

## UNIVERSAL DESIGN PRINCIPLES

Universal Design is an inclusionary design that applies to spaces, features and products to maximize the number of people who can function independently in a particular environment. This design will consider human needs and abilities throughout their life. This includes considerations for when they are a small child, adolescent, and adult and as a senior citizen. Other names include life-span design, inclusion design or trans-generational design.

The Center for Universal Design developed 7 principles to guide individuals in the design process. They include:

### **PRINCIPLE ONE: Equitable Use**

#### **The design is useful and marketable to people with diverse abilities**

1. Full length door handles for people of varying heights
2. Automatic doors operating with sensors
3. Family toilet rooms
4. Integrated, dispersed and adaptable seating in assembly areas such as sports arenas and theaters.

### **PRINCIPLE TWO: Flexible Use**

#### **The design accommodates a wide range of individual preferences and abilities**

1. Power adjusting counters for use while standing or sitting
2. Equipment that accommodates a person who are right or left handed
3. Speed controls to allow for comfortable pace of used
4. Museums that allow a person to read or listen to a description of the contents at a display case.
5. An ATM that has visual, tactile and audible feedback.

### **PRINCIPLE THREE: Simple and intuitive**

#### **Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.**

1. Use of signage pictures for information (International sign of accessibility)
2. Instruction without text
3. Shape of button indicates what it does (Power seat controls on a car seat.
4. A moving sidewalk or escalator in a public area.

## **PRINCIPLE FOUR: Perceptible Information**

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

1. Elevator with both voice and bell to tell you what floor you are on.
2. Providing captioning on public televisions to allow people to hear or read content.
3. Alternate formats of materials (Large print, Braille, audio)
4. Public phones compatible with hearing aids incorporate volume controls and have a TTY.

## **PRINCIPLE FIVE: Tolerance of Error**

**The design minimizes hazards and the adverse consequences of accidental or unintended actions.**

1. Lip or curb at sides of ramp reduces risk of slipping off and provides guide for cane users.
2. Guards around grips to prevent slippage
3. Edging around a "Start" button to prevent accidental starts
4. Double cut keys that can be inserted and used in either position.

## **PRINCIPLE SIX: Low Physical Effort**

**The design can be used efficiently and comfortably and with a minimum of fatigue.**

1. Lever handle on door easy to use with a closed fist or open hand.
2. Operating controls in a neutral seated position
3. Mechanisms that can be operated by a simple touch or being within the vicinity of the sensor.

## **PRINCIPLE SEVEN: 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.**

1. Using doorways of 36" rather than the code of 32" (Accommodates larger wheelchairs and strollers)
2. Controls on the front and clear floor space around elements that require contact by users.
3. Open loop handles can accommodate any hand size.
4. Wider walkways than allow easier movement and passing space.