



**DO-IT**

# Equal Access: Universal Design of Instruction

A checklist for inclusive teaching  
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## Universal Design of Instruction

The universal design of instruction (UDI) is gaining increased attention and application by educational researchers and practitioners at K-12 and postsecondary levels. UDI means that, rather than designing for the average student, you design instruction for students who potentially have broad ranges with respect to ability, disability, age, reading level, learning style, native language, race, ethnicity, and other characteristics. UDI can be applied to all aspects of instruction, including class climate, interaction, physical environments and products, delivery methods, information resources and technology, feedback, and assessment.

UDI can be discussed as a goal, process, or set of practices.

### UDI Goal

The goal of UDI is to maximize the learning of students with a wide range of characteristics by applying UD principles to all aspects of instruction (e.g., delivery methods, physical spaces, information resources, technology, personal interactions, and assessments).

### UDI Process

To apply UDI, an instructor should consider the potential variation in individual skills, learning styles and preferences, age, gender, culture, abilities, and disabilities as they select appropriate strategies for the delivery of instruction and then apply universal design to all course activities and resources. Specifically, the instructor needs to

1. *Identify the course.* Describe the course, its learning objectives, and its overall content.
2. *Define the universe.* Describe the overall population of students eligible to enroll in the course and then consider their potential diverse characteristics (e.g., with respect to gender; age; ethnicity and race; native language; learning style; and abilities to see, hear, manipulate objects, read, and communicate).
3. *Involve students.* Consider perspectives of students with diverse characteristics, as identified in Step 2, in the development of the course. If they are not available directly from students, gain student perspectives through diversity programs such as the campus disability services office.
4. *Adopt instructional strategies.* Adopt overall learning and teaching philosophies and methods. Integrate these practices with universal design guidelines or strategies for learning or instruction.
5. *Apply instructional strategies.* Apply universal design strategies in concert with good instructional practices (both identified in Step 4) to the overall choice of course teaching methods, curricula, and assessments. Then apply universal design to all lectures, classroom discussions, group work, handouts, web-based content, labs, fieldwork, assessment instruments, and other academic activities and materials to maximize the learning of students with the wide variety of characteristics identified in Step 2.
6. *Plan for accommodations.* Learn campus procedures for addressing accommodation requests (e.g., arrangement of sign language interpreters) from specific students for whom the course design does not automatically provide full access.
7. *Evaluate.* Monitor the effectiveness of instruction through observation and feedback from students with the diverse set of characteristics identified in Step 2, assess learning, and modify the course as appropriate.

### UDI Practices

The Principles of UD<sup>4</sup>, developed by the Center for Universal Design, encourage the development of products and environments that promote (1) equitable use, (2) flexibility in use, (3) simple and intuitive use, (4) perceptible information, (5) tolerance for error, (6) low physical effort, (7) size and space for approach and use.



A related, but more specific concept, Universal Design for Learning (UDL) provides “a framework for designing curricula that enable all individuals to gain knowledge, skills, and enthusiasm for learning. UDL provides rich supports for learning and reduces barriers to the curriculum while maintaining high achievement standards for all.”<sup>3</sup> UDL guidelines<sup>9</sup>, developed by CAST, promote the development of curriculum that includes options for (1) perception; (2) language, expressions, and symbolism; (3) comprehension; (4) physical action; (5) expressive skills and fluency; (6) executive functions; (7) recruiting interest; (8) sustaining effort and persistence; and (9) self-regulation.

UDI applies UD to all aspects of instruction. The following checklist provides examples of UDI practices. Numbers in brackets at the end of items in the checklist refer to UD principles and UDL guidelines to which the example is most relevant. This content does not provide legal advice. To clarify legal issues, consult your institution’s legal counsel, ADA/504 compliance officer, or disability services office, or call the regional Office for Civil Rights (OCR).

### **Class Climate**

Adopt practices that reflect high values with respect to both diversity and inclusiveness.

- *Welcome everyone.* Create a welcoming environment for all students. Encourage the sharing of multiple perspectives. Demonstrate and demand mutual respect. [UD 1; UDL 8]
- *Avoid stereotyping.* Offer instruction and support based on student performance and requests, not simply on assumptions that members of certain groups (e.g., students with certain types of disabilities or from a specific racial or ethnic group) will automatically do well or poorly or require certain types of assistance. [UD 1; UDL 7]
- *Be approachable and available.* Learn students’ names. Welcome questions in and outside of class, seek out a student’s point of view, and respond patiently. Maintain regular office hours, encourage students to meet with you, and offer alternatives when student schedules conflict with those hours; consider making a student-instructor meeting a course requirement. Be available for online communication as well. [UD 1, 5; UDL 8]
- *Motivate all students.* Use teaching methods and materials that are motivating and relevant to students with diverse characteristics, such as age, gender, and culture. [UD 1; UDL 7]
- *Address individual needs in an inclusive manner.* Both on the syllabus and in class, invite students to meet with you to discuss disability-related accommodations and other learning needs. Avoid segregating or stigmatizing any student by drawing undue attention to a difference (e.g., disability) or sharing private information (e.g., a specific student’s need for an accommodation) unless the student brings up the topic in front of others. Communicate effectively with teaching assistants (TAs) about student accommodations. [UD 1; UDL 6, 8]

### **Interaction**

Encourage regular and effective interactions between students and the instructor and ensure that communication methods are accessible to all participants.

- *Promote effective communication.* Employ interactive teaching techniques. Face the class, speak clearly, consider using a microphone, and make eye contact with students. Supplement in-person contact with online communication. Use straightforward language, avoid unnecessary jargon and complexity, and use student names in electronic, written, and in-person communications. [UD 1, 2, 4, 5; UDL 8]
- *Make interactions accessible to all participants.* For example, use a telephone conference only if all students can participate, given their abilities to hear, speak, and meet, and their schedule constraints. Also, require that small groups communicate in ways that are accessible to all group members. [UD 1, 2, 4; UDL 5]
- *Encourage cooperative learning.* Assign group work for which learners must support each other and employ different skills and roles. Encourage different ways for students to interact with each other (e.g., in-class discussion, group work, and Internet-based communications). Insist that all students participate; facilitate their participation as needed. [UD 1, 2, 4, 5; UDL 8]



## Physical Environments and Products

Ensure that facilities, activities, materials, and equipment are physically accessible to and usable by all students, and that all potential student characteristics are addressed in safety considerations.

- *Ensure physical access to facilities.* Use classrooms, labs, workspaces, and fieldwork sites that are accessible to individuals with a wide range of physical abilities. [UD 6, 7; UDL 1, 7]
- *Arrange instructional spaces to maximize inclusion and comfort.* Arrange seating to encourage participation, giving each student a clear line of sight to the instructor and visual aids and allowing room for wheelchairs, personal assistants, sign language interpreters, captionists, and assistive technology. Minimize distractions for students with a range of attention abilities (e.g., put small groups in quiet work areas). Encourage administrators to apply UD principles in facility design and renovation. [UD 2, 6, 7; UDL 1, 7]
- *Ensure that everyone can use equipment and materials.* Minimize nonessential physical effort and provide options for operation of equipment, handles, locks, cabinets, and drawers from different heights, with different physical abilities, with one hand, and by right- and left-handed students. Use large print to clearly label controls on lab equipment and other educational aids, using symbols as well as words. Provide straightforward, simple oral and printed directions for operation and use. [UD 3, 4, 6, 7; UDL 4]
- *Ensure safety.* Consider the impact of specific disabilities in emergency situations. Develop procedures for all potential students, including those who are blind, deaf, or wheelchair users. Label safety equipment in simple terms, in large print, and in a location viewable from a variety of angles. Provide written and oral safety instructions. [UD 3, 4, 6, 7]

## Delivery Methods

Use multiple, accessible instructional methods that are accessible to all learners.

- *Select flexible curriculum.* Choose textbooks and other curriculum materials that address the needs of students with diverse abilities, interests, learning styles, and preferences. Use curriculum materials that are well organized, emphasize important points, provide references for gaining background knowledge, include indices and glossaries, and have chapter outlines, study questions, and practice exercises. Consider technology-based materials that provide feedback, background information, vocabulary, and other supports based on student responses. [UD 2, 3, 4, 5; UDL 1, 2, 3, 7, 8]
- *Make content relevant.* Put learning in context. Incorporate multiple examples and perspectives to make specific concepts relevant to individuals with diverse characteristics such as age, ability, gender, ethnicity, race, socioeconomic status, and interests. [UD 1; UDL 3, 7]
- *Provide cognitive supports.* Summarize major points, give background and contextual information, and prompt students. Provide scaffolding tools (e.g., outlines, class notes, summaries, study guides, presentation visuals with room for note-taking) and other cognitive supports in both printed and text-based electronic formats. Provide options for gaining background information, vocabulary, and practice. [UD 2, 3, 4, 5; UDL 2, 3, 5, 6, 8]
- *Provide multiple ways to gain knowledge.* Use multiple modes to deliver content and, when possible, allow students to choose from multiple options for learning content. Options to consider include lectures, collaborative learning, small group discussions, hands-on activities, Internet-based resources, educational software, and fieldwork. [UD 2, 3, 4; UDL 1, 2, 3, 4]
- *Deliver instructions clearly and in multiple ways.* Provide instructions both orally and in printed form. Have students summarize instructions to ensure understanding. [UD 3, 4; UDL 1, 2, 3]
- *Make each teaching method accessible to all students.* Consider a wide range of abilities, interests, learning styles, and previous experiences when implementing each instructional method to ensure the participation of all students. For example, speak content presented visually. [UD 2, 4, 5; UDL 1, 5]



- *Use large visual and tactile aids.* Use manipulatives to demonstrate content. Make visual aids as large as reasonable (e.g., use large, bold fonts on uncluttered overhead displays and use a computer to enlarge microscope images). [UD 3, 4; UDL 1]

### Information Resources and Technology

Ensure that course materials, notes, and other information resources are engaging, flexible, and accessible for all students.

- *Select materials early.* Choose printed materials and prepare a syllabus early to allow students the option of beginning to read materials and work on assignments before the course begins. Allow adequate time to arrange for electronic and other alternative formats to be obtained. [UD 4; UDL 1]
- *Provide materials in accessible formats.* Select or create materials that are universally designed. Use textbooks that are available in an accessible electronic format with flexible features. Provide the syllabus and other teacher-created materials in a text-based electronic format. Use captioned videos and provide transcriptions for audio presentations. Apply accessibility standards to websites. [UD 4; UDL 1, 2]
- *Accommodate a variety of reading levels and language skills, when appropriate, given the goals of the course.* Present content in a logical, straightforward manner and in an order that reflects its importance. Avoid unnecessary jargon and complexity and define new terms when they are presented. Create materials in simple, intuitive formats. [UD 3, 4; UDL 2, 3]
- *Ensure the availability of appropriate assistive technology.* If computer or science labs are used, ensure that assistive technology for students with disabilities is available or can be readily acquired. [UD 2, 4, 6, 7; UDL 1, 4, 5]

For specific guidelines for online content, consult the video and publication *Real Connections: Making Distance Learning Accessible to Everyone*<sup>2</sup> and *Equal Access: Universal Design of Distance Learning*.<sup>1</sup>

### Feedback

Provide specific feedback on a regular basis.

- *Provide regular feedback and corrective opportunities.* Allow students to turn in parts of large projects for feedback before the final project is due. Give students resubmission options to correct errors in assignments or exams. Arrange for peer feedback when appropriate. Solicit feedback from students regarding course effectiveness. [UDL 6, 9]

### Assessment

Regularly assess student progress using multiple accessible methods and tools, and adjust instruction accordingly.

- *Set clear expectations.* Keep academic standards consistent for all students, including those who require accommodations. Provide a syllabus with clear statements of course expectations, assignment descriptions, and deadlines, as well as assessment methods and dates. Include a straightforward grading rubric. [UD 3; UDL 8]
- *Provide multiple ways to demonstrate knowledge.* Assess group and cooperative performance, as well as individual achievement. Consider using traditional tests with a variety of formats (e.g., multiple choice, essay, short answer), papers, group work, demonstrations, portfolios, and presentations as options for demonstrating knowledge. Provide students choices in assessment methods when appropriate. Allow students to use information technology to complete exams. [UD 2, 4; UDL 7]
- *Monitor and adjust.* Regularly assess students' background knowledge and current learning informally (e.g., through class discussion) and formally (e.g., through frequent, short exams), and adjust instructional content and methods accordingly. [UD 5]
- *Test in the same manner in which you teach.* Ensure that a test measures what students have learned and not their ability to adapt to a new format or style of presentation. [UD 3]
- *Minimize time constraints when appropriate.* Plan for variety in students' ability to complete work by announcing assignments well in advance of due dates. Allow extended time on tests and projects, unless speed is an essential outcome of instruction. [UD 2, 3]





## Accommodation

Plan for accommodations for students whose needs are not met by the instructional design.

— *Know how to arrange for accommodations.*

Know campus protocols for getting materials in alternate formats, rescheduling classroom locations, and arranging for other accommodations for students with disabilities. Make sure that assistive technology can be made available in a computer or science lab in a timely manner. Ensure the course experience is equivalent for students with accommodations. [UD 1, 2, 4, 6, 7]

## Checklist Updates and Resources

This checklist was applied by and field tested at more than twenty postsecondary institutions nationwide.<sup>6</sup> A nationwide survey to test face-validity of checklist items led to further refinement of the checklist.

## Additional Resources

A video presentation titled *Equal Access: Universal Design of Instruction*<sup>7</sup> is available online. To increase the usefulness of this working document, send suggestions to [sherylb@uw.edu](mailto:sherylb@uw.edu). For more information and resources regarding applications of UD to education, and checklists for making a tutoring and learning center or other student service accessible to students with disabilities, consult The Center for Universal Design in Education website.<sup>5</sup> The book *Universal Design in Higher Education: From Principles to Practice* published by Harvard Education Press; offers perspectives from UD leaders nationwide. To receive a 20% discount visit the DO-IT website.<sup>8</sup>

## Cited Resources

1. [http://www.uw.edu/doit/Brochures/Technology/equal\\_access\\_udl.html](http://www.uw.edu/doit/Brochures/Technology/equal_access_udl.html)
2. [http://www.uw.edu/doit/Video/real\\_con.html](http://www.uw.edu/doit/Video/real_con.html)
3. <http://www.cast.org/udl/>
4. [http://www.ncsu.edu/www/ncsu/design/sod5/cud/about\\_ud/udprinciples.htm](http://www.ncsu.edu/www/ncsu/design/sod5/cud/about_ud/udprinciples.htm)
5. <http://www.uw.edu/doit/CUDE/>
6. <http://www.uw.edu/doit/Brochures/Academics/admin.html>
7. [http://www.uw.edu/doit/Video/ea\\_udi.html](http://www.uw.edu/doit/Video/ea_udi.html)
8. <http://www.uw.edu/doit/UDHE/coupon.html>
9. <http://www.udlcenter.org/aboutudl/udlguidelines>

## About DO-IT

DO-IT (Disabilities, Opportunities, Internetworking, and Technology) serves to increase the successful participation of individuals with disabilities in challenging academic programs and careers, such as those in science, engineering, mathematics and technology. Primary funding for DO-IT is provided by the National Science Foundation, the State of Washington, and the U.S. Department of Education.

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## Communication Hints

Treat people with disabilities with the same respect and consideration with which you treat others. There are no strict rules when it comes to relating to people with disabilities. However, here are some helpful hints.

### General

- Ask a person with a disability if he or she needs help before providing assistance.
- Talk directly to the person with a disability, not through the person's companion or interpreter.
- Refer to a person's disability only if it is relevant to the conversation. If so, mention the person first and then the disability. "A man who is blind" is better than "a blind man" because it puts the person first.
- Avoid negative descriptions of a person's disability. For example, "a person who uses a wheelchair" is more appropriate than "a person *confined* to a wheelchair." A wheelchair is not confining—it's liberating!
- Do not interact with a person's guide dog or service dog unless you have received permission to do so.

### Blind or Low Vision

- Be descriptive. Say, "The computer is about three feet to your left," rather than "The computer is over there."
- Speak all of the content presented with overhead projections and other visuals.
- When guiding people with visual impairments, offer them your arm rather than grabbing or pushing them.

### Learning Disabilities

- Offer directions or instructions both orally and in writing. If asked, read instructions to individuals who have specific learning disabilities.

### Mobility Impairments

- Sit or otherwise position yourself at the approximate height of people sitting in wheelchairs when you interact.

### Speech Impairments

- Listen carefully. Repeat what you think you understand and then ask the person with a speech impairment to clarify or repeat the portion that you did not understand.

### Deaf or Hard of Hearing

- Face people with hearing impairments so they can see your lips. Avoid talking while chewing gum or eating.
- Speak clearly at a normal volume. Speak louder only if requested.
- Use paper and pencil if the person who is deaf does not read lips or if more accurate communication is needed.
- In groups raise hands to be recognized so the person who is deaf knows who is speaking. Repeat questions from audience members.
- When using an interpreter, speak directly to the person who is deaf; when an interpreter voices what a person who is deaf signs, look at the person who is deaf, not the interpreter.

### Psychiatric Impairments

- Provide information in clear, calm, respectful tones.
- Allow opportunities for addressing specific questions.