universal Design

Accessibility laws in the United States were created to eliminate barriers in buildings for use by people with disabilities. The Americans with Disabilities Act (ADA) is perhaps the best-known of these laws. However, current accessibility codes are focused on functionality issues and minimal solutions—they do not guarantee good design.

Universal design is defined as “the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.” Today, universal design is more important than ever. Aging populations, a sharp increase in the number of disabled veterans, and medical advances have greatly multiplied the number of individuals who rely on accessible design.

Universal design addresses a broader mission that recognizes choices and differences between various design options. It integrates usability with other important design concerns like aesthetics and sustainability.
The Seven Guiding Principles for Universal Design

Design is powerful and profoundly influences our daily lives. It is essential for achieving inclusion and full participation. Creating useable, equitable, sustainable, inclusive environments, practices, and systems is a shared responsibility.

The seven principles developed by the Center for Universal Design at North Carolina State University, and adapted below, show that universal design isn’t a specialized field. It is simply thoughtful problem-solving through design. The authors, a working group of architects, product designers, engineers, and environmental design researchers, collaborated to establish these principles to guide a wide range of design disciplines including environments, products, and communications.

Make It Equal
Universal design takes into consideration the needs of people of all ages, sizes, and physical and cognitive abilities. If that is not possible in a single design, universal design presents equivalent alternatives, like wheelchair street curb ramps.

Allow for Flexible Use
Universal design accommodates a wide range of individual preferences and abilities. For people with diminished strength and agility, kitchens and bathroom spaces often prove to be the most challenging.

Keep It Simple and Intuitive
Effective design makes usage intuitive. It eliminates unnecessary complexity and arranges information by importance or sequence of use. Directions and operation are easy to understand regardless of the user’s experience, knowledge, language skills, and cognitive ability.

Make Information Perceptible
Well-designed products communicate necessary information clearly to the user, regardless of ambient conditions or the user’s sensory abilities. For people with impaired hearing or vision, using multiple modes—pictures, sound, touch—to present essential information can alleviate frustration.

Build In Error Tolerance
Good design can minimize the adverse consequences of unintended actions by isolating or shielding hazardous elements and arranging elements according to most frequent use or sequential steps to complete a task. Safety barriers can be designed to help people who have difficulty remembering or comprehending or have problems with balance and coordination. Warning systems and elevators can flash a light as well as enunciate. Distinctive use of color and tactile markers can help people judge the depth of a stair, find their way down a dim hallway, or see the edge of a countertop.

Minimize Physical Effort
Products that allow users to maintain a neutral body position, minimize repetitive actions, and reduce the need for sustained physical effort make performing chores more enjoyable and comfortable. For a person with severe arthritis, the simple task of turning a doorknob or faucet can be painful, which is why we favor lever door handles and faucet fixtures that require less range of motion.

Provide Adequate Size and Space
A key principle of universal design is making sure that appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user’s body size, posture, or mobility. Doing so demands providing a clear line of sight from either a seated or standing position or ample room for assistive devices.

Additional Information
The University of Iowa has developed a project scoping and assessment model titled MAPPS (Measuring Accessibility Points Plan and Standards). The model includes an extensive checklist of accessibility considerations and provides an excellent framework for scoping a project design. It also offers a rating system, similar to the U. S. Green Building Council’s LEED ratings, to aid understanding the relative extent of universal design.

For more information about universal design on the University of Iowa campus and the MAPPS program, contact Brian Manternach, Facilities Accessibility Coordinator, Building & Landscape Services, at brian-manternach@uiowa.edu or 319-384-0654. Or visit, http://www.facilities.uiowa.edu/accessibility.html