

What is Universal Design for Learning?

With excerpts from the [ACCESS UDL Video](http://accessproject.colostate.edu/video/) (<http://accessproject.colostate.edu/video/>)



Improving academic achievement and retention— these are among the top goals of today’s university faculty and administration. At Colorado State University, we welcome diversity in all its forms, including students with different life experiences, language backgrounds, learning styles, abilities, and disabilities. But how can we reach and engage this increasingly diverse population of students?

Part of the answer may be found in a new model of best practice for teaching and learning called **Universal Design for Learning** or “UDL.” UDL is a set of principles and techniques for use in the classroom and the design of accessible instructional materials. At its core is the assertion that when instructors increase the number of learning options for students, everyone benefits.



“What is Universal Design for Learning? In many respects, it’s just good teaching!”

– Pat Burns, Vice President for Information and Instructional Technology
and Professor of Mechanical Engineering

3 Principles of UDL

Universal Design for Learning is about providing multiple means of:

- ▶ **Presentation** — to offer learners various ways of acquiring information and knowledge.
- ▶ **Expression** — to provide students alternatives for demonstrating what they know.
- ▶ **Engagement** — to tap into students’ interests, challenge them appropriately, and motivate them to learn.

– Center for Applied Special Technology (CAST)

Multiple methods of presentation: Presenting information and ideas in multiple ways is an essential part of good teaching. This principle of UDL addresses diverse learning styles and provides multiple opportunities for students to grasp key concepts. Apply this principle by breaking up long lectures and reading assignments into activities that engage students in listening, watching, reflecting, and doing. Offer documents in multiple electronic formats (HTML, RTF, PDF, etc.), and check materials for compliance with accessibility standards and guidelines (see the ACCESS Project Tech Modules for more information).



“The thing I like about UDL is that it maximizes student learning by increasing the numbers of ways that students get to see information, and I think that more students can be reached when you use many alternatives to traditional lecture...”

– Dr. Erica Suchman, Assoc. Professor of Microbiology,
Immunology and Pathology



“I try to plan ahead and ask myself, how do I break this class into sections? I can give some information, I want to practice some information, I want to draw something, I want to see a visual cue, I want somebody to stand up and teach somebody else, I want them to draw a picture of what we’ve just covered. It’s about me planning ahead... to accommodate the different ways people learn, because if I only teach the way that I learn, I’m going to miss too many people.”

– Dr. Richard Feller, Professor of Education

Multiple modes of expression: The second principle of UDL is that students should be given multiple ways to express their comprehension and mastery of a topic. Consider accepting student projects in alternative formats, including oral presentations, videos, newspaper articles, photo essays, radio documentaries, community research, and web publications. Instructional technologies offer new methods of communication and increased opportunities for students to demonstrate their knowledge and skills.

“So much of our learning is recall—I give it to you, you give it back to me—but it’s not very deep. That’s why I’ve got to find ways for students to present it or build a project around it or perform it in some way, because then it’s a much deeper learning. I know students have worn it and it’s going to stay with them much longer...”

– Dr. Richard Feller

“Students like the fact that there are opportunities to show what they know outside of traditional examinations—that they can participate through the clickers, that they can do group examinations, that they can do problem solving, and that they can show their knowledge in alternative ways.”

– Dr. Erica Suchman

Multiple opportunities for engagement: Getting students excited about learning by providing multiple opportunities for engagement is the third, and perhaps most powerful, UDL principle. Begin by focusing your course objectives on *essential* knowledge and skills. As you teach, clarify the importance of each topic, and express your own enthusiasm for it. Put students in an *active* learning role. Provide prompt and informative feedback. Explain to students how the concepts you present are relevant to their careers and meaningful to society.

“When professors are excited about the material, it just kind of spreads to the students, and they get excited about it—especially when the professor shows how the material applies to real world situations.”

–Angela Squires, Graduate Student, Civil Engineering.



Course Materials

Given the ever-increasing role of electronic media in education, creating accessible course materials is an essential part of reaching and engaging students. “Universally designed” course materials are documents saved in multiple electronic formats (e.g., Word, RTF, PDF, HTML) and formatted to enhance their usability by the largest possible audience. The development of accessible web pages is particularly important.



“One thing that would make a huge difference at CSU is to take more care in the way we develop our web pages. By adhering to well-established guidelines for accessibility, our web content becomes easier for everyone to access. Information can be easily translated into a variety of formats. Students with disabilities benefit, and so do users of older technologies and those using the latest portable devices!”

– Marla Roll, Director, Assistive Technology Resource Center

Things you can do to make your publications more accessible

- Organize text into logical units, such as headings, lists, tables, and body text. In Microsoft Word, use “Styles” and Outline view. In HTML, use tags such as <h1>, , <table>, and <p>. The <div> tag is especially useful for grouping information.
- Add descriptive text to all images. In Word, right-click on the image and choose Format Picture, then click on the “Web” tab. This information will transfer to other formats like HTML and PDF. In HTML, add the “alt” attribute to the tag. Graphics that are purely decorative and convey no information should be assigned a null or “empty” alt attribute.
- Web pages: Use cascading style sheets (CSS) to control the appearance of all page elements.
- Web pages: Specify font sizes in your cascading style sheets using relative units like “ems” or percentages, not pixels or points. You can also specify font size using keywords like small, medium, and large.
- Web pages: Run a quick check to validate your HTML and CSS code. Having standards-compliant code means that more users will be able to access to the content of your site. Simply enter the URL of the page you wish to check at the following sites:
 - To check HTML: <http://validator.w3.org/>
 - To check CSS: <http://jigsaw.w3.org/css-validator/>
 - To check web accessibility: <http://wave.webaim.org/>
- HTML and Word: Create hyperlinks that describe where they will take the user. A link should make sense when read out of context.
- HTML and Word: Keep page layout and navigation simple and consistent.
- HTML and Word: Make sure your content can be understood when viewed or printed in black and white.

For more tips and tutorials, visit the ACCESS Project website (<http://accessproject.colostate.edu/>), where you will find tips and tutorials about universally designed web pages, Word documents, PowerPoint presentations, PDF files, and more. Another excellent resource is CSU’s Web Central (<http://webdev.colostate.edu/>), a key resource for web developers.

Student Resources

The inclusive pedagogy of UDL is designed to benefit all students, including those with disabilities. While UDL may reduce the frequency of requests for special accommodations, the University recognizes that additional assistance may be required. Several offices provide specialized resources to students and faculty, including:



- ▶ [Academic Advancement Center](#) (AAC)
- ▶ [Center for Advising and Student Achievement](#) (CASA)
- ▶ [Learning Assistance Center](#) (LAC)
- ▶ [Office of Resources for Disabled Students](#) (RDS)
- ▶ [Assistive Technology Resource Center](#) (ATRC)
- ▶ [Center for Community Partnerships](#) (CCP)

These offices assist students with sign language interpretation, assistive computer technology, conversion of textbooks to alternative formats, coaching and study skills, screening and diagnostic services, self-advocacy skills, and more.

Summary

What do all UDL practices have in common?

- ▶ They reach and engage the maximum number of learners.
- ▶ They recognize that students possess different skills, experiences, and learning styles.
- ▶ They emphasize flexible and customizable curricula.
- ▶ They use multiple modes of presenting content, engaging students, and assessing comprehension.

More information about Universal Design for Learning, creating accessible course materials, student self-advocacy, and resources for faculty and students at Colorado State University can be found at the ACCESS Project website: <http://accessproject.colostate.edu/>.