

Designing Homes for Function and Safety

The traditional home is designed for an able-bodied, nonelderly adult. Since that description fits less than 15 percent of our population, many people are living in environments that are awkward, difficult to manage, or even unsafe. Many problems in home environments could be eliminated by adopting the concept of Universal Housing Design. Universal Housing Design is the design of environments to be as usable as possible by people of all ages and physical abilities. The goal is to create homes that are both beautiful and functional.

If you are building or remodeling a home, think about what you want now and what you may need later on. Consider the abilities of the people in your home, both now and in the future. A home with Universal Design is not obviously built for people with disabilities. Rather, its features are helpful to everyone. But with Universal Design, your home can accommodate visitors who have special physical needs.

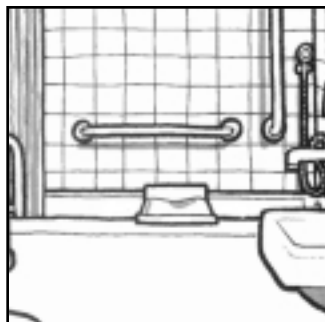
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Principles of Universal Design

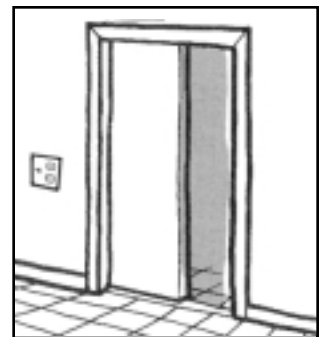
- **Equitable use:** The design does not disadvantage or stigmatize any group of users.
- **Flexibility in use:** The design accommodates a wide range of individual preferences and abilities.
- **Simple, intuitive use:** The functions of the home are easy to understand, regardless of a person's experience, knowledge, language skills, or current concentration level.
- **Perceptible information:** Features in the home communicate information about how to use them, regardless of a person's sensory abilities.
- **Tolerance for error:** The design minimizes both safety hazards and the consequences of accidents or unintended actions.
- **Low physical effort:** Activities can be carried out efficiently and comfortably, and with a minimum of fatigue.
- **Size and space:** The design provides enough space for an individual to approach, reach, manipulate and use features in the home, regardless of the person's body size, posture or mobility.

Here are some tips for bringing Universal Design into your home:

1. Use lever handles rather than turn knobs on doors and faucets. (Electronic faucets are another option.)
2. Make doors 36 inches wide. Use pocket doors where possible.
3. Make floor levels flush.
4. Allow 42 to 48 inches for the width of hallways.
5. Increase lighting levels.
6. Install grab bars in showers and tubs.



7. If possible, equip at least one shower with a seat and hand-held, adjustable sprayer.
8. Make toilet seats 15 to 19 inches from the floor.
9. Put dual height rods and shelves in closets.
10. Install handrails on both sides of stairs, inside and out, with rails extending at least 12 inches beyond the top and bottom steps.
11. Make at least one bedroom and bathroom on the first floor wheelchair-accessible.
12. Put slip-resistant flooring in bathrooms and kitchen.
13. Have at least one kitchen counter at a height of 30 to 32 inches, with leg room underneath at least 27 inches wide. Cabinet doors that open and slide into pockets would make this work area accessible to anyone who needs to sit to work.
14. Select a cooktop with controls on the front.
15. Place electrical outlets within reach from a wheelchair—27 inches above the floor or on the fronts of cabinets.
16. Use open shelving or glass cabinets.
17. Use drawers to hold pots, pans, and perhaps even dishes.
18. Choose a side-by-side refrigerator with water and ice dispensers in the door.
19. Select a front-loading washing machine and dryer, and an oven that swings open from the side instead of opening downward.



20. Put Lazy Susans in lower, corner cabinets.
21. Place ovens and microwaves so they can be reached from a sitting position.
22. Build windows low enough to see out of when sitting.
23. Make sure toe space at the bottom of base cabinets is 8 ³/₄ to 10 inches high.
24. Place wall switches, phones and thermostats 40 to 48 inches above the floor.
25. Use ridged, beaded or roughened door knobs or levers on doors to stairs or other hazardous areas to signal danger.

27. Install a full-length mirror in the bathroom.

28. Make the height of the peephole or view panel in the front door low enough so that a sitting person can see out.

For more ideas or reference materials, contact the Center for Universal Design at North Carolina State University, P.O. Box 8613, Raleigh, NC 27695. Or, visit their website at www.design.ncsu.edu/cud/index.html

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