



Universal Design

Housing Solutions for All Ages and Abilities

Elements of Universal Design/Home Modification

What is Universal Design?

Universal Design is a worldwide movement that is based on the idea that all environments and products should be usable by all people, regardless of their ages, sizes, or abilities. Because this movement applies to everyone, the concept of Universal Design is known around the world as “design for all,” “inclusive design,” and “life-span design.”

An important component of Universal Design is the maintenance of aesthetics. In other words, to create something that is still “visually pleasing” to others despite being accessible to everyone. Function does NOT have to sacrifice beauty. As a result, universally designed homes and public buildings can be just as beautiful and welcoming as any other design approach. Increasingly, experts are referring to the concept of Universal Design as the “wave of the future.” It is the hope of Universal Design advocates that eventually all buildings, homes, and

products will be designed to meet the needs of everyone.

Why Home Modification?

Whether you are building a new home, or repairing or renovating an existing home, you too can incorporate, through home modification, characteristics of Universal Design. Home modification can vary from building a new home with universally designed features, to simple installation of lever door knobs on an older home to more complex structural changes in an existing home, such as installing a walk-in shower or an accessible ramp. The goal of home modification for existing homes is not to entirely redesign the home but to make a range of changes or repairs that result in your home being a comfortable, user-friendly, and safer place to live.

Implementing Universal Design home modifications can result in a home that you can remain in as you age. This concept is often referred to as “aging in

place.” The idea behind “aging in place” is to enable individuals to live independently in their homes for as long as possible. The goal is to avoid having to relocate simply because one’s home is too difficult to get around in.

What are the Principles of Universal Design?

A group of Universal Design advocates¹ from the Center for Universal Design at North Carolina State University developed seven principles of Universal Design. These principles can be applied to evaluate existing environments or products, serve as guidelines in the development or renovation of existing environments, and serve to educate consumers and professionals wanting to understand the characteristics of this design approach.

Principle 1: *Equitable Use*

The design is useful and marketable to people with diverse abilities.

Principle 2: *Flexibility in Use*

The design accommodates a wide range of individual preferences and abilities.

Principle 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.

¹ Listed in alphabetical order: Betty Rose Connell, Mike Jones, Ron Mace, Jim Mueller, Abir Mullick, Elaine Ostroff, Jon Sanford, Ed Steinfeld, Molly Story & Gregg Vanderheiden.

Principle 4: *Perceptible Information*

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

Principle 5: *Tolerance for Error*

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

Principle 6: *Low Physical Effort*

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

Principle 7: *Size and Space for Approach and Use*

Appropriate size and space is provided for approach, reach, manipulation, and use, regardless of the user’s body size, posture, or mobility.

The American Association of Retired Persons provides a list of common challenges individuals encounter and some universal design features that may serve as possible solutions (www.aarp.org/universalhome/solutions.html). Below are some examples:

Limited Lifting or Flexibility

- Install lever faucet handles or single lever faucets that are easy to turn.
- Choose u-shaped drawer handles for cabinets and drawers that are easier to grasp.
- Consider decorative grab bars in the shower or by the toilet and tub to increase safety.

- Replace standard light switches with rocker switches that are easier to use.

Limited Mobility

- Install a bath/shower seat or tub with a transfer bench to ease getting in and out of the bath.
- Use transition wedges at door thresholds to avoid tripping.
- Give sidewalks and driveways a textured surface to increase traction and stability.
- Use handrails on both sides of stairways.

Limited Vision

- Purchase appliances with large print controls.
- Install lighting near outside walkways, stairs, and entrances.
- Use nightlights where appropriate.
- Install under-the-cabinet lights, or task lighting, over kitchen counter work areas.

Remember, a home that has universal design features is a home that fits everyone's needs, whether they are young or old, short or tall, with physical limitations or without.

Author: Christine A. Price, OSU Extension State Specialist, Gerontology, Department of Human Development and Family Science.

Contact the American Association of Retired Persons (AARP) for publications on how to modify your home. Some examples of helpful publications available from the AARP free of charge include:

Home Solutions: Options to Meet Changing Needs (D17044)

The Do Able Renewable Home: Making Your Home Fit Your Needs (D12470)

Universal Design and Home Modification (D16691)

How Well Does Your Home Meet Your Needs? (D16427)

Contact AARP at: member@aarp.org or 1-800-424-3410 or mail your request to **AARP**, 601 E St., NW, Washington, DC 20049

References

AARP Universal Design Home Modification: www.aarp.org/universalhome/

Adaptive Environments Center, Inc.—
Universal Design:
<http://www.adaptenv.org/universal/default.asp>

Center for Universal Design at North Carolina State University:
www.design.ncsu.edu/cud

Visit Ohio State University Extension's WWW site "Ohioline" at:
<http://ohioline.osu.edu>

All educational programs conducted by Ohio State University Extension are available to clientele on a nondiscriminatory basis without regard to race, color, creed, religion, sexual orientation, national origin, gender, age, disability or Vietnam-era veteran status.

Keith L. Smith, Associate Vice President for Ag. Adm. and Director, OSU Extension

TDD No. 800-589-8292 (Ohio only) or 614-292-1868

9/01-klw