

# Interior Design Challenge Kit Curriculum



Every effort has been made to trace the ownership of copyrighted material and to make full acknowledgement of its use. If errors or omissions have occurred, they will be corrected in subsequent editions, provided that notification is submitted in writing to the publisher.



© 2023, Realityworks, Inc. All rights reserved.

2709 Mondovi Road  
Eau Claire, WI 54701 USA  
800.830.1416  
+1.715.830.2040  
[www.realityworks.com](http://www.realityworks.com)

1069332-01

# Table of Contents

|                                                                                   |    |
|-----------------------------------------------------------------------------------|----|
| <b>Table of Contents</b> .....                                                    | 3  |
| <b>Author</b> .....                                                               | 5  |
| <b>Curriculum Structure</b> .....                                                 | 6  |
| <b>Lesson Structure</b> .....                                                     | 6  |
| <b>Lesson One – Equitable Use</b> .....                                           | 7  |
| FOCUS: Introduce Equitable Use in Universal Design .....                          | 8  |
| LEARN: Explore Examples of Equitable Use and Apply to Drawing .....               | 12 |
| REVIEW: Evaluate Equitable Use Designs .....                                      | 13 |
| Sources .....                                                                     | 15 |
| <b>Lesson Two – Flexibility in Use</b> .....                                      | 16 |
| FOCUS: Introduce Flexibility in Use in Universal Design .....                     | 17 |
| LEARN: Explore Examples of Flexibility in Use and Apply to Drawing .....          | 21 |
| REVIEW: Evaluate Flexibility in Use Designs .....                                 | 22 |
| Sources .....                                                                     | 24 |
| <b>Lesson Three – Simple and Intuitive</b> .....                                  | 25 |
| FOCUS: Introduce Simple and Intuitive in Universal Design .....                   | 26 |
| LEARN: Explore Examples of Simple and Intuitive Design and Apply to Drawing ..... | 30 |
| REVIEW: Evaluate Simple and Intuitive Designs .....                               | 31 |
| Sources .....                                                                     | 33 |
| <b>Lesson Four – Perceptible Information</b> .....                                | 34 |
| FOCUS: Introduce Perceptible Information in Universal Design .....                | 35 |
| LEARN: Explore Examples of Perceptible Information and Apply to Drawing .....     | 39 |
| REVIEW: Evaluate Perceptible Information Designs .....                            | 40 |
| Sources .....                                                                     | 42 |
| <b>Lesson Five – Tolerance for Error</b> .....                                    | 43 |
| FOCUS: Introduce Tolerance for Error in Universal Design .....                    | 44 |
| LEARN: Explore Examples of Tolerance for Error and Apply to Drawing .....         | 48 |
| REVIEW: Evaluate Tolerance for Error Designs .....                                | 49 |
| Sources .....                                                                     | 51 |
| <b>Lesson Six – Low Physical Effort</b> .....                                     | 52 |
| FOCUS: Introduce Low Physical Effort in Universal Design .....                    | 53 |
| LEARN: Explore Examples of Low Physical Effort and Apply to Drawing .....         | 57 |
| REVIEW: Evaluate Low Physical Effort Designs .....                                | 58 |
| Sources .....                                                                     | 60 |
| <b>Lesson Seven – Size and Space for Approach and Use</b> .....                   | 61 |

## Interior Design Challenge Kit Curriculum

|                                                                                           |           |
|-------------------------------------------------------------------------------------------|-----------|
| FOCUS: Introduce Size and Space for Approach and Use in Universal Design .....            | 62        |
| LEARN: Explore Examples of Size and Space for Approach and Use and Apply to Drawing ..... | 67        |
| REVIEW: Evaluate Size and Space for Approach and Use Designs.....                         | 68        |
| Sources .....                                                                             | 70        |
| <b>Lesson Eight – Seven Principles of Interior Design .....</b>                           | <b>71</b> |
| FOCUS: Introduce the 7 Principles of Interior Design .....                                | 72        |
| LEARN: Explore Examples of the 7 Principles of Interior Design and Design a Space .....   | 80        |
| REVIEW: Evaluate Interior Designs Using the 7 Principles of Interior Design .....         | 81        |
| Sources .....                                                                             | 83        |
| <b>Lesson Nine – Designing for Accessibility .....</b>                                    | <b>84</b> |
| FOCUS: Introduce Designing for Accessibility.....                                         | 85        |
| LEARN: Explore Simulations of Physical Disabilities and Design a Space .....              | 87        |
| REVIEW: Self-Assess Universal Designs for Accessibility.....                              | 88        |
| Sources .....                                                                             | 89        |
| <b>Lesson Ten – Design Challenge Day .....</b>                                            | <b>90</b> |
| FOCUS: Introduce the Design Challenge .....                                               | 91        |
| LEARN: Design an Interior Space Using Universal Design Principles.....                    | 92        |
| REVIEW: Evaluate Design Challenge Spaces.....                                             | 93        |

## Author



Arielle Panzarino is an accomplished educator with a passion for teaching and a commitment to student success. She holds a master's degree in educational leadership from the American College of Education and a graduate certificate in TESOL from Touro College's Graduate School of Education. Additionally, Arielle earned a master's degree in Family and Consumer Sciences education from Hofstra University and a Bachelor of Arts in psychology and Italian from Queens College.

Arielle has been a Family and Consumer Sciences teacher for almost 10 years at Great Neck Public Schools, teaching grades six through eight. In this role, she implements the national FCS standards through hands-on, project-based instruction and regularly collaborates with department members to develop relevant and rigorous curriculum to meet the needs of all learners.

Arielle is the co-chair of the Building Curriculum Group, where she collaborates with various department representatives and administrators to bring school-wide initiatives to fruition. Her passion for teaching extends beyond the classroom, as evidenced by her creation of an advisory program to build and enhance positive student-teacher relationships. She also develops, designs, and leads professional development courses through the Great Neck Teacher Center.

## Interior Design Challenge Kit Curriculum

The Interior Design Challenge Kit provides a two-week unit for teaching universal design principles using scenario-based learning. This design kit will challenge students with a variety of scenarios to solve. Challenge scenarios could include designing a space for a young child, geriatric age modification, special needs accommodations, and more.

## Curriculum Structure

The *Interior Design Challenge Kit Curriculum* is composed of the following lessons. Approximate lesson times are included.

| Lesson | Title                               | Approximate Time  |
|--------|-------------------------------------|-------------------|
| 1      | Equitable Use                       | 70 minutes        |
| 2      | Flexibility in Use                  | 70 minutes        |
| 3      | Simple and Intuitive                | 70 minutes        |
| 4      | Perceptible Information             | 70 minutes        |
| 5      | Tolerance for Error                 | 70 minutes        |
| 6      | Low Physical Effort                 | 70 minutes        |
| 7      | Size and Space for Approach and Use | 70 minutes        |
| 8      | 7 Principles of Interior Design     | 125 minutes       |
| 9      | Designing for Accessibility         | 105 minutes       |
| 10     | Design Challenge Day                | 150 minutes       |
|        | <b>Total</b>                        | <b>14.5 hours</b> |

## Lesson Structure

Each lesson begins with a Lesson Overview, Lesson Objectives, and a Lesson at a Glance table, which lists lesson activities, materials required, suggested preparation steps, and approximate class time.

### Lesson Sections

The actual lesson follows the overview, which contains some of the sections described below.

#### ***FOCUS***

Every lesson begins with a FOCUS activity intended to capture participants' attention. This may be in the form of a small or large class discussion, a game, a demonstration, or a review of previous lesson information. During this activity, participants are introduced to the topic of the lesson.

#### ***LEARN***

The LEARN activity in each lesson varies in its presentation mode. It may be a slide presentation, group activity, or demonstration.

#### ***REVIEW***

The majority of lessons end with a REVIEW activity intended to briefly review the lesson's key messages or main points.

# Lesson One – Equitable Use

## Lesson Overview

*In this lesson, participants will learn about equitable use. Everyone should be able to use and access a building in the same way. If the means of use cannot be identical for everyone, then there must be additional means that are equivalent in terms of safety, security, and convenience without segregation or stigmatizing any users. Participants will create a scenario that properly displays the principle of equitable use in universal design.*

## Lesson Objectives

After completing this lesson, participants will be able to:

- Define and discuss the principle of equitable use in universal design
- Analyze design features that make a space accessible to people with varying abilities
- Design a space that is functional and usable for all users, regardless of their physical abilities

## Lesson at a Glance

| Activity | Materials                                                                                                                                                                                                     | Preparation                                                                                                                                                                                                                                                                   | Approximate class time |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| FOCUS    | <ul style="list-style-type: none"><li>● <i>What Is Equitable Use?</i></li><li>● YouTube Video: <i>Equitable Use</i></li><li>● <i>Universal Design Principle 1: Equitable Use</i> slide presentation</li></ul> | <ol style="list-style-type: none"><li>1. Print/photocopy <i>What Is Equitable Use?</i> (one per participant).</li><li>2. <a href="#">YouTube Video Access</a></li><li>3. Prepare <i>Universal Design Principle 1: Equitable Use</i> slide presentation for viewing.</li></ol> | 20 minutes             |
| LEARN    | <ul style="list-style-type: none"><li>● Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)</li><li>● Drafting Workbooks</li><li>● <i>What Is Equitable Use?</i></li></ul> | <ol style="list-style-type: none"><li>1. Gather materials.</li></ol>                                                                                                                                                                                                          | 30 minutes             |
| REVIEW   | <ul style="list-style-type: none"><li>● Completed drawings</li><li>● <i>Equitable Use Design Rubric</i> (optional)</li></ul>                                                                                  | <ol style="list-style-type: none"><li>1. Optional: Print/photocopy the <i>Equitable Use Design Rubric</i> (one per participant/pair design).</li></ol>                                                                                                                        | 30 minutes             |

## Lesson One – Equitable Use

# FOCUS: Introduce Equitable Use in Universal Design

20 minutes

### Purpose:

Participants will be introduced to the principle of equitable use in universal design and will develop the knowledge needed to design spaces that are accessible and usable by all users, regardless of their physical abilities.

### Materials:

- *What Is Equitable Use?*
- *Design Principle 1: Equitable Use* slide presentation
- [YouTube Video: Equitable Use](#)

### Facilitation Steps:

1. Distribute the *What Is Equitable Use?* Graphic organizer to each participant.
2. Play the [YouTube video](#) on equitable use. Participants will complete the graphic organizer as they watch the video, writing down the guidelines and providing examples of how it can be applied in interior design.

There are many short videos on Equitable Use. While the link above is recommended, here are a few other videos to consider:

[UD Principle 1: Equitable Use - YouTube](#)

[Designing for a more equitable world | Antionette Carroll - YouTube](#)

[Design is \[Equitable\] - YouTube](#)

**Note:** Videos may become unavailable over time. To find additional videos on equitable use, try a keyword search in YouTube.

3. After the video plays, view the *Design Principle 1: Equitable Use* slide presentation and review definitions of key terms and concepts mentioned related to equitable use such as accessibility, usability, and inclusivity.

**Slide 1:** Universal Design Principle 1: Equitable Use – introduction slide

**Slide 2:** What Is Universal Design?

The definition is: “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.”

We will learn the 7 principles of universal design. Today is the first one, equitable use.

**Optional Video:** [Universal Design Principles - YouTube](#)

**Slide 3:** What Is Equitable Use?

A design that is useful and marketable to people with diverse abilities.

**Slide 4:** Example

What is the difference between the two entrances?

**Slide 5:** Equitable Use Guidelines

1. Provide the same means of use for all users, identical whenever possible and equivalent when not
2. Avoid segregating or stigmatizing any users



## Interior Design Challenge Kit Curriculum

3. Provisions for privacy, security, and safety should be equally available to all users
  4. Make the design appealing to all users
4. Explain to participants that they will complete an activity in which they will design a scenario that correctly focuses on the qualities of equitable use.

They may use the information from the video(s) and notes they wrote to help them complete their scenario.

Name: \_\_\_\_\_ Class: \_\_\_\_\_

# What Is Equitable Use?

Directions: As you watch the video(s) and slide presentation on equitable use, fill in the organizer below with relevant information. You will use these notes to help you craft your own design scenario that demonstrates equitable use.

| Universal Design Principle 1: Equitable Use |                                                                                                                                         |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Equitable Use                               | Definition:                                                                                                                             |
| Guidelines                                  | <div>1.</div> <div>Example:</div> <div>2.</div> <div>Example:</div> <div>3.</div> <div>Example:</div> <div>4.</div> <div>Example:</div> |

# What Is Equitable Use? – Answer Key

| Universal Design Principle 1: Equitable Use |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equitable Use                               | Definition: Equitable use means a design must be useful and equitable to everyone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Guidelines                                  | <ol style="list-style-type: none"><li>1. Provide the same means of use for all users, identical when possible and equivalent when not<br/>Example: Automatic doors that open for those who are walking, using a wheelchair, or rolling luggage</li><li>2. Avoid segregation or stigmatizing any users<br/>Example: Avoid separate but equal scenarios, such as using a ramp or stairs.</li><li>3. Ensure provisions of privacy, security, and safety, which should be equally available to all users<br/>Example: Family restrooms and use of ramps in case of emergency</li><li>4. Make the design appealing to all users<br/>Example: Designs should be marketable to everyone, such as accessibility on phones or making a ramp the key feature of a building</li></ol> |

## Lesson One – Equitable Use

# LEARN: Explore Examples of Equitable Use and Apply to Drawing

**30 minutes**

### **Purpose:**

Participants will identify design features that make a space accessible and usable for people with varying abilities. They will use their organizer notes as prompts to consider features such as lighting, color contrast, furniture arrangement, and technology.

Participants will use their Interior Design Challenge Kit to demonstrate their understanding by drawing a scenario that shows equitable use in universal design.

### **Materials:**

- Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)
- Drafting Workbook
- *What Is Equitable Use?*

### **Facilitation Steps:**

1. Distribute the Interior Design Challenge Kit materials to each participant or pair of participants. Remind them to keep their *What Is Equitable Use?* graphic organizer handy to refer to while they complete the activity.
2. Using the information gathered from the video(s) and lecture that analyzed design features, participants will use materials in their kits (dry erase board, microfiber cloth, and markers or in the Drafting Workbook) to design a space focused on equitable use that is functional and usable for all users, regardless of their physical abilities.
3. Remind participants that they must follow the universal design principle of equitable use guidelines when designing their space scenario.
4. Allow approximately 30 minutes for participants/pairs to draw their space. Inform them that they will present their design to the class for evaluation.

## Lesson One – Equitable Use

# REVIEW: Evaluate Equitable Use Designs

20 minutes

### Purpose:

The equitable use design scenario evaluation will help participants understand the principle of equitable use and prepare them for the interior design challenge card activity.

### Materials:

- Completed drawings
- *Equitable Use Design Rubric* (optional)

### Facilitation Steps:

1. Select volunteers to present their designs to the class, highlighting how they incorporated the principles of equitable use. If time permits, all participants will share.
2. After each participant shares their scenario drawn on the dry erase board (or graph paper), facilitate a class discussion comparing the key concepts covered in the lesson, focusing on how equitable use can be applied in interior design.

Encourage participants to reflect on how they can incorporate the principles of equitable use in their future design projects.

3. Assessment should be based on the completeness and accuracy of the design exercise, as well as the participants' ability to articulate how they incorporated the principles of equitable use in their designs.

You may use the included *Equitable Use Design Rubric*, if desired.

4. The teacher and participants will give feedback on the designs and, if necessary, make any changes to better reflect the equitable use design principle.

Name: \_\_\_\_\_ Class: \_\_\_\_\_

# Equitable Use Design Rubric

The design should incorporate the following principles of equitable use.

Description of space designed for:

- \_\_\_\_\_ Provide the same means of use for all users, identical whenever possible and equivalent when not. (25 points)
- \_\_\_\_\_ Avoid segregating or stigmatizing any users. (25 points)
- \_\_\_\_\_ Provisions for privacy, security, and safety should be equally available to all users. (25 points)
- \_\_\_\_\_ Make the design appealing to all users. (25 points)
- \_\_\_\_\_ **Total points** (out of 100)

## Sources

1. *The Principles*. NC State University, The Center for Universal Design (1997) B. Connell, M. Jones, R. Mace, J. Mueller, A. Mullick, E. Ostroff, J. Sanford, E. Steinfeld, M. Story, & G. Vanderheiden. Retrieved from [https://www.udinstitute.org/\\_files/ugd/634d48\\_7a1b48c7879247a59ba059fa0c38dc14.pdf](https://www.udinstitute.org/_files/ugd/634d48_7a1b48c7879247a59ba059fa0c38dc14.pdf)
2. Tools for Life Georgia AT Program. (2020). *Equitable Use*. *YouTube*. Retrieved April 20, 2023, from <https://www.youtube.com/watch?v=uVDKH8ntDGY>.

## Lesson Two – Flexibility in Use

### Lesson Overview

*In this lesson, participants will learn about flexibility in use. Designs must allow for individual preferences and abilities. This includes accommodating right- or left-handed access and providing information from both a seated and standing position*

### Lesson Objectives

After completing this lesson, participants will be able to:

- Discuss the principle of flexibility in use in universal design
- Analyze design principles that provide multiple ways to accomplish tasks or use a space
- Design spaces that can be easily adapted or modified to meet the changing needs of different users

### Lesson at a Glance

| Activity | Materials                                                                                                                                                                                                                             | Preparation                                                                                                                                                                                                                                                                             | Approximate class time |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| FOCUS    | <ul style="list-style-type: none"><li>• <i>What Is Flexibility in Use?</i></li><li>• YouTube Video: <a href="#">Flexibility in Use</a></li><li>• <i>Universal Design Principle 2: Flexibility in Use</i> slide presentation</li></ul> | <ol style="list-style-type: none"><li>1. Print/photocopy <i>What Is Flexibility in Use?</i> (one per participant).</li><li>2. <a href="#">YouTube Video Access</a></li><li>3. Prepare <i>Universal Design Principle 2: Flexibility in Use</i> slide presentation for viewing.</li></ol> | 20 minutes             |
| LEARN    | <ul style="list-style-type: none"><li>• Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)</li><li>• Drafting Workbooks</li><li>• <i>What Is Flexibility in Use?</i></li></ul>                    | <ol style="list-style-type: none"><li>1. Gather materials.</li></ol>                                                                                                                                                                                                                    | 30 minutes             |
| REVIEW   | <ul style="list-style-type: none"><li>• Completed drawings</li><li>• <i>Flexibility in Use Design Rubric</i> (optional)</li></ul>                                                                                                     | <ol style="list-style-type: none"><li>1. Optional: Print/photocopy <i>Flexibility in Use Design Rubric</i> (one per design).</li></ol>                                                                                                                                                  | 20 minutes             |



## Lesson Two – Flexibility in Use

# FOCUS: Introduce Flexibility in Use in Universal Design

20 minutes

### Purpose:

Participants will be introduced to the principle of flexibility in use in universal design to help them develop the knowledge needed to design spaces that can be easily adapted or modified to meet the changing needs of different users.

### Materials:

- *What Is Flexibility in Use?*
- YouTube Video: [Flexibility in Use](#)
- *Universal Design Principle 2: Flexibility in Use* slide presentation

### Facilitation Steps:

1. Distribute the *What is Flexibility in Use?* graphic organizer to each participant.
2. Play the [YouTube video](#) on flexibility in use. Participants will complete the worksheet as they watch the video, writing down the guidelines and providing examples of how it can be applied in interior design.

There are many short videos on flexibility in use. While the link above is recommended, here is another video to consider:

<https://www.youtube.com/watch?v=G-tHuD7R8cs> (begin at 2:20)

**Note:** Videos may become unavailable over time. To find additional videos on flexibility in use design, try a keyword search in YouTube.

3. After the video plays, view the *Universal Design Principle 2: Flexibility in Use* slide presentation and review.

**Slide 1:** Flexibility in Use introduction slide

**Slide 2:** What Is Flexibility in Use?

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

**Slide 3:** Flexibility in Use Key Terms

Review definitions of key terms and concepts mentioned related to flexibility in use, such as adaptability, modularity, and versatility.

Explain that **adaptability** refers to how well a product can be adapted to the unique needs of all users. **Modularity** is a structural principle used to manage complexity in systems, meaning it can be broken down into easier to understand parts. **Versatility** means that the user can choose several ways to use a product or space.

**Slide 4:** Example

Review the photographic example of flexibility in use. Ask participants to point out how the accommodation addresses flexibility in use. *The photo shows a desk that can be adjusted to sitting or standing. The monitor can also be adjusted by being pulled forward if there is a visual impairment.*

**Slide 5: Flexibility in Use Guidelines**

Review the guidelines for flexibility in use and ask participants to share examples from the video. *Adjustable monitors and desk to accommodate visual disabilities, such as sensitivities and depth perception. Handrails that can be used on both the left- and right-hand side. Scissors that can be used by both hands. A telephone with large numbers to accommodate those with visual disabilities or dexterity issues so that users can be precise*

*when using the product. Using a smart phone, computer, or tablet that slows down or speeds up text-to-speech.*

- .
4. Explain to participants that they will complete an activity in which they will need to design a scenario that correctly focuses on the qualities of flexibility in use. They may use the information from the video and notes they wrote to help them complete their scenario.

# What Is Flexibility in Use?

Directions: As you watch the video(s) and slide presentation on flexibility in use, fill in the organizer below with relevant information. You will use these notes to help you craft your own design scenario that demonstrates flexibility in use.

| Universal Design Principle 2: Flexibility in Use |                                                                                                                                                             |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flexibility in Use                               | Definition:                                                                                                                                                 |
| Key Terms                                        | <ul style="list-style-type: none"><li>● Adaptability</li><li>● Modularity</li><li>● Versatility</li></ul>                                                   |
| Guidelines                                       | <ol style="list-style-type: none"><li>1.<br/><br/>Example:</li><li>2.<br/><br/>Example:</li><li>3.<br/><br/>Example:</li><li>4.<br/><br/>Example:</li></ol> |

# What Is Flexibility in Use? – Answer Key

| Universal Design Principle 2: Flexibility in Use |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flexibility in Use                               | Definition: Flexibility in use means a design must accommodate a wide range of individual preferences and abilities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Key Terms                                        | <ul style="list-style-type: none"><li>Adaptability - refers to how well a product can be adapted to the unique needs of all users</li><li>Modularity - a structural principle used to manage complexity in systems, meaning it can be broken down into easier to understand parts</li><li>Versatility - means that the user can choose several ways to use a product or space</li></ul>                                                                                                                                                                                                                                                                                                                                                                             |
| Guidelines                                       | <ol style="list-style-type: none"><li>Provide choice in methods of use<br/>Example: Adjustable monitors and desks to accommodate visual disabilities, such as sensitivities and depth perception</li><li>Accommodate right- or left-handed access and use<br/>Example: Handrails that can be used on both the left- and right-hand side, scissors that can be used by both hands</li><li>Facilitate the user's accuracy and precision<br/>Example: A telephone with large numbers to accommodate those with visual disabilities or dexterity issues so that users can be precise when using the product</li><li>Provide adaptability to the user's pace<br/>Example: Using a smart phone, computer, or tablet that slows down or speeds up text-to-speech</li></ol> |

## Lesson Two – Flexibility in Use

# LEARN: Explore Examples of Flexibility in Use and Apply to Drawing

30 minutes

### Purpose:

Participants will identify design features that make a space accessible and usable for people with varying abilities. They will use their organizer notes as prompts to consider features such as storage, lighting, furniture, and technology.

Participants will use the Interior Design Challenge Kit to demonstrate their understanding by drawing a design of space that can be easily adapted or modified to meet the changing needs of different users that shows flexibility in use in universal design.

### Materials:

- Interior Design Challenge Kit items (dry erase boards, microfiber cloths, markers)
- *What Is Flexibility in Use?*
- Drafting Workbooks

### Facilitation Steps:

1. Distribute the Interior Design Challenge Kit materials to each participant. Remind participants to keep their *What Is Flexibility in Use?* organizer handy to refer to while they complete the activity.
2. Using the information gathered from the video(s) and slide presentation that analyzed design features, participants will use materials in their kits (dry erase board, microfiber cloth, and markers or the Drafting Workbook) to design a space focused on flexibility in use that is functional and usable for all users, regardless of their physical abilities.

Remind participants that they must follow the universal design principle of flexibility in use guidelines when designing their space scenario.

3. Allow approximately 30 minutes for participants/pairs to draw their space.

## Lesson Two – Flexibility in Use

# REVIEW: Evaluate Flexibility in Use Designs

**20 minutes**

### **Purpose:**

The flexibility in use design scenario evaluation will help participants understand the principle of flexibility in use and prepare them for the interior design challenge card activity.

### **Materials:**

- Completed drawings
- *Flexibility in Use Design Rubric*

### **Facilitation Steps:**

1. Select participant volunteers to present their designs to the class, highlighting how they incorporated the principles of flexibility in use. If time permits, all participants will share.
2. After each participant shares their scenario drawn on the dry erase board (or graph paper), facilitate a class discussion comparing the key concepts covered in the lesson, focusing on how flexibility in use can be applied in interior design.
3. Encourage participants to reflect on how they can incorporate the principles of flexibility in use in their future design projects.
4. Assessment should be based on the completeness and accuracy of the design exercise, as well as the participants' ability to articulate how they incorporated the principles of flexibility in use in their designs.

You may use the included *Flexibility in Use Design Rubric*, if desired.

5. You and the class should give feedback on the designs and, if necessary, make any changes to better reflect the flexibility in use design principle.

Name: \_\_\_\_\_

Class: \_\_\_\_\_

# Flexibility in Use Design Rubric

The design should incorporate the following principles of flexibility in use.

Description of space designed for:

\_\_\_\_\_ Provide choice in methods of use. (25 points)

\_\_\_\_\_ Accommodate right- or left-handed access and use. (25 points)

\_\_\_\_\_ Facilitate the user's accuracy and precision. (25 points)

\_\_\_\_\_ Provide adaptability to the user's pace. (25 points)

\_\_\_\_\_ **Total points** (out of 100)

## Sources

1. *The Principles*. NC State University, The Center for Universal Design (1997) B. Connell, M. Jones, R. Mace, J. Mueller, A. Mullick, E. Ostroff, J. Sanford, E. Steinfeld, M. Story, & G. Vanderheiden. Retrieved from [https://www.udinstitute.org/\\_files/ugd/634d48\\_7a1b48c7879247a59ba059fa0c38dc14.pdf](https://www.udinstitute.org/_files/ugd/634d48_7a1b48c7879247a59ba059fa0c38dc14.pdf)
2. Tools for Life Georgia AT Program. (2020). *Flexibility in Use*. *YouTube*. Retrieved April 20, 2023, from <https://www.youtube.com/watch?v=IDjm2QyMxo4>.



## Lesson Three – Simple and Intuitive

### Lesson Overview

*In this lesson, participants will learn about the principle simple and intuitive. Designs should be obvious to navigate without needing prior knowledge or experience. Everyone should be able to know how to operate design features in a building right away.*

### Lesson Objectives

After completing this lesson, participants will be able to:

- Define the principle of simple and intuitive design in universal design
- Identify design features that make a space easy to understand and use
- Design spaces that are simple and intuitive to utilize for a diverse range of users

### Lesson at a Glance

| Activity | Materials                                                                                                                                                                                                                                   | Preparation                                                                                                                                                                                                                                                                       | Approximate class time |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| FOCUS    | <ul style="list-style-type: none"><li>● <i>What Is Simple and Intuitive?</i></li><li>● YouTube Video: <a href="#">Simple and Intuitive</a></li><li>● <i>Universal Design Principle 3: Simple and Intuitive</i> slide presentation</li></ul> | <ol style="list-style-type: none"><li>1. Print <i>What Is Simple and Intuitive?</i> (one per participant).</li><li>2. <a href="#">YouTube Video Access</a></li><li>3. Prepare <i>Universal Design Principle 3: Simple and Intuitive</i> slide presentation for viewing.</li></ol> | 20 minutes             |
| LEARN    | <ul style="list-style-type: none"><li>● Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)</li><li>● Drafting Workbooks</li><li>● <i>What Is Simple and Intuitive?</i></li></ul>                        | <ol style="list-style-type: none"><li>1. Gather materials.</li></ol>                                                                                                                                                                                                              | 30 minutes             |
| REVIEW   | <ul style="list-style-type: none"><li>● Completed drawings</li><li>● <i>Simple and Intuitive Scenario Design Rubric</i> (optional)</li></ul>                                                                                                | <ol style="list-style-type: none"><li>1. Optional: Print/photocopy <i>Simple and Intuitive Design Rubric</i> (one for each student design).</li></ol>                                                                                                                             | 20 minutes             |

## Lesson Three – Simple and Intuitive

# FOCUS: Introduce Simple and Intuitive in Universal Design

20 minutes

### Purpose:

Participants will be introduced to the principle of simple and intuitive universal design to help them develop the skills needed to design spaces that are easy to understand and use, regardless of the user's experience, knowledge, language skills, or concentration level.

### Materials:

- *What Is Simple and Intuitive?*
- *Universal Design Principle 3: Simple and Intuitive* slide presentation
- YouTube Video: [Simple and intuitive](#)

### Facilitation Steps:

1. Distribute the *What Is Simple and Intuitive?* graphic organizer to each participant.
2. Play the [YouTube video](#) on simple and intuitive design. Participants will complete the graphic organizer as they watch the video, writing down the guidelines and providing examples of how it can be applied in interior design.

There are many short videos on simple and intuitive design. While the link above is recommended, here are a few others to consider:

[https://youtu.be/Cf6lEv1\\_ZBU?t=237](https://youtu.be/Cf6lEv1_ZBU?t=237) (start at 3:57)

<https://www.youtube.com/watch?v=b4lw6K61uHo> (start at 1:11)

<https://www.youtube.com/watch?v=ZN8BuVi0xCE> (start at 00:54)

**Note:** Videos may become unavailable over time. To find additional videos on simple and intuitive design, try a keyword search in YouTube.

3. After the video plays, view the *Universal Design Principle 3: Simple and Intuitive* slide presentation and review.

**Slide 1:** Simple and Intuitive introduction slide

**Slide 2:** What Is Simple and Intuitive?

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

**Slide 3:** Simple and Intuitive Key Terms

Review definitions of key terms and concepts mentioned related to simple and intuitive, such as clarity and consistency.

*Explain that clarity refers to how to maximize cognitive abilities. Consistency refers to using something simply, without complication.*

**Slide 4:** Example

Review the photographic examples of simple and intuitive. Ask participants to point out how the accommodation addresses simple and intuitive design.

*The photos show wiring that is easy to understand. The colors of the wires match the colors of the input, which allows a user to easily and clearly understand how to use the product.*

**Slide 5:** Simple and Intuitive Guidelines

4. Review the guidelines for simple and intuitive and ask participants to share examples from the video.

*A design that has one function rather than multiple, such as a remote that has 1 button for a single task or an emergency call button on a campus. Keep aspects of designs the same. Expect traffic lights to have the colors green, yellow, and red that mean the same thing at every intersection (go, slow down, stop). Provide pictures or icons on signs that help when traveling, no matter what language is spoken. Put the most important information at the top such as the power button on a remote which demonstrates the buttons that should be pressed first. Designs that give feedback or prompts such as Google Home or Amazon Echo that can give information about a topic or confirming the off and on of devices.*

5. Explain to participants that they will complete an activity in which they will need to design a scenario that correctly focuses on the qualities of simple and intuitive.

They may use the information from the video and notes they wrote to help them complete their scenario.

# What Is Simple and Intuitive?

Directions: As you watch the video(s) and slide presentation on simple and intuitive design, fill in the organizer below with relevant information. You will use these notes to help you craft your own design scenario that simple and intuitive.

| Universal Design Principle 3: Simple and Intuitive |                                                                                                         |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Simple and Intuitive                               | Definition:                                                                                             |
| Key Terms                                          | <ul style="list-style-type: none"><li>• Clarity</li><li>• Consistency</li></ul>                         |
| Guidelines                                         | <p>1.</p> <p>Example:</p> <p>2.</p> <p>Example:</p> <p>3.</p> <p>Example:</p> <p>4.</p> <p>Example:</p> |

# What Is Simple and Intuitive? – Answer Key

| Universal Design Principle 3: Simple and Intuitive |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| simple and intuitive                               | Definition: Simple and intuitive means the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Key Terms                                          | <ul style="list-style-type: none"><li>• Clarity - How to maximize cognitive abilities</li><li>• Consistency – Using something simply without complication</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Guidelines                                         | <ol style="list-style-type: none"><li>1. Eliminate unnecessary complexity<br/>Example: A design that has one function rather than multiple, such as a remote that has one button for a single task or an emergency call button on a campus.</li><li>2. Be consistent with user expectations<br/>Example: Keep aspects of designs the same. Expect traffic lights to have the colors green, yellow, and red that mean the same thing at every intersection (go, slow down, stop).</li><li>3. Accommodate a wide range of literacy and language skills<br/>Example: Provide pictures or icons on signs that help when traveling- no matter what language is spoken.</li><li>4. Arrange information consistent with its importance<br/>Example: Put the most important information at the top, such as the power button on a remote which demonstrates the buttons that should be pressed first</li><li>5. Provide effective prompting and feedback during and after task completion<br/>Example: Designs that give feedback or prompts, such as Google Home or Amazon Echo that can give information about a topic or confirming the off and on of devices</li></ol> |

## Lesson Three – Simple and Intuitive

# LEARN: Explore Examples of Simple and Intuitive Design and Apply to Drawing

30 minutes

### Purpose:

Participants will identify design features that make a space accessible and usable for people with varying abilities. They will use their organizer notes as prompts to consider factors such as layout, color, lighting, and signage.

Participants will use the Interior Design Challenge Kit to demonstrate their understanding by drawing a design of space that can be easily adapted or modified to meet the changing needs of different users that shows simple and intuitive universal design.

### Materials:

- Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)
- *What Is Simple and Intuitive?*
- Drafting Workbooks

### Facilitation Steps:

1. Distribute the Interior Design Challenge Kit materials to each participant/pair. Remind participants to keep their *What Is Simple and Intuitive?* graphic organizer handy to refer to while they complete the activity.
2. Using the information gathered from the video(s) and lecture that analyzed design features, participants will use materials in their kits (dry erase board, microfiber cloth, and markers or the Drafting Workbook) to design a space focused on simple and intuitive that is functional and usable for all users regardless of their physical abilities.

Remind participants that they must follow the universal design principle of simple and intuitive when designing their space scenario.

3. Allow approximately 30 minutes for participants/pairs to draw their space.

## Lesson Three – Simple and Intuitive

# REVIEW: Evaluate Simple and Intuitive Designs

**20 minutes**

**Purpose:**

The simple and intuitive design scenario evaluation will help participants understand the principle of simple and intuitive design and prepare them for the interior design challenge card activity.

better reflect the simple and intuitive design principle.

**Materials:**

- Completed drawings
- *Simple and Intuitive Design Rubric* (optional)

**Facilitation Steps:**

1. Select participants volunteers to present their designs to the class, highlighting how they incorporated the principles of simple and intuitive. If time permits, all participants will share.
2. After each participant shares their scenario drawn on the dry erase board (or graph paper), facilitate a class discussion comparing the key concepts covered in the lesson, focusing on how simple and intuitive design can be applied in interior design.

Encourage participants to reflect on how they can incorporate the principles of simple and intuitive in their future design projects.

3. Assessment should be based on the completeness and accuracy of the design exercise, as well as the participants' ability to articulate how they incorporated the principles of simple and intuitive in their designs.

You may use the included *Simple and Intuitive Design Rubric*, if desired.

4. You and the class should give feedback on the designs and, if necessary, make any changes to

Name: \_\_\_\_\_ Class: \_\_\_\_\_

# Simple and Intuitive Design Rubric

The design should incorporate the following principles of simple and intuitive.

Description of space designed for:

- \_\_\_\_\_ Eliminate unnecessary complexity. (20 points)
- \_\_\_\_\_ Be consistent with user expectations and intuition. (20 points)
- \_\_\_\_\_ Accommodate a wide range of literacy and language skills. (20 points)
- \_\_\_\_\_ Arrange information consistent with its importance. (20 points)
- \_\_\_\_\_ Provide effective prompting and feedback during and after task completion. (20 points)
  
- \_\_\_\_\_ **Total points** (out of 100)



## Sources

1. *The Principles*. NC State University, The Center for Universal Design (1997) B. Connell, M. Jones, R. Mace, J. Mueller, A. Mullick, E. Ostroff, J. Sanford, E. Steinfeld, M. Story, & G. Vanderheiden. Retrieved from [https://www.udinstitute.org/\\_files/ugd/634d48\\_7a1b48c7879247a59ba059fa0c38dc14.pdf](https://www.udinstitute.org/_files/ugd/634d48_7a1b48c7879247a59ba059fa0c38dc14.pdf)
2. Tools for Life Georgia AT Program. (2020). *Simple and intuitive*. *YouTube*. Retrieved April 20, 2023, from <https://www.youtube.com/watch?v=kVMF51EiUZw&t=346s>

## Lesson Four – Perceptible Information

### Lesson Overview

*In this lesson, participants will learn about the design principle perceptible information. All users must be able to access necessary instructions for building features, regardless of their sensory abilities. This might mean offering signs or directions in written, verbal, and tactile form.*

### Lesson Objectives

After completing this lesson, participants will be able to:

- Discuss the principle of perceptible information in universal design
- Evaluate design features that provide clear and accurate information in a space
- Design spaces that provide perceptible information for a diverse range of users

### Lesson at a Glance

| Activity | Materials                                                                                                                                                                                                                                            | Preparation                                                                                                                                                                                                                                                                       | Approximate class time |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| FOCUS    | <ul style="list-style-type: none"><li>• <i>What Is Perceptible Information?</i></li><li>• YouTube Video: <a href="#">Perceptible Information</a></li><li>• <i>Universal Design Principle 4: Perceptible Information</i> slide presentation</li></ul> | <ol style="list-style-type: none"><li>1. <i>What Is Perceptible Information?</i> (one per participant).</li><li>2. <a href="#">YouTube Video Access</a></li><li>3. Prepare <i>Universal Design Principle 4: Perceptible Information</i> slide presentation for viewing.</li></ol> | 20 minutes             |
| LEARN    | <ul style="list-style-type: none"><li>• Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)</li><li>• Drafting Workbooks</li><li>• <i>What Is Perceptible Information?</i></li></ul>                              | <ol style="list-style-type: none"><li>1. Gather materials.</li></ol>                                                                                                                                                                                                              | 30 minutes             |
| REVIEW   | <ul style="list-style-type: none"><li>• Completed drawings</li><li>• <i>Perceptible Information Scenario Design Rubric</i> (optional)</li></ul>                                                                                                      | <ol style="list-style-type: none"><li>1. Optional: Print/photocopy <i>Perceptible Information Design Rubric</i> (one per participant design).</li></ol>                                                                                                                           | 20 minutes             |

## Lesson Four – Perceptible Information

# FOCUS: Introduce Perceptible Information in Universal Design

20 minutes

### Purpose:

Participants will be introduced to the principle of perceptible information in universal design and develop the knowledge needed to design spaces that provide clear and accurate information to a diverse range of users.

### Materials:

- *What Is Perceptible Information?*
- YouTube Video: [Perceptible Information](#)
- *Universal Design Principle 4: Perceptible Information* slide presentation

### Facilitation Steps:

1. Distribute the *What Is Perceptible Information?* graphic organizer to each participant.
2. Play the [YouTube video](#) on perceptible information. Participants will complete the worksheet as they watch the video, writing down the guidelines and providing examples of how it can be applied in interior design.

There are many short videos on perceptible information. While the link above is recommended, here are a few others to consider:

<https://www.youtube.com/watch?v=3bgfrRtzPAE>

[https://youtu.be/Cf6lEv1\\_ZBU?t=277](https://youtu.be/Cf6lEv1_ZBU?t=277) (start at 4:37)

<https://www.youtube.com/watch?v=b4lw6K61uHo> (start at 1:24)

<https://www.youtube.com/watch?v=ZN8BuVi0xCE> (start at 01:06)

**Note:** Videos may become unavailable over time. To find additional videos on perceptible information, try a keyword search in YouTube.

3. After the video plays, view the *Universal Design Principle 4: Perceptible Information* slides and review.

**Slide 1:** Perceptible Information introduction slide

**Slide 2:** What Is Perceptible Information?

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

**Slide 3:** Perceptible Information Key Terms

Review definitions of key terms and concepts mentioned related to perceptible information, such as contrast, legibility, and redundancy. *Explain that contrast is the degree of difference between the lightest and darkest parts of a picture. Legibility refers to the capability of being read or deciphered. Redundancy means repeating the same information.*

**Slide 4:** Example

Review the photographic example of perceptible information. Ask participants to describe how the design addresses the perceptible information principle. *There is contrast used in the display or directions. Tactile elements are added to flooring to guide users. There is imagery displayed on the map that indicates easy-to-understand settings.*

**Slide 5:** Perceptible Information Guidelines

## Interior Design Challenge Kit Curriculum

Review the guidelines for perceptible information and ask participants to share examples from the video. *A design has information presented in different formats, such as tactile or imagery. For example, flooring with different textures to guide navigation. Use design elements, such as contrast in colors and size, in terms of signage to guide someone with low vision. Use a font that provides good contrast to easily read important information. Use a wind chime system that was sound activated for blind users that give audio cues for crossing the street. Use a QR code that is easy to access and provides a lot of information quickly in the format that makes the most sense for the user.*

4. Explain to participants that they will complete an activity in which they will need to design a scenario that correctly focuses on the qualities of perceptible information.

They may use the information from the video and notes they wrote to help them complete their scenario.

# What is Perceptible Information?

Directions: As you watch video(s) or the slides presentation, Perceptible Information, complete the organizer below with relevant information. You will use these notes to help you craft your own design scenario demonstrating Perceptible Information.

| Universal Design Principle 4: Perceptible Information |                                                                                                         |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Perceptible Information                               | Definition:                                                                                             |
| Key Terms                                             | <ul style="list-style-type: none"><li>• Contrast</li><li>• Legibility</li><li>• Redundancy</li></ul>    |
| Guidelines                                            | <p>1.</p> <p>Example:</p> <p>2.</p> <p>Example:</p> <p>3.</p> <p>Example:</p> <p>4.</p> <p>Example:</p> |

# What is Perceptible Information? – Answer Key

| Universal Design Principle 4: Perceptible Information |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Perceptible Information                               | Definition: <b>perceptible information means the design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Key Terms                                             | <ul style="list-style-type: none"><li>• <b>Contrast – degree of difference between lightest and darkest parts of a picture</b></li><li>• <b>Legibility – capability of being read or deciphered</b></li><li>• <b>Redundancy – repeating the same information</b></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Guidelines                                            | <ol style="list-style-type: none"><li><b>1. Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information</b><br/><br/>Example: <b>A design has information presented in different formats such as tactile or imagery, such as flooring with different textures to guide navigation</b></li><li><b>2. Provide adequate contrast between essential information and its surroundings.</b><br/><br/>Example: <b>Use design elements such as contrast in colors and size in terms of signage to guide someone with low vision.</b></li><li><b>3. Maximize "legibility" of essential information.</b><br/><br/>Example: <b>Use a font that provides good contrast for ease of reading important information.</b></li><li><b>4. Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).</b><br/><br/>Example: <b>Use a wind chime system that was sound activated for blind users that give audio cues for crossing the street.</b></li><li><b>5. Provide compatibility with a variety of techniques or devices used by people with sensory limitations.</b><br/><br/>Example: <b>Use a QR code that is easy to access that provides a lot of information quickly in the format that makes the most sense for the user.</b></li></ol> |

## Lesson Four – Perceptible Information

# LEARN: Explore Examples of Perceptible Information and Apply to Drawing

30 minutes

### Purpose:

Participants will identify design features that make a space accessible and usable for people with varying abilities. They will use their organizer notes as prompts to consider factors such as signage, wayfinding, lighting, and color contrast.

Participants will use the Interior Design Challenge Kit to demonstrate their understanding by drawing a design of space that can be easily adapted or modified to meet the changing needs of different users that shows perceptible information in universal design.

4. Allow approximately 30 minutes for participants/pairs to draw their space.

### Materials:

- Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)
- *What Is Perceptible Information?*
- Drafting Workbooks

### Facilitation Steps:

1. Distribute the Interior Design Challenge Kit materials to each participant/pair. Remind participants to keep their *What Is Perceptible Information?* graphic organizer handy to refer to while they complete the activity.
2. Using the information gathered from the video(s) and lecture that analyzed design features, students will use materials in their kits (dry erase board, microfiber cloth, and markers or the Drafting Workbook) to design a space to make it more perceptible information to use that is functional and usable for all users, regardless of their physical abilities.
3. Remind participants that they must follow the universal design principle of perceptible information when designing their space scenario.

## Lesson Four – Perceptible Information

# REVIEW: Evaluate Perceptible Information Designs

**20 minutes**

### **Purpose:**

The perceptible information design scenario evaluation will help participants understand the principle of perceptible information and prepare them for the interior design challenge card activity.

### **Materials:**

- Completed drawings
- *Perceptible Information Scenario Design Rubric* (optional)

### **Facilitation Steps:**

1. Select participant volunteers to present their designs to the class, highlighting how they incorporated the principles of perceptible information. If time permits, all participants will share.
2. After each participant shares their scenario drawn on the dry erase board (or graph paper), facilitate a class discussion comparing the key concepts covered in the lesson, focusing on how perceptible information can be applied in interior design.

Encourage participants to reflect on how they can incorporate the principles of perceptible information in their future design projects.

3. Assessment should be based on the completeness and accuracy of the design exercise, as well as the participants' ability to articulate how they incorporated the principles of perceptible information in their designs.

You may use the included *Perceptible Information Design Rubric*, if desired.

4. You and the class should give feedback on the designs and, if necessary, make any changes to better reflect the perceptible information design principle.



Name: \_\_\_\_\_ Class: \_\_\_\_\_

# Perceptible Information Design Rubric

The design should incorporate the following principles of perceptible information.

Description of space designed for:

- \_\_\_\_\_ Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information. (20 points)
- \_\_\_\_\_ Provide adequate contrast between essential information and its surroundings. (20 points)
- \_\_\_\_\_ Maximize legibility of essential information. (20 points)
- \_\_\_\_\_ Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions). (20 points)
- \_\_\_\_\_ Provide compatibility with a variety of techniques or devices used by people with sensory limitations. (20 points)
- \_\_\_\_\_ **Total points** (out of 100)

## Sources

1. *The Principles*. NC State University, The Center for Universal Design (1997) B. Connell, M. Jones, R. Mace, J. Mueller, A. Mullick, E. Ostroff, J. Sanford, E. Steinfeld, M. Story, & G. Vanderheiden. Retrieved from [https://www.udinstitute.org/\\_files/ugd/634d48\\_7a1b48c7879247a59ba059fa0c38dc14.pdf](https://www.udinstitute.org/_files/ugd/634d48_7a1b48c7879247a59ba059fa0c38dc14.pdf)
2. Tools for Life Georgia AT Program. (2020). *Perceptible Information*. *YouTube*. Retrieved April 20, 2023, from <https://www.youtube.com/watch?v=UL5K8QAFsvo>.

## Lesson Five – Tolerance for Error

### Lesson Overview

*In this lesson, participants will learn about the design principle tolerance for error. Building designs should minimize any potential hazards, accidents, or inconveniences for everyone. Otherwise, there should be warnings of hazards in a variety of sensory modes so that everyone knows to take caution.*

### Lesson Objectives

After completing this lesson, participants will be able to:

- Define the principle of tolerance for error in universal design
- Identify and evaluate design features that minimize the occurrence and impact of errors in a space
- Design spaces that exhibit tolerance for error for a diverse range of users

### Lesson at a Glance

| Activity | Materials                                                                                                                                                                                                                                    | Preparation                                                                                                                                                                                                                                                                                   | Approximate class time |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| FOCUS    | <ul style="list-style-type: none"> <li>• <i>What Is Tolerance for Error?</i></li> <li>• YouTube Video: <a href="#">Tolerance for Error</a></li> <li>• <i>Universal Design Principle 5: Tolerance for Error</i> slide presentation</li> </ul> | <ol style="list-style-type: none"> <li>1. Print/photocopy <i>What Is Tolerance for Error?</i> (one per participant).</li> <li>2. <a href="#">YouTube Video Access</a></li> <li>3. Prepare <i>Universal Design Principle 5: Tolerance for Error</i> slide presentation for viewing.</li> </ol> | 20 minutes             |
| LEARN    | <ul style="list-style-type: none"> <li>• Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)</li> <li>• Drafting Workbooks</li> <li>• <i>What Is Tolerance for Error?</i></li> </ul>                      | <ol style="list-style-type: none"> <li>1. Gather materials.</li> </ol>                                                                                                                                                                                                                        | 30 minutes             |
| REVIEW   | <ul style="list-style-type: none"> <li>• Completed drawings</li> <li>• <i>Tolerance for Error Scenario Design Rubric</i> (optional)</li> </ul>                                                                                               | <ol style="list-style-type: none"> <li>1. Optional: Print/photocopy <i>Tolerance for Error Design Rubric</i> (one per design).</li> </ol>                                                                                                                                                     | 20 minutes             |

## Lesson Five – Tolerance for Error

# FOCUS: Introduce Tolerance for Error in Universal Design

20 minutes

### Purpose:

Participants will be introduced to the principle of tolerance for error in universal design and develop the knowledge needed to design spaces that minimize the occurrence and impact of errors.

### Materials:

- *What Is Tolerance for Error?*
- YouTube Video: [Tolerance for Error](#)
- *Universal Design Principle 5: Tolerance for Error* slide presentation

### Facilitation Steps:

1. Distribute the *What Is Tolerance for Error?* graphic organizer to each participant.
2. Play the [YouTube video](#) on tolerance for error. Participants will fill in the organizer as they watch the video, writing down the guidelines and providing examples of how it can be applied in interior design.

There are many short videos on tolerance for error. While the link above is recommended, here are a few others to consider:

[https://www.youtube.com/watch?v=Cf6IEv1\\_ZBU&t=254s](https://www.youtube.com/watch?v=Cf6IEv1_ZBU&t=254s) (start at 5:14)

<https://www.youtube.com/watch?v=b4lw6K61uHo> (start at 1:37)

<https://www.youtube.com/watch?v=ZN8BuVi0xCE> (start at 1:18)

**Note:** Videos may become unavailable over time. To find additional videos on tolerance for error, try a keyword search in YouTube.

3. After the video plays, view the *Universal Design Principle 5: Tolerance for Error* slide presentation and review.

**Slide 1:** Tolerance for Error introduction slide

**Slide 2:** What Is Tolerance for Error?

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

**Slide 3:** Tolerance for Error Key Terms

Review definitions of key terms and concepts mentioned related to tolerance for error, such as feedback and error prevention. *Explain that feedback gives the user necessary information to minimize accidents. Error prevention refers to any modality that is used to reduce any mistakes or accidents in a design.*

**Slide 4:** Example

Review the photographic examples of tolerance for error. Ask participants to describe how the design addresses the tolerance for error principle. *With the way the lid is designed, it will prevent accidents from happening, such as spilling boiling water or other materials.*

**Slide 5:** Tolerance for Error Guidelines

Review the guidelines for tolerance for error and ask participants to share examples from the video. *A car alarm button separated from other buttons to ensure it is not accidentally set off to avoid frustration. Give users clear warning about mistakes that could occur, such as tactile warnings at curbs to warn people who use canes that there is a transition to a traffic area. Remedy mistakes by using an “undo” feature on a computer program to bring something*

## Interior Design Challenge Kit Curriculum

*back that was eliminated accidentally. An iron that turns off after a certain amount of time to reduce risk of fire. The use of a brake stop on a table saw to stop the machine if someone is not paying attention or their hand slips.*

4. Explain to participants that they will complete an activity in which they will need to design a scenario that correctly focuses on the qualities of tolerance for error. They may use the information from the video and notes they wrote to help them complete their scenario.

Name: \_\_\_\_\_ Class: \_\_\_\_\_

# What Is Tolerance for Error?

Directions: As you watch the video(s) and the slide presentation on tolerance for error, fill in the organizer below with relevant information. You will use these notes to help you craft your own design scenario that demonstrates tolerance for error.

| Universal Design Principle 5: Tolerance for Error |                                                                                                                                                             |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tolerance for Error</b>                        | Definition:                                                                                                                                                 |
| <b>Key Terms</b>                                  | <ul style="list-style-type: none"><li>• Feedback</li><li>• Error Prevention</li></ul>                                                                       |
| <b>Guidelines</b>                                 | <ol style="list-style-type: none"><li>1.<br/><br/>Example:</li><li>2.<br/><br/>Example:</li><li>3.<br/><br/>Example:</li><li>4.<br/><br/>Example:</li></ol> |

# What Is Tolerance for Error? – Answer Key

| Universal Design Principle 5: Tolerance for Error |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tolerance for Error                               | Definition: <b>Tolerance for error means the design minimizes hazards and the adverse consequences of accidental or unintended actions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Key Terms                                         | <ul style="list-style-type: none"><li>• <b>Feedback – Gives the user necessary information to minimize accidents</b></li><li>• <b>Error Prevention – Any modality that is used to reduce any mistakes or accidents in a design</b></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Guidelines                                        | <p><b>1. Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.</b></p> <p>Example: <b>A car alarm button separated from other buttons to ensure it is not accidentally set off to avoid frustration</b></p> <p><b>2. Provide warnings of hazards and errors</b></p> <p>Example: <b>Give users clear warning about mistakes that could occur, such as tactile warnings at curbs to warn people who use canes that there is a transition to a traffic area</b></p> <p><b>3. Provide fail-safe features</b></p> <p>Example: <b>Remedy mistakes by using an “undo” feature on a computer program to bring something back that was eliminated accidentally, an iron that turns off after a certain amount of time to reduce risk of fire</b></p> <p><b>4. Discourage unconscious action in tasks that require vigilance</b></p> <p>Example: <b>The use of a brake stop on a table saw to stop the machine if someone is not paying attention or their hand slips</b></p> |

## Lesson Five – Tolerance for Error

# LEARN: Explore Examples of Tolerance for Error and Apply to Drawing

30 minutes

### Purpose:

Participants will identify design features that make a space accessible and usable for people with varying abilities. They will use their organizer notes as prompts to consider factors such as lighting, furniture placement, and spatial layout.

Participants will use the Interior Design Challenge Kit to demonstrate their understanding by drawing a design of space that can be easily adapted or modified to meet the changing needs of different users that shows tolerance for error in universal design.

### Materials:

- Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)
- Drafting Workbooks
- *What Is Tolerance for Error?*

### Facilitation Steps:

1. Distribute the Interior Design Challenge Kit materials to each participant/pair. Remind participants to keep their *What Is Tolerance for Error?* graphic organizer handy to refer to while they complete the activity.
2. Using the information gathered from the video that analyzed design features, participants will use materials in their kits (dry erase board, microfiber cloth, and markers or the Drafting Workbook) to design a space to increase its tolerance for error to use that is functional and usable for all users, regardless of their physical abilities.

Remind participants that they must follow the universal design principle of tolerance for error guidelines when designing their space scenario.

3. Allow approximately 30 minutes for participants/pairs to draw their space.



## Lesson Five – Tolerance for Error

# REVIEW: Evaluate Tolerance for Error Designs

20 minutes

### Purpose:

The tolerance for error design scenario evaluation will help participants understand the principle of tolerance for error and prepare them for the interior design challenge card activity.

### Materials:

- Completed drawings
- *Tolerance for Error Scenario Design Rubric* (optional)

### Facilitation Steps:

1. Select participant volunteers to present their designs to the class, highlighting how they incorporated the principles of tolerance for error. If time permits, all participants will share.
2. After each participant shares their scenario drawn on the dry erase board, facilitate a class discussion comparing the key concepts covered in the lesson, focusing on how tolerance for error can be applied in interior design.

Encourage participants to reflect on how they can incorporate the principles of tolerance for error in their future design projects.

3. Assessment should be based on the completeness and accuracy of the design exercise, as well as the participants' ability to articulate how they incorporated the principles of tolerance for error in their designs.

You may use the included *Tolerance for Error Design Rubric*, if desired.

4. You and the class should give feedback on the designs and, if necessary, make any changes to better reflect the tolerance for error design principle.

Name: \_\_\_\_\_ Class: \_\_\_\_\_

# Tolerance for Error Design Rubric

The design should incorporate the following principles of tolerance for error.

Description of space designed for:

\_\_\_\_\_ Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded. (25 points)

\_\_\_\_\_ Provide warnings of hazards and errors. (25 points)

\_\_\_\_\_ Provide fail-safe features. (25 points)

\_\_\_\_\_ Discourage unconscious action in tasks that require vigilance. (25 points)

\_\_\_\_\_ **Total points** (out of 100)

## Sources

1. *The Principles*. NC State University, The Center for Universal Design (1997) B. Connell, M. Jones, R. Mace, J. Mueller, A. Mullick, E. Ostroff, J. Sanford, E. Steinfeld, M. Story, & G. Vanderheiden. Retrieved from [https://www.udinstitute.org/\\_files/ugd/634d48\\_7a1b48c7879247a59ba059fa0c38dc14.pdf](https://www.udinstitute.org/_files/ugd/634d48_7a1b48c7879247a59ba059fa0c38dc14.pdf)
2. Tools for Life Georgia AT Program. (2020). *Tolerance for Error*. *YouTube*. Retrieved April 20, 2023, from <https://www.youtube.com/watch?v=jTaQOhK4B4M>

## Lesson Six – Low Physical Effort

### Lesson Overview

*In this lesson, participants will learn about the design principle low physical effort. Everyone should be able to comfortably navigate through a building and use its design features. The designs should minimize the need for awkward or uncomfortable actions or body positions.*

### Lesson Objectives

After completing this lesson, participants will be able to:

- Discuss the principle of low physical effort in universal design
- Evaluate design features that reduce physical effort in a space
- Design spaces that require minimal physical effort for a diverse range of users

### Lesson at a Glance

| Activity | Materials                                                                                                                                                                                                                                | Preparation                                                                                                                                                                                                                                                                               | Approximate class time |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| FOCUS    | <ul style="list-style-type: none"><li>● <i>What Is Low Physical Effort?</i></li><li>● YouTube Video: <a href="#">Low Physical Effort</a></li><li>● <i>Universal Design Principle 6: Low Physical Effort</i> slide presentation</li></ul> | <ol style="list-style-type: none"><li>1. Print/photocopy <i>What Is Low Physical Effort?</i> (one per participant).</li><li>2. <a href="#">YouTube Video Access</a></li><li>3. Prepare <i>Universal Design Principle 6: Low Physical Effort</i> slide presentation for viewing.</li></ol> | 20 minutes             |
| LEARN    | <ul style="list-style-type: none"><li>● Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)</li><li>● Drafting Workbooks</li><li>● <i>What Is Low Physical Effort?</i></li></ul>                      | <ol style="list-style-type: none"><li>1. Gather materials.</li></ol>                                                                                                                                                                                                                      | 30 minutes             |
| REVIEW   | <ul style="list-style-type: none"><li>● Completed drawings</li><li>● <i>Low Physical Effort Design Rubric</i> (optional)</li></ul>                                                                                                       | <ol style="list-style-type: none"><li>1. Optional: Print/photocopy <i>Low Physical Effort Design Rubric</i> (one per design).</li></ol>                                                                                                                                                   | 20 minutes             |

## Lesson Six – Low Physical Effort

# FOCUS: Introduce Low Physical Effort in Universal Design

20 minutes

### Purpose:

Participants will be introduced to the principle of low physical effort in universal design and design spaces that are easy and comfortable to use

### Materials:

- *What Is Low Physical Effort?*
- *Universal Design Principle 6: Low Physical Effort* slide presentation
- YouTube Video: [Low Physical Effort](#)

### Facilitation Steps:

1. Distribute the *What Is Low Physical Effort?* graphic organizer to each participant.
2. Play the [YouTube video](#) on low physical effort. Participants will complete the worksheet as they watch the video, writing down the guidelines and providing examples of how it can be applied in interior design.

There are many short videos on low physical effort. While the link above is recommended, here are a few others to consider:

[Universal Design, Low Physical Effort - YouTube](#)

[The 7 Principles of Universal Design](#) (start at 4:02)

[The 7 Principles of Universal Design - A Nonlecture - YouTube](#) (start at 4:23)

**Note:** Videos may become unavailable over time. To find additional videos on low physical effort, try a keyword search on YouTube.

3. After the video plays, view the *Universal Principle 6: Low Physical Effort* slide presentation and review.

**Slide 1:** Low Physical Effort introduction slide

**Slide 2:** What Is Low Physical Effort?

*A design that can be used efficiently, comfortably, and with minimum fatigue.*

**Slide 3:** Low Physical Effort Key Terms

Review definitions of key terms and concepts mentioned related to low physical effort, such as reach and ergonomics. *Explain that reach allows for ease of use; the user does not have to put in effort to access the item. Ergonomics refers to the efficiency of a product so that it can be used by anyone, regardless of strength or stamina.*

**Slide 4:** Example

Review the photographic examples of low physical effort. Ask participants to describe how the design addresses the low physical effort principle. *The way the products are in reach for the user reduces physical effort needed to access them and minimizes strength required, which reduces fatigue.*

**Slide 5:** Low Physical Effort Guidelines

Review the guidelines for low physical effort and ask participants to share examples from the video. *A sit-to-stand desk and an adjustable computer monitor can ensure someone is in the*

## Interior Design Challenge Kit Curriculum

*proper position to use them. Designs such as a storage container that can be opened with little force or a building entrance that doesn't require the use of a hand. Using voice to input text, reducing fatigue and minimizing repetitive typing (reduces lost energy). A one-handed corkscrew or wine opener that requires less sustained effort by holding the bottle in place and removing it.*

4. Explain to participants that they will complete an activity where they will need to design a scenario that correctly focuses on the qualities of low physical effort.

They may use the information from the video and notes they wrote to help them complete their scenario.

Name: \_\_\_\_\_ Class: \_\_\_\_\_

# What Is Low Physical Effort?

Directions: As you watch the video(s) and slide presentation on low physical effort, fill in the organizer below with relevant information. You will use these notes to help you craft your own design scenario that demonstrates low physical effort.

| Universal Design Principle 6: Low Physical Effort |                                                                                                                                         |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Low Physical Effort                               | Definition:                                                                                                                             |
| Key Terms                                         | <ul style="list-style-type: none"><li>● Reach</li><li>● Ergonomics</li></ul>                                                            |
| Guidelines                                        | <div>1.</div> <div>Example:</div> <div>2.</div> <div>Example:</div> <div>3.</div> <div>Example:</div> <div>4.</div> <div>Example:</div> |

# What Is Low Physical Effort? – Answer Key

| Universal Design Principle 6: Low Physical Effort |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Low Physical Effort                               | Definition: Low physical effort means the design can be used efficiently, comfortably, and with minimum fatigue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Key Terms                                         | <ul style="list-style-type: none"><li>• Reach – Allows for ease of use; the user does not have to put in effort to access the item</li><li>• Ergonomics – The efficiency of a product so that it can be used by anyone regardless of strength or stamina</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Guidelines                                        | <ol style="list-style-type: none"><li>1. Allow users to maintain a neutral body position<br/>Example: A sit-to-stand desk and an adjustable computer monitor can ensure someone is in the proper position to use them</li><li>2. Use reasonable operating forces<br/>Example: Designs such as a storage container that can be opened with little force or a building entrance that doesn't require the use of a hand</li><li>3. Minimize repetitive actions<br/>Example: Using voice to input text, reducing fatigue and minimizing repetitive typing (reduces lost energy)</li><li>4. Minimize sustained physical effort<br/>Example: Develop a one-handed corkscrew or wine opener that requires less sustained effort by holding the bottle in place and removing it</li></ol> |



## Lesson Six – Low Physical Effort

# LEARN: Explore Examples of Low Physical Effort and Apply to Drawing

30 minutes

### Purpose:

Participants will identify design features that make a space accessible and usable for people with varying abilities. They will use their organizer notes as prompts to consider factors such as furniture height, door width, and appliance placement.

Participants will use the Interior Design Challenge Kit to demonstrate their understanding by drawing a design of space that can be easily adapted or modified to meet the changing needs of different users that shows low physical effort in universal design.

### Materials:

- Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)
- *What Is Low Physical Effort?*
- Drafting Workbooks

### Facilitation Steps:

1. Distribute the Interior Design Challenge Kit materials to each participant/pair. Remind participants to keep their *What Is Low Physical Effort?* graphic organizer handy to refer to while they complete the activity.
2. Using the information gathered from the video that analyzed design features, participants will use materials in their kits (dry erase board, microfiber cloth, and markers or in the Drafting Workbook) to design a space to increase its low physical effort to use that is functional and usable for all users, regardless of their physical abilities.

Remind participants that they must follow the universal design principle of low physical effort guidelines when designing their space scenario.

3. Allow 30 minutes for participants/pairs to draw their space.

## Lesson Six – Low Physical Effort

# REVIEW: Evaluate Low Physical Effort Designs

20 minutes

### Purpose:

The low physical effort design scenario evaluation will help participants understand the principle of low physical effort and prepare them for the interior design challenge card activity.

better reflect the low physical effort design principle.

### Materials:

- Completed drawings
- *Low Physical Effort Rubric* (optional)

### Facilitation Steps:

1. Select participant volunteers to present their designs to the class, highlighting how they incorporated the principles of low physical effort. If time permits, all participants will share.
2. After each participant shares their scenario drawn on the dry erase board, facilitate a class discussion comparing the key concepts covered in the lesson, focusing on how low physical effort can be applied in interior design.

Encourage participants to reflect on how they can incorporate the principles of low physical effort in their future design projects.

3. Assessment should be based on the completeness and accuracy of the design exercise, as well as the participants' ability to articulate how they incorporated the principles of low physical effort in their designs.
4. You and the class should give feedback on the designs and, if necessary, make any changes to

Name: \_\_\_\_\_ Class: \_\_\_\_\_

# Low Physical Effort Design Rubric

The design should incorporate the following principle of low physical effort.

Description of space designed for:

\_\_\_\_\_ Allow user to maintain a neutral body position. (25 points)

\_\_\_\_\_ Use reasonable operating forces. (25 points)

\_\_\_\_\_ Minimize repetitive actions. (25 points)

\_\_\_\_\_ Minimize sustained physical effort. (25 points)

\_\_\_\_\_ **Total points** (out of 100)

## Sources

1. *The Principles*. NC State University, The Center for Universal Design (1997) B. Connell, M. Jones, R. Mace, J. Mueller, A. Mullick, E. Ostroff, J. Sanford, E. Steinfeld, M. Story, & G. Vanderheiden. Retrieved from [https://www.udinstitute.org/\\_files/ugd/634d48\\_7a1b48c7879247a59ba059fa0c38dc14.pdf](https://www.udinstitute.org/_files/ugd/634d48_7a1b48c7879247a59ba059fa0c38dc14.pdf)
2. Tools for Life Georgia AT Program. (2020). *low physical effort*. *YouTube*. Retrieved April 20, 2023, from <https://www.youtube.com/watch?v=jTaQOhK4B4M>

# Lesson Seven – Size and Space for Approach and Use

## Lesson Overview

*In this lesson, participants will learn about the design principle size and space for approach and use. There should be plenty of space for everyone to move around, including those who may use assistive devices or require personal assistance. Signs and other important design elements should also be in a clear line of sight for both standing and seated users.*

## Lesson Objectives

After completing this lesson, participants will be able to:

- Define the principle of size and space for approach and use in universal design
- Identify and evaluate design features that promote accessibility and usability in a space
- Design spaces that accommodate a diverse range of users through proper sizing and spacing

## Lesson at a Glance

| Activity | Materials                                                                                                                                                                                                                                                                                | Preparation                                                                                                                                                                                                                                                                                                               | Approximate class time |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| FOCUS    | <ul style="list-style-type: none"><li>● <i>What Is Size and Space for Approach and Use?</i></li><li>● YouTube Video: <a href="#">Size and Space for Approach and Use</a></li><li>● <i>Universal Design Principle 7: Size and Space for Approach and Use</i> slide presentation</li></ul> | <ol style="list-style-type: none"><li>1. Print/photocopy <i>What Is Size and Space for Approach and Use?</i> (one per participant).</li><li>2. <a href="#">YouTube Video Access</a></li><li>3. Prepare <i>Universal Design Principle 7: Size and Space for Approach and Use</i> slide presentation for viewing.</li></ol> | 20 minutes             |
| LEARN    | <ul style="list-style-type: none"><li>● Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)</li><li>● Drafting Workbooks</li><li>● <i>What Is Size and Space for Approach and Use?</i></li></ul>                                                      | <ol style="list-style-type: none"><li>1. Gather materials.</li></ol>                                                                                                                                                                                                                                                      | 30 minutes             |
| REVIEW   | <ul style="list-style-type: none"><li>● Completed drawings</li><li>● <i>Size and Space for Approach and Use Rubric</i> (optional)</li></ul>                                                                                                                                              | <ol style="list-style-type: none"><li>1. Optional: Print/photocopy <i>Flexibility in Use for Approach and Space Rubric</i> (one for each design).</li></ol>                                                                                                                                                               | 20 minutes             |

## Lesson Seven – Size and Space for Approach and Use

# FOCUS: Introduce Size and Space for Approach and Use in Universal Design

20 minutes

### Purpose:

Participants will be introduced to the principle of size and space for approach and use in universal design and design spaces that are accessible and usable for everyone.

### Materials:

- *What Is Size and Space for Approach and Use?*
- *Universal Design Principle 7: Size and Space for Approach and Use* slide presentation
- YouTube Video:  
<https://www.youtube.com/watch?v=jNFpfnNWtqc>

### Facilitation Steps:

1. Distribute the *What Is Size and Space for Approach and Use?* graphic organizer to each participant.
2. Play the [YouTube video](#) on size and space for approach and use. Participants will complete the worksheet as they watch the video, writing down the guidelines and providing examples of how it can be applied in interior design.

There are many short videos on size and space for approach and use. While the link above is recommended, here are a few other links to consider:

[Universal Design for Instruction - 7. Size & Space for Approach & Use - YouTube](#)

[The 7 Principles of Universal Design | Ed Roberts Campus - YouTube](#) (start at 4:16)

[Universal Design Principles - YouTube](#) (start at 2:08)

**Note:** Videos may become unavailable over time. To find additional videos on size and space for approach and use, try a keyword search on YouTube.

3. After the video plays, view the *Universal Design Principle 7: Size and Space for Approach and Use* slide presentation and review.

**Slide 1:** Size and Space for Approach and Use introduction slide

**Slide 2:** What Is Size and Space for Approach and Use?

*The appropriate size and space are provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility.*

**Slide 3:** Size and Space for Approach and Use

Review definitions of key terms and concepts mentioned related to size and space for approach and use, such as clearance and turning radius. *Explain that clearance allows for ease of moving around a space by removing blockages. Turning radius refers to the space that allows a user to turn around comfortably using an assistive device, such as a wheelchair.*

**Slide 4:** Example

Review the photographic example of size and space for approach and use. Ask participants to describe how the design addresses the size and space for approach and use principle. *The*

*modifications in the design include easy-to-reach appliances, a low countertop and sink, and a stove with easy-to-reach burners and knobs.*

They may use the information from the video and notes they wrote to help them complete their scenario.

**Slide 5: Size and Space for Approach and Use Guidelines**

Review the guidelines for size and space for approach and use and ask participants to share examples from the video. *A low counter enables individuals to interact, regardless of if they are seated, standing, tall, or short. Having a stovetop at a lower height with the controls at a lower reach helps the user stay safe while cooking. Users with low mobility or limited dexterity can use a controller that can be utilized by people with different needs, without two hands. By providing more space, a person who uses an assistive device (such as a wheelchair) can move around more independently and not have the barrier of minimal space, including a wider turnstile at a train station.*

4. Explain to participants that they will complete an activity in which they will need to design a scenario that correctly focuses on the qualities of size and space for approach and use.

Name: \_\_\_\_\_ Class: \_\_\_\_\_

# What Is Size and Space for Approach and Use?

Directions: As you watch the video(s) and slide presentation on size and space for approach and use, fill in the organizer below with relevant information. You will use these notes to help you craft your own design scenario that demonstrates size and space for approach and use.

| Universal Design Principle 7: Size and Space for Approach and Use |                                                                                                                                                             |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Size and Space for Approach and Use                               | Definition:                                                                                                                                                 |
| Key Terms                                                         | <ul style="list-style-type: none"><li>• Clearance</li><li>• Turning Radius</li></ul>                                                                        |
| Guidelines                                                        | <ol style="list-style-type: none"><li>1.<br/><br/>Example:</li><li>2.<br/><br/>Example:</li><li>3.<br/><br/>Example:</li><li>4.<br/><br/>Example:</li></ol> |



# What Is Size and Space for Approach and Use?

## - Answer Key

| Universal Design Principle 7: Size and Space for Approach and Use |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Size and Space for Approach and Use                               | Definition: Size and space for approach and use means the appropriate size and space are provided for approach, reach, manipulation, and use, regardless of the user's body size, posture, or mobility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Key Terms                                                         | <ul style="list-style-type: none"><li>• Clearance – Ease of moving around a space by removing blockages</li><li>• Turning Radius – Space that allows a user to turn around comfortable using an assistive device, such as a wheelchair</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Guidelines                                                        | <ol style="list-style-type: none"><li>1. Provide a clear line of sight to important elements for any seated or standing user<br/><br/>Example: A low counter enables individuals to interact, regardless of if they are seated, standing, tall, or short</li><li>2. Make reach to all components comfortable for any seated or standing user<br/><br/>Example: Having a stovetop at a lower height with the controls at a lower reach helps the user stay safe while cooking</li><li>3. Accommodate variations in hand and grip size<br/><br/>Example: Users with low mobility or limited dexterity can use a controller that can be utilized by people with different needs, without two hands</li><li>4. Provide adequate space for the use of assistive</li></ol> |

|  |                                                                                                                                                                                                                                                                                        |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><b>devices or personal assistance</b></p> <p>Example: <b>By providing more space, a person who uses an assistive device (such as a wheelchair) can move around more independently and not have the barrier of minimal space, including a wider turnstile at a train station</b></p> |
|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Lesson Seven – Size and Space for Approach and Use

# LEARN: Explore Examples of Size and Space for Approach and Use and Apply to Drawing

30 minutes

### Purpose:

Participants will identify design features that make a space accessible and usable for people with varying abilities. They will use their organizer notes as prompts to consider factors such as circulation space, furniture placement, and turning radius.

Participants will use the Interior Design Challenge Kit to demonstrate their understanding by drawing a design of space that can be easily adapted or modified to meet the changing needs of different users that shows size and space for approach and use in universal design.

### Materials:

- Interior Design Challenge Kit materials (dry erase boards, microfiber cloths, markers)
- Drafting Workbooks
- *What Is Size and Space for Approach and Use?*

### Facilitation Steps:

1. Distribute the Interior Design Challenge Kit materials to each participant/pair. Remind participants to keep their *What Is Size and Space for Approach and Use?* graphic organizer handy to refer to while they complete the activity.
2. Using the information gathered from the video that analyzed design features, participants will use materials in their kits (dry erase board, microfiber cloth, and markers or in the Drafting Workbook) to design a space to increase its size and space for approach and use principle that is functional and usable for all users, regardless of their physical abilities.

Remind participants that they must follow the universal design principle of size and space for approach and use guidelines when designing their space scenario.

3. Allow 30 minutes for participants/pairs to draw their space.

## Lesson Seven – Size and Space for Approach and Use

# REVIEW: Evaluate Size and Space for Approach and Use Designs

20 minutes

### Purpose:

The size and space for approach and use design scenario evaluation will help participants understand the principle of size and space for approach and use and prepare them for the interior design challenge card activity.

### Materials:

- Completed drawings
- *Size and Space for Approach and Use Rubric* (optional)

### Facilitation Steps:

1. Select participant volunteers to present their designs to the class, highlighting how they incorporated the principles of size and space for approach and use. If time permits, all participants will share.
2. After each participant shares their scenario drawn on the dry erase board, facilitate a class discussion comparing the key concepts covered in the lesson, focusing on how size and space for approach and use can be applied in interior design.

Encourage participants to reflect on how they can incorporate the principles of size and space for approach and use in their future design projects.

3. Assessment should be based on the completeness and accuracy of the design exercise, as well as the participants' ability to articulate how they incorporated the principles of size and space for approach and use in their designs.

4. You and the class should give feedback on the designs and, if necessary, make any changes to better reflect the size and space for approach and use design principle.

Name: \_\_\_\_\_ Class: \_\_\_\_\_

# Size and Space for Approach and Use Design Rubric

The design should incorporate the following principle of size and space for approach and use.

Description of space designed for:

\_\_\_\_\_ Provide a clear line of sight to important elements for any seated or standing user. (25 points)

\_\_\_\_\_ Make reach to all components comfortable for any seated or standing user. (25 points)

\_\_\_\_\_ Accommodate variations in hand and grip size. (25 points)

\_\_\_\_\_ Provide adequate space for the use of assistive devices or personal assistance. (25 points)

\_\_\_\_\_ **Total points** (out of 100)

## Sources

1. *The Principles*. NC State University, The Center for Universal Design (1997) B. Connell, M. Jones, R. Mace, J. Mueller, A. Mullick, E. Ostroff, J. Sanford, E. Steinfeld, M. Story, & G. Vanderheiden. Retrieved from [https://www.udinstitute.org/\\_files/ugd/634d48\\_7a1b48c7879247a59ba059fa0c38dc14.pdf](https://www.udinstitute.org/_files/ugd/634d48_7a1b48c7879247a59ba059fa0c38dc14.pdf)
2. Tools for Life Georgia AT Program. (2020). *size and space for approach and use*. YouTube. Retrieved April 20, 2023, from <https://www.youtube.com/watch?v=jNFpfnNWtqc>

## Lesson Eight – Seven Principles of Interior Design

### Lesson Overview

*In this lesson, participants will learn about the seven principles of interior design, including balance, harmony, rhythm, proportion and scale, emphasis, contrast, and details. They will apply these principles to create their own interior design using the Interior Design Drawing Templates.*

### Lesson Objectives

After completing this lesson, participants will be able to:

- Define and identify the 7 principles of interior design
- Analyze and evaluate the use of each principle in an interior space
- Apply the principles of interior design to create a cohesive and visually appealing interior space

### Lesson at a Glance

| Activity | Materials                                                                                                                                                                                                               | Preparation                                                                                                                                                                                                                              | Approximate class time |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| FOCUS    | <ul style="list-style-type: none"><li>● <i>What Are the 7 Principles of Interior Design?</i></li><li>● <i>7 Principles of Interior Design</i> slide presentation</li></ul>                                              | <ol style="list-style-type: none"><li>1. Print/photocopy <i>What Are the 7 Principles of Interior Design?</i> (one per participant).</li><li>2. Prepare <i>7 Principles of Interior Design</i> slide presentation for viewing.</li></ol> | 35 minutes             |
| LEARN    | <ul style="list-style-type: none"><li>● Interior Design Challenge Kit</li><li>● Interior Design Drawing Templates</li><li>● Drafting Workbooks</li><li>● <i>What Are the 7 Principles of Interior Design?</i></li></ul> | <ol style="list-style-type: none"><li>1. Gather materials.</li></ol>                                                                                                                                                                     | 60 minutes             |
| REVIEW   | <ul style="list-style-type: none"><li>● Completed drawings</li><li>● <i>7 Principles of Interior Design Rubric</i> (optional)</li></ul>                                                                                 | <ol style="list-style-type: none"><li>1. Optional: Print/photocopy <i>7 Principles of Interior Design Rubric</i> (one for each design).</li></ol>                                                                                        | 30 minutes             |

## Lesson Eight – Seven Principles of Interior Design

# FOCUS: Introduce the 7 Principles of Interior Design

**35 minutes**

### Purpose:

Participants will be introduced to the seven principles of interior design and create visually appealing and functional interior spaces.

### Materials:

- *What Are the 7 Principles of Interior Design?*
- *7 Principles of Interior Design* slide presentation

### Facilitation Steps:

1. Distribute the *What Are the 7 Principles of Interior Design?* graphic organizers to each participant.
2. View the *7 Principles of Interior Design* slide presentation and review.

**Slide 1:** 7 Principles of Interior Design introduction slide

**Slide 2:** 7 Principles of Interior Design

What are the seven principles of interior design? *Participants should write balance, harmony, rhythm, proportion and scale, emphasis, contrast, and details in the corresponding spaces on their graphic organizer.*

**Slides 3-7:** #1 Balance

Review principle of interior design, balance. *Participants will write the definition of balance on their organizers.*

*Participants will define formal balance and write down the example given.*

*Participants will define informal balance and write down the example given.*

*Participants will define radial balance and write down the example given.*

**STOP & THINK:** *Participants will write down one element of balance in interior design that they learned on their organizer.*

**Slides 8-10:** #2 Harmony

Review definition of harmony in a space. *Participants will write down the meaning in their own words.*

Example of harmony in a space. *Participants will view a photographic example of harmony in interior design.*

**STOP & THINK:** *Participants will write down one element of harmony in interior design that they learned on their organizer.*

**Slides 11-13:** #3 Rhythm

Review the principle of interior design, Rhythm. *Participants will write the meaning in their own words.*

Example of rhythm in a space. *Participants will view a photographic example of rhythm in interior design.*

**STOP & THINK:** *Participants will write down one element of rhythm in interior design that they learned on their organizer.*



## Interior Design Challenge Kit Curriculum

### **Slides 14-16: #4 Proportion and Scale**

Review the definition of proportion and scale in a space. *Participants will write down the meaning in their own words.*

Example of proportion and scale in a space. *Participants will view a photographic example of proportion and scale in interior design.*

STOP & THINK: *Participants will write down one element of proportion and scale in interior design that they learned on their organizer.*

### **Slides 17-19: #5 Emphasis**

Review definition of emphasis in a space. *Participants will write down the meaning in their own words.*

Example of emphasis in a space. *Participants will view a photographic example of emphasis in interior design.*

STOP & THINK: *Participants will write down one element of emphasis in interior design that they learned on their organizer.*

### **Slides 20-22: #6 Contrast**

Review definition of contrast in a space. *Participants will write down the meaning in their own words.*

Example of contrast in a space. *Participants will view a photographic example of contrast in interior design.*

STOP & THINK: *Participants will write down one element of contrast in interior design that they learned on their organizer.*

### **Slides 23-25: #7 Details**

Review definition of details in a space. *Participants will write down the meaning in*

*their own words.*

Example of details in a space. *Participants will view a photographic example of details in interior design.*

STOP & THINK: *Participants will write down one element of details in interior design that they learned on their organizer.*

3. Explain to participants that they will complete an activity in which they will create interior designs that correctly demonstrate the seven principles of interior design.

They may use the information from the notes they wrote to help them complete their designs.

4. There are many videos on the seven principles of interior design. If time permits, you could share one or more of the following videos in addition to the slide presentation:

[7 Principles of Interior Design - YouTube](#)

[MASTERING THE PRINCIPLES OF INTERIOR DESIGN | Design Principles EXPLAINED - YouTube](#)

[Interior Design Elements & Principles of Design Tutorial - YouTube](#)

Name: \_\_\_\_\_ Class: \_\_\_\_\_

# What Are The 7 Principles of Interior Design?

Directions: As you view the presentation about the seven principles of interior design, fill in the organizer below with relevant information. You will use these notes to help you craft your own designs that properly demonstrate each principle.

| 7 Principles of Interior Design |                                                                                                                                                                    |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Balance                      | <p>Definition:</p> <p>Formal:</p> <p>Informal:</p> <p>Radial:</p> <p>Example:</p> <p>STOP &amp; THINK: How would you demonstrate balance in your own design?</p>   |
| 2. Harmony                      | <ul style="list-style-type: none"><li>• Definition:</li><li>• Example:</li><li>• STOP &amp; THINK: How would you demonstrate harmony in your own design?</li></ul> |

|                                |                                                                                                                                |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>3. Rhythm</b>               | <p>Definition:</p> <p>Example:</p> <p>STOP &amp; THINK: How would you demonstrate rhythm in your own design?</p>               |
| <b>4. Proportion and Scale</b> | <p>Definition:</p> <p>Example:</p> <p>STOP &amp; THINK: How would you demonstrate proportion and scale in your own design?</p> |
| <b>5. Emphasis</b>             | <p>Definition:</p> <p>Example:</p> <p>STOP &amp; THINK: How would you demonstrate emphasis in your own design?</p>             |
| <b>6. Contrast</b>             | <p>Definition:</p> <p>Example:</p> <p>STOP &amp; THINK: How would you demonstrate contrast in your own design?</p>             |

|                   |                                                                                                                   |
|-------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>7. Details</b> | <p>Definition:</p> <p>Example:</p> <p>STOP &amp; THINK: How would you demonstrate details in your own design?</p> |
|-------------------|-------------------------------------------------------------------------------------------------------------------|

# What Are The 7 Principles of Interior Design?

## - Answer Key

| 7 Principles of Interior Design |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Balance                      | <p>Definition: <b>Distribute furniture and decorative objects as evenly as possible so that things have the same visual weight</b></p> <p>Formal: <b>Require symmetrical balance, which is the art of mirroring and matching each side of a room</b></p> <p>Informal: <b>Visual weights of lines, colors, forms, and textures are balanced without requiring exact duplication</b></p> <p>Radial: <b>There is a central focal point with other elements radiating from or around it</b></p> <p>Example: <b>Answers will vary, having two chairs on either side of a coffee table</b></p> <p>STOP &amp; THINK: How would you demonstrate balance in your own design? <b>Answers will vary, you could have a round table as radial balance with chairs placed around it</b></p> |
| 2. Harmony                      | <p>Definition: <b>Coordinating objects and colors in a space to convey a sense of integrated design</b></p> <p>Example: <b>Grouping furniture together, using similar colors and textures, or making a focal point</b></p> <p>STOP &amp; THINK: How would you demonstrate harmony in your own design? <b>Answers will vary, you could have the</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | <p>same color scheme, such as tan furniture in a living room that matches</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 3. Rhythm               | <p>Definition: The visual repetition of form</p> <p>Example: Arranging elements in a way there is repetition, progression, transition, or contrast.</p> <p>STOP &amp; THINK: How would you demonstrate rhythm in your own design? Answers will vary, having lighter furniture colors with darker picture frames to contrast</p>                                                                                                                                                                                                                                                                                                               |
| 4. Proportion and Scale | <p>Definition: Proportion is the relationship between two items, and scale is the way that one object's size relates to another</p> <p>Example: A huge, overstuffed sectional in a tiny space will be out of proportion. A small coffee table in front of two enormous sofas might appear misplaced and lost. Combining ordinary items with pieces of different heights and dimensions, such as art or greenery.</p> <p>STOP &amp; THINK: How would you demonstrate proportion and scale in your own design? Answers will vary, have furniture that is roughly all the same height/length and that is appropriate size for the room space</p> |
| 5. Emphasis             | <p>Definition: The use of an accent in the room, such as color, component, texture, or pattern, that draws attention</p> <p>Example: The focal point can be an existing feature you want to highlight, such as a fireplace, a piece of furniture,</p>                                                                                                                                                                                                                                                                                                                                                                                         |

|             |                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             | <p>or art that you want to use as the starting point for your design</p> <p>STOP &amp; THINK: How would you demonstrate emphasis in your own design? Answers will vary, include an eye-catching chandelier that serves as the focal point for the room</p>                                                                                                                                                   |
| 6. Contrast | <p>Definition: Contrast provides visual interest and helps to define spaces</p> <p>Example: Pairing light and dark or warm and cool colors can create a striking effect. You can also use contrast in terms of texture, pattern, and scale.</p> <p>STOP &amp; THINK: How would you demonstrate contrast in your own design? Answers will vary, paint the walls a darker color and have lighter furniture</p> |
| 7. Details  | <p>Definition: Make a room unique by adding personal touches and paying attention to small details</p> <p>Example: Items that show off your unique style and personality</p> <p>STOP &amp; THINK: How would you demonstrate details in your own design? Answers will vary, flowers or accent pieces to place on a coffee table, decorative candles</p>                                                       |

## Lesson Eight – Seven Principles of Interior Design

# LEARN: Explore Examples of the 7 Principles of Interior Design and Design a Space

**60 minutes**

### Purpose:

Participants will identify design features that make a space visually appealing and functional. They will use their organizer notes as prompts to consider factors such as color, texture, and furniture placement.

Participants will use the Interior Design Drawing Templates to demonstrate their understanding of each principle by designing a space that is cohesive and visually appealing.

### Materials:

- Interior Design Challenge Kit
  - Interior Design Drawing Templates
  - Drafting Workbooks
- *What Are the 7 Principles of Interior Design?*

### Facilitation Steps:

1. Distribute the Interior Design Drawing Templates to each participant/pair. Remind participants to refer to the *What Are the 7 Principles of Interior Design?* graphic organizer while they complete the design activity.
2. Using the information gathered from the slide presentation that analyzed design features, participants will demonstrate their understanding of the seven principles of interior design to show elements of balance, harmony, rhythm, proportion and scale, emphasis, contrast, and details.

Remind participants that they must follow the guidelines of the seven principles of interior design when designing their interior spaces.

3. Set a timer for 60 minutes. Participants will have 8-10 minutes to design each of their spaces based on the principles of interior design.



## Lesson Eight – Seven Principles of Interior Design

# REVIEW: Evaluate Interior Designs Using the 7 Principles of Interior Design

30 minutes

### Purpose:

The seven principles of interior design evaluation will help participants understand the seven principles of interior design and prepare them for the interior design challenge card activity.

### Materials:

- Completed designs
- *7 Principles of Interior Design Rubric* (optional)

### Facilitation Steps:

1. Select participants volunteers to present their designs to the class, highlighting how they incorporated each of the seven principles of interior design into their own design. If time permits, all participants will share.
2. After each participant shares their design drawn using the Interior Design Drawing Templates, facilitate a class discussion comparing the key concepts covered in the lesson, focusing on how the seven principles of interior design can be applied to create a cohesive and visually appealing space.

Encourage participants to reflect on how they can incorporate each of the seven principles of interior design into their future design projects.

3. Assessment should be based on the completeness and accuracy of the design exercise, as well as the participants' ability to articulate how they incorporated the seven principles of interior design into their designs.

4. You and the class should give feedback on the designs and, if necessary, make any changes to better reflect the seven principles of interior design.

Name: \_\_\_\_\_ Class: \_\_\_\_\_

# 7 Principles of Interior Design Rubric

The design should incorporate the seven principles of interior design.

Description of space designed for:

Your design should show evidence of each of the following:

- \_\_\_\_\_ Balance: Distribute furniture and decorative objects as evenly as possible so that items have the same visual weight. (15 points)
- \_\_\_\_\_ Harmony: Coordinating objects and colors in a space to convey a sense of integrated design. (15 points)
- \_\_\_\_\_ Rhythm: The visual repetition of form. (15 points)
- \_\_\_\_\_ Proportion and Scale: Proportion is the relationship between two items, and scale is the way that one object's size relates to another. (15 points)
- \_\_\_\_\_ Emphasis: The use of an accent in the room, such as color, component, texture, or pattern, that draws attention. (15 points)
- \_\_\_\_\_ Contrast: Provides visual interest and helps to define spaces. (15 points)
- \_\_\_\_\_ Details: Make a room unique by adding personal touches and paying attention to small details. (15 points)
- \_\_\_\_\_ **Total points** (out of 100)

## Sources

1. Marsh, K. (2022). *The 7 basic principles of Interior Design: Kathryn interiors: Interior design*. Kathryn Interiors. <https://kathryninteriors.com/the-7-basic-principles-of-interior-design/#:~:text=There%20are%20seven%20main%20principles,emphasis%2C%20contrast%2C%20and%20details>.

## Lesson Nine – Designing for Accessibility

### Lesson Overview

*In this lesson, participants will apply what they have learned about the principles of universal design to create a design for accessibility. They will use a physical disabilities simulation pack to guide their designs based on various disabilities.*

### Lesson Objectives

After completing this lesson, participants will be able to:

- Define and identify the principles of universal design
- Evaluate the accessibility of an interior space
- Apply the principles of universal design to create an accessible interior space

### Lesson at a Glance

| Activity | Materials                                                                                                                                                                                                                                                | Preparation                                                                                                                                                                                                                                                                                                                   | Approximate class time |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| FOCUS    | <ul style="list-style-type: none"><li>● YouTube video <a href="#">Universal Design: Homes for All Ages</a></li><li>● <i>Designing for Accessibility</i> slide presentation</li><li>● <i>Designing for Accessibility Rubric Self-Assessment</i></li></ul> | <ol style="list-style-type: none"><li>1. Prepare <a href="#">Universal Design</a> YouTube video for viewing.</li><li>2. Review examples of floor plans that demonstrate principles of universal design.</li><li>3. Print/photocopy <i>Designing for Accessibility Rubric Self-Assessment</i> (one per participant).</li></ol> | 35 minutes             |
| LEARN    | <ul style="list-style-type: none"><li>● Physical Disabilities Simulation Kit</li><li>● Materials to design (Drafting Workbook, pencils, templates)</li><li>● Principles of Universal Design Notes (from previous lessons)</li><li>● Timer</li></ul>      | <ol style="list-style-type: none"><li>1. Prepare the Physical Disabilities Simulation Kit.</li><li>2. Distribute materials for design creation.</li><li>3. Set timer for 25 minutes to draw/design a room.</li></ol>                                                                                                          | 60 minutes             |
| REVIEW   | <ul style="list-style-type: none"><li>● Completed designs</li><li>● <i>Designing for Accessibility Rubric Self-Assessment</i></li></ul>                                                                                                                  | <ol style="list-style-type: none"><li>1. Have accessibility designs ready for evaluation.</li></ol>                                                                                                                                                                                                                           | 10 minutes             |

## Lesson Nine – Designing for Accessibility

# FOCUS: Introduce Designing for Accessibility

35 minutes

### Purpose:

Participants will be introduced to designing for accessibility and design interior spaces that are accessible to people of all abilities, including those with physical disabilities.

### Materials:

- [Universal Design: Homes for All Ages YouTube Video](#)
- *Designing for Accessibility* slide presentation
- *Designing for Accessibility Rubric*

### Facilitation Steps:

1. Play the YouTube video [“Universal Design: Homes for All Ages”](#) to review concepts of universal design principles participants have previously learned.

There are many short videos on universal design and designing for accessibility. While the link above is recommended, here are a few others to consider:

[Universal Design vs. Accessibility - YouTube](#)

[Accessible Homes - YouTube](#)

[Accessible Bathroom Design + Universal Design and Aging in Place - Design Lesson 29 - YouTube](#)

[MAKING A HOUSE ACCESSIBLE FOR A VISUALLY IMPAIRED AND BLIND - YouTube](#)

2. View the *Designing for Accessibility* slide presentation and review.

**Slide 1:** Designing for Accessibility introduction slide

**Slide 2:** How Will You Apply the Universal Design Principles to Design for Accessibility?

Review with participants that they will move through stations around the room that have simulations of physical disabilities. They will design a floor plan that caters to each of the physical disabilities and must use the universal design principles to guide their design.

**Slides 3-4:** Sample Floor Plans

Elicit responses from participants about the sample floor plan designs. Ask them to share which universal design principles are shown based on the drawings and how those principles address different disabilities.

**Slides 5-8:** ADA Universal Rooms

Show participants examples of elements in accessible design in bathrooms, closets, and kitchens to review the different options they may use for the activity.

3. Participants will take out their notes from the previous lessons about each principle of universal design and use them to guide their design choices.

Remind participants that, in the Physical Disability Simulation Kit activity, they will experience a variety of physical disabilities and must design a space that demonstrates the principles of universal design to ensure it is usable.

4. Share the rubric so participants understand what to consider in their designs

# Designing for Accessibility Rubric

## Self-Assessment

The design should incorporate the principles of universal and interior design.

Description of space designed for:

- \_\_\_\_\_ Equitable Use - A design must be useful and equitable to everyone (10 points)
- \_\_\_\_\_ Flexibility in Use - A design must accommodate a wide range of individual preferences and abilities (10 points)
- \_\_\_\_\_ Simple and Intuitive - A design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level (10 points)
- \_\_\_\_\_ Perceptible Information - The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities (10 points)
- \_\_\_\_\_ Tolerance for Error - The design minimizes hazards and the adverse consequences of accidental or unintended actions (10 points)
- \_\_\_\_\_ Low Physical Effort - The design can be used efficiently, comfortably, and with minimum fatigue (10 points)
- \_\_\_\_\_ Size and Space for Approach and Use - The appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility (10 points)
- \_\_\_\_\_ 7 Principles of Interior Design - Balance, harmony, rhythm, proportion and scale, emphasis, contrast (30 points)
- \_\_\_\_\_ **Total points** (out of 100)

## Lesson Nine – Designing for Accessibility

# LEARN: Explore Simulations of Physical Disabilities and Design a Space

60 minutes

### Purpose:

Participants will design their own interior space, applying the principles of universal design to create an accessible and inclusive design.

Participants will use the Physical Disabilities Simulation Kit to guide their designs based on each principle of universal design.

### Materials:

- Physical Disabilities Simulation Kit
- Design materials (Design Workbook, templates, pencils, etc.)
- Interior Design Challenge Cards

### Facilitation Steps:

1. Divide participants into four groups. They will rotate through the four disability experiences: Visual, mobility, hearing, and tactile impairments.

It is recommended to have four participants in each group complete the disability experiences simultaneously and then hand it off to another group member to keep things efficient.

2. Each group should try the following activities while they complete the disability simulations:
  - a. Visual Impairment – Put the glasses on and attempt to read something, walk around the room, pick something up
  - b. Mobility Impairment – Take the cane and walk around the room, walk in and out a door, go up and down stairs

- c. Hearing Impairment – Put the headphones on and listen to conversations around the room, have another participant give them instructions on something they need to do
- d. Tactile Impairment – Put the gloves on and attempt to write and pick up small items, like paper clips
- e. As a small group, have participants discuss the implications each of these conditions would have as you design a space. What special considerations would you have to consider?

3. Provide a copy of each Interior Design Challenge Card that focuses on these three disabilities: Hearing, visual, and mobility impairment.

Using the principles of universal design to guide their design, participants will have class time to design (you may also need more time to do this outside of class) to solve each challenge.

If time doesn't permit for participants to design all three challenges from the Interior Design Challenge Cards, have participants pick one of the three to design.

4. Choose participants volunteers share which physical disability challenge they selected and have them describe how they used the universal design principles in their drawings to solve the challenge presented.

## Lesson Nine – Designing for Accessibility

# REVIEW: Self-Assess Universal Designs for Accessibility

**10 minutes**

### **Purpose:**

The evaluations will help participants understand designing for accessibility.

### **Materials:**

- Completed designs
- *Designing for Accessibility Rubric Self-Assessment*

### **Facilitation Steps:**

1. After participants volunteers have shared their designs with the whole class and discussions are completed, have participants work on a self-assessment of one of their designs.
2. Have participants complete the rubric and add their total score on the line provided.
3. Participants should turn their rubric in along with their design for you to assess. If there is a discrepancy in the scores, use this opportunity for a one-on-one discussion with the participant about design elements that may be lacking or in question.



## Sources

1. S. Strunk. (2017). *Universal Design: Homes For All Ages*. Retrieved June 16, 2023, from <https://www.youtube.com/watch?v=X4sRwsIED6o>.

## Lesson Ten – Design Challenge Day

### Lesson Overview

*In this lesson, participants will pick a design challenge from the card deck and use the graph paper and template set to solve the challenge.*

### Lesson Objectives

After completing this lesson, participants will be able to:

- Apply the proper elements of the principles of universal design to a random design challenge
- Create a unique design using the kit materials provided

### Lesson at a Glance

| Activity | Materials                                                                                                                                                                                                 | Preparation                                                                                                                                                                                                                  | Approximate class time |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| FOCUS    | <ul style="list-style-type: none"><li>● Notes from previous lessons</li><li>● <i>Design Challenge Day</i> slide presentation</li></ul>                                                                    | 1. Prepare the <i>Design Challenge Day</i> slide presentation for viewing.                                                                                                                                                   | 10 minutes             |
| LEARN    | <ul style="list-style-type: none"><li>● Interior Design Drawing Templates</li><li>● Materials to design (Drafting Workbooks, pencils)</li><li>● Interior Design Challenge Cards</li><li>● Timer</li></ul> | 1. Gather the materials.<br>2. Distribute the Interior Design Challenge Cards.                                                                                                                                               | 60 minutes             |
| REVIEW   | <ul style="list-style-type: none"><li>● Completed designs</li><li>● <i>Design Challenge Day Rubric</i></li><li>● <i>Design Challenge Day</i> slide presentation</li></ul>                                 | 1. Have completed challenge drawings ready to share for evaluation.<br>2. Print/photocopy <i>Design Challenge Day Rubric</i> (one per design).<br>3. Prepare the <i>Design Challenge Day</i> slide presentation for viewing. | 60 minutes             |

## Lesson Ten – Design Challenge Day

# FOCUS: Introduce the Design Challenge

**10 minutes**

**Purpose:**

Participants will use their notes and previous knowledge about the universal design principles and interior design to create a space that demonstrates these concepts based on an Interior Design Challenge Card.

**Materials:**

- Notes from previous lessons
- *Design Challenge Day* slide presentation

**Facilitation Steps:**

1. Ask participants to take out their notes from previous lessons. They should review these notes for 5-10 minutes.
2. Open the slide presentation to **Slide 2** and review the directions with participants. Explain to participants that they are about to participate in a design challenge.

They will have about 80 minutes (or any time you designate) to design a space that properly demonstrates the universal design principles they have previously learned about.

Participants will randomly choose a card from the deck to learn about the design requirements their challenge requires.

**Note:** It is recommended to remove the design challenge cards that were used in the previous lesson on designing for accessibility.

**Slide 3: Example**

Participants will see an example of the design they should create. They must indicate on their design where they included the universal principles with proper labels.

3. Participants may use their notes or any previous materials they have gathered from the other lessons to help them craft their designs.

## **Lesson Ten – Design Challenge Day**

# **LEARN: Design an Interior Space Using Universal Design Principles**

**80 minutes**

### **Purpose:**

Participants will design an interior space according to the guidelines indicated on their chosen Interior Design Challenge Card. They must apply the principles of universal design to create an accessible and inclusive space.

### **Materials:**

- Interior Design Challenge Kit
- Interior Design Challenge Cards
- Design materials (Drafting Workbook or graph paper, templates, pencils, etc.)

### **Facilitation Steps:**

1. Have participants choose an Interior Design Challenge Card. They will use any available materials to construct their design according to the challenge indicated on their card.
2. Set a timer for 80 minutes and allow students to work on their designs. Challenges could include designing a space for a young child, geriatric age modification, special needs accommodations, and more. Participants may refer to their previous notes to help them with their design choices.
3. Once the timer goes off or you finished the designated time set aside for design, participants will prepare to present their design challenges to the class.

## Lesson Ten – Design Challenge Day

# REVIEW: Evaluate Design Challenge Spaces

60 minutes

### Purpose:

The evaluations will allow participants to assess their peers' interior designs and share their own design challenges.

### Materials:

- Completed designs
- *Design Challenge Day Rubric*
- *Design Challenge Day* slide presentation

### Facilitation Steps:

1. Select participant volunteers to present their designs to the class, explaining which design challenge they chose and how they incorporated the principles of universal design into their drawings. If time permits, all participants will share.
2. As each participant shares their design, facilitate a class discussion around how the designs could be improved on or point out something they noticed that they may not have considered in their designs before.

Complete the rubric as a class exercise for each design during the discussion. Alternatively, you could complete the rubric as each participant presents their design.

Encourage participants to reflect on how they can incorporate certain design elements they see into their future design projects.

You and the class should give feedback on the designs and reflect on the participants' learning in the interior design challenge unit.

3. **Slide 4:** What Is One New Thing You Learned During This Interior Design Challenge Unit?

After the challenge evaluation is complete, lead a class discussion with the prompt, "What is one new thing you learned during this interior design unit?"

# Design Challenge Day Rubric

The design should incorporate the principles of universal design and interior design.

Description of space designed for:

- \_\_\_\_\_ Equitable Use - A design must be useful and equitable to everyone (10 points)
- \_\_\_\_\_ Flexibility in Use - A design must accommodate a wide range of individual preferences and abilities (10 points)
- \_\_\_\_\_ Simple and Intuitive - A design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level (10 points)
- \_\_\_\_\_ Perceptible Information - The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities (10 points)
- \_\_\_\_\_ Tolerance for Error - The design minimizes hazards and the adverse consequences of accidental or unintended actions (10 points)
- \_\_\_\_\_ Low Physical Effort - The design can be used efficiently, comfortably, and with minimum fatigue (10 points)
- \_\_\_\_\_ Size and Space for Approach and Use - The appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility (10 points)
- \_\_\_\_\_ 7 Principles of Interior Design - Balance, harmony, rhythm, proportion and scale, emphasis, contrast (30 points)
- \_\_\_\_\_ **Total points** (out of 100)