

# Universal Design

Overview from Center for Teaching Excellence, Cornell University

[www.cte.cornell.edu/teaching-ideas/designing-your-course/universal-design.html](http://www.cte.cornell.edu/teaching-ideas/designing-your-course/universal-design.html)

## What is universal design for learning (UDL)?

Universal Design for Learning (UDL) is a teaching approach that works to accommodate the needs and abilities of all learners and eliminate unnecessary hurdles in the learning process. This means developing a flexible learning environment in which information is presented in multiple ways, students engage in learning in a variety of ways, and students are provided options when demonstrating their learning.

Universal design for learning is similar to ‘universal instructional design’ or UID, and ‘universal design for instruction’ or UDI. All three advocate for accessible and inclusive instructional approaches that meet the needs and abilities of all learners.

There are three main principles of UDL:

1. Provide Options for Perception– Based on the premise that learners access information differently, this principle means providing flexible and multiple ways to present information. For example, using PowerPoint as a visual supplement to your lecture.
2. Provide Options for Expression– Since learners vary in their abilities to demonstrate their learning in different ways, this principle means providing flexible and multiple ways to allow students to express their knowledge or demonstrate their skills. For example, providing students an option of writing a final exam or submitting a final assignment.
3. Provide Options for Comprehension– Students are motivated to learn for different reasons and vary in the types of learning activities that keep them engaged. This third principle means providing multiple ways for engaging in course activities. For example, engaging students in both group work activities and individual work, as opposed to engaging students only in individual work.

Giving choices, however, does not mean changing expectations. For example, if your course [learning outcomes](#) includes being able to communicate in writing, it is not possible to offer students the option of demonstrating their learning through an oral presentation rather than through a written assignment.

## Why Universal Design for Learning?

- Incorporating universal design principles enhances an [inclusive learning environment](#).
- Designing a course to accommodate a wider variety of needs may eliminate potential learning barriers, or unnecessary learning obstacles. If a course can be designed at the onset to do this, then why not?
- Providing students with multiple means of perceiving, comprehending, and expressing their learning not only allows for students to engage with the material in a way that most benefits them, but also encourages students to engage with material in ways that would help them expand their competencies and improve in areas in which their skills are not as strong.

## How can you incorporate UDL in a course?

- If you have already designed a course, reflect on how it is going. What current course activities, methods of instruction, and assessments are working well? What is your [teaching style and what are your students' learning styles](#)? Ask yourself which students would likely do well in your class and which students might struggle. For example, students who learn by listening would do well in my lecture course, but students who need to interact with concepts in a hands-on manner might not.
- Reflect upon whether or not you could offer more flexibility or choices in the way you present content, the way students engage in learning in your course, and the way they are assessed.
- Have students choose from a selected bank of assignment topics, or allow students (at the beginning of the semester) to determine what percentage of their grade can be dependent on certain assessment options.
- Check in with your students to see how things are going. Conduct a [mid-semester evaluation](#), and/or [evaluate how productive your classroom climate is](#).
- As with any teaching strategy, reflect on how it went. Did it work for you? For your students? Were students able to attain the course learning outcomes? Make necessary adjustments for your next semester.

See more on [UDL principles and how they can be applied](#).

How accessible is your course?

Use this [course accessibility checklist](#).

### References

Burgstahler, S., & Cory, R. (2008). *Universal design in higher education: From principles to practice*. Cambridge, Mass: Harvard Education Press.

Rose, D.H., Harbour, W.A., Johnston, C.S., Daley, S. G., & Abarbanell, L. (2006). Universal design for learning in postsecondary education: Reflections on principles and their applications. *Journal of Postsecondary Education and Disability*, 19 (2), 135-151.

# CENTER FOR TEACHING EXCELLENCE

## Universal Design and Technology

Students come to class with diverse learning styles, abilities, motivations, and levels of background knowledge. Designing courses with strategies that accommodate a wide range of learners enhances an inclusive atmosphere and decreases unnecessary hurdles in the learning process. According to the principles of Universal Design for Learning (UDL), there are flexible and multiple ways instructors can: 1) represent material, 2) provide students opportunities to demonstrate knowledge, and 3) engage and motivate students (CAST, 2011). ***The techniques below are just a few strategies instructors have used to incorporate universal design principles in their courses using technology.***

### 1) Provide Options for Perceiving: Ways to Represent Information

- You can use presentation software to:
  - Present a visual representation of your lecture agenda, learning goals for the class, and/or an outline.
  - Provide visual organizational cues throughout the lecture.
  - Use visuals such as graphs, maps, cartoons, video and other multimedia to illustrate concepts when possible.
  - Distribute a skeletal outline of the lecture before class.
- You can use an online course management system, such as Blackboard, to:
  - Post course materials beyond those required, include a section with basic background information and a section with more advanced topics for those who want to go further.
  - Share links to relevant websites.
  - Provide FAQs section and add to it regularly.
  - Compile and share a list of key words (useful for newcomers to the field and non-native English speakers).
  - Have students post their lecture notes; this may result in more intentional note taking and students and lecturers get to see the variety of ways the lecture material was interpreted and re-organized.
- Wear an assisted listening device without being asked, or use a microphone in larger rooms.
- Record lectures with lecture recording software; share videos, or make them available upon request.
- Provide a syllabus digitally with hyperlinks to relevant websites.

### 2) Provide Options for Expressing Learning: Ways Students Can Demonstrate their Knowledge

- For class participation points, allow for more than just in-class discussions to count; create online discussions to accommodate students who need more time to think before responding or prefer to engage in course material through writing and reflection.
- Consider how technology can enable various forms of assessment; for example, in large classes, student presentations might not be feasible with class time constraints, but it is possible for students to record videos of group or individual presentations for submission.
- Other technologies such as e-portfolios, wikis, blogs, or even the creation of a website enable students to demonstrate skills, knowledge, applications, or reflection.
- Use rubrics for students to give and receive feedback; consider creating electronic fillable forms (e.g. pdfs, Google docs).
- Incorporate classroom response tools, such as clickers or mobile devices, to have students apply knowledge anonymously or as a group; instant results allow instructors to quickly assess student progress and provide prompt feedback to the group.
- Ask students to find and post online multimedia that relates to course content; have students evaluate each other's contributions.

### 3) Provide Options for Comprehending: Ways to Engage Students with Course Material

- Provide choices when possible; for example, allow students to choose between print or digital text books.
- Incorporate peer feedback by asking students to post responses on assignment drafts using blogs, for example.
- Support self-reflection and self-assessment through blogs or e-portfolios.
- Motivate students by using active learning techniques every so often in lectures. For example, ask students to work in pairs or small groups to find information online, or have students quickly respond in writing to a short video clip.

Universal Design for Learning (UDL) has some related concepts such as 'Universal Instructional Design' (UID), and 'Universal Design for Instruction' (UDI). All three advocate for accessible and inclusive instructional approaches that meet the needs and abilities of different learners.

**For further information on this resource and more, please contact the CTE at:**

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## Steps for Incorporating Universal Design

### 1. Reflect on what you're already doing

- Know the strengths and weaknesses of current activities, instructional methods, and materials (including readings)
- Consider your own strengths and preferences for teaching
- Think about the diversity of students in your classroom

### 2. What are the strengths/ weaknesses of the current curriculum?

- Who would struggle with it?
- Who would do really well with it?

### 3. Consider applying UD

- How can you offer more choices?
- What is essential about an assignment, and what can be changed?
- How could technology be used to enable more ways to accomplish the same learning goals?

### 4. Evaluate any changes

- How did it work for you?
- How did students respond?
- Did you address essential aspects of the course?

Adapted from Harbour, W. (2012). Universal Design. A presentation for Cornell University's Faculty Institute for Diversity.

#### References and Selected Resources:

CAST (2011). *Universal Design for Learning Guidelines version 2.0*. Wakefield, MA: Author. Retrieved from: <http://www.udlcenter.org/aboutudl/udlguidelines>

EnACT Ensuring access through collaboration and technology: partnerships, technology & dissemination (2012). Retrieved from: <http://enact.sonoma.edu/udl>

National Center on Universal Design for Learning (2012). Postsecondary education and UDL. Retrieved from: <http://www.udlcenter.org/implementation/postsecondary>

Rose, D. H., Harbour, W. S., Johnston, C., Daley, S. G., & Abarbanell, L. (2006). Universal design for learning in postsecondary education: Reflections on principles and their application. *Journal of Postsecondary Education And Disability*, 19(2), 135-151.

Rose, D. H. & Meyer, A. (2002). *Teaching every student in the digital age: Universal design for learning*. Baltimore, MD: Association for Supervision and Curriculum Development. Retrieved from: [cast.org/teachingeverystudent/ideas/tes/](http://cast.org/teachingeverystudent/ideas/tes/)

#### Notes and Ideas for My Course:

For more information on course technologies, please contact Academic Technologies at [atc\\_support@cornell.edu](mailto:atc_support@cornell.edu) or (607)255-9760.

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