**New UDL Guidelines, Categories and Strategies for Higher Education**

CAST 3.0 Guidelines: <https://udlguidelines.cast.org/>

The following is a breakdown of the opportunities that may enhance student learning with each UDL principle. Specific strategies are not unique to a certain modality. Most can be adapted to suit a different modality. You can use the last column to note ideas you want to use in your courses.

**Multiple Means of Engagement**

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| **Strategies for Higher Education** | **Face-to-Face Examples** | **Online Examples** | **Blended and Hybrid Examples** | **Your Examples**  |
| Variety in teaching and learning activities  | Incorporate discussions and small group activities into lecture classesCase studies with discussion, online or in class. Interactive lectures with real-world examples and visual models. | Online whiteboards for brainstorming.Discussion board for sustained discussions. Provide transcripts and captions for all videos and audio content. | [Flipped classroom activities](https://taylorinstitute.ucalgary.ca/resources/flipping-to-enhance-student-engagement)Combine live demonstrations with recorded tutorials.Embed example exam questions in lecture notes  |  |
| Incorporate student choice | Student presentations on choice of topic  | Self-select discussion groups based on interest Consider whether offering flexibility around the [type of assessments](https://taylorinstitute.ucalgary.ca/resources/tribal-method-of-assessment-cmcl) is appropriate for your course | Student choice of attending in person or online in hybrid classes |  |
| Develop student autonomy  | Student presentations on choice of topic Incorporate student goal setting | Use checklists for students to monitor their progress | Incorporate [metacognitive activities](https://taylorinstitute.ucalgary.ca/resources/metacognition-teaching-and-learning-activities) in the course.  |  |
| Incorporate learning technologies  | [Videos](https://elearn.ucalgary.ca/category/yuja/getting-started-yuja/)[Polling software](https://elearn.ucalgary.ca/category/top-hat/) | SimulationsVirtual field tripsUse technologies that allow participants to write, use speech, videos, or draw to contribute to the conversation.  | [Student response systems](https://elearn.ucalgary.ca/category/top-hat/)Use technologies that engage students in multiple locations such as Padlet.  |  |
| Incorporate interaction with others  | Group projects Study groups | Incorporate [jigsaws and world cafes](https://taylorinstitute.ucalgary.ca/resources/collaborative-activities-for-online-learning)Breakout groups in synchronous sessionsForm groups of about 6 students in large courses so that they get to know a few people well | Problem-based learningCase studies |  |
| Student self-regulation and motivation  | Incorporate [assessment literacy](https://taylorinstitute.ucalgary.ca/resources/metacognition-teaching-and-learning-activities) Rubrics given at the beginning of an assignment to prompt self-evaluation | Integrate [metacognition into graded assignments](https://taylorinstitute.ucalgary.ca/resources/metacognition-teaching-and-learning-activities) Checklists for students to track their own progress | [Online quizzes for self-assessment of learning](https://elearn.ucalgary.ca/category/d2l/quizzes-surveys/quizzes/)Use [exam debriefs](https://taylorinstitute.ucalgary.ca/resources/metacognition-teaching-and-learning-activities) |  |
| Create a [positive learning environment](https://taylorinstitute.ucalgary.ca/resources/strategies-for-promoting-positive-learning-environments) | Model [compassion and communication](https://taylorinstitute.ucalgary.ca/resources/strategies-for-promoting-positive-learning-environments) Evaluate the output of generative [artificial intelligence](https://taylorinstitute.ucalgary.ca/resource-library/using-ai-accessibility-and-inclusion) for biases | Encourage [participation in Zoom](https://taylorinstitute.ucalgary.ca/resources/setting-up-positive-learning-environments-in-zoom) [Keep students on pace](https://taylorinstitute.ucalgary.ca/resources/keeping-students-on-track-online-courses) with the course using a variety of tools, such as the LMS calendar, checklists, and weekly emails with important dates and deadlines.  | Connect [remote and face-to-face students](https://taylorinstitute.ucalgary.ca/resources/connecting-remote-and-face-to-face-students) Cultivate [equity, diversity and inclusion](https://taylorinstitute.ucalgary.ca/resources/strategies-for-promoting-positive-learning-environments)  |  |
| Incorporate inclusivity, diversity and multiple perspectives | Incorporate multiple perspectives through activities such as discussions about case studies  Design courses for [inclusivity](https://taylorinstitute.ucalgary.ca/resources/innovative-approaches-to-course-design) | Use learning technologies to present content in different ways, such as a [digital welcome note](https://taylorinstitute.ucalgary.ca/resource/using-digital-welcome-note-to-promote-inclusive-learning-experiences)  [Diversify course content](https://taylorinstitute.ucalgary.ca/resources/diversifying-course-content-EDI-perspective) through multiple sources and authors  | Create [inclusive course outlines](https://taylorinstitute.ucalgary.ca/resources/creating-inclusive-course-outlines). Learn about [anti-racism, EDI, and positionality](https://taylorinstitute.ucalgary.ca/resources/module/anti-racism-edi-positionality) in teaching and learning.   |  |
| Cultivate empathy and restorative practices | Use a [circle practice](https://www.edutopia.org/article/using-circle-practice-classroom/) for the learning community to check in with one another  | Encourage students to have an [accountability partner](https://www.facultyfocus.com/articles/equality-inclusion-and-diversity/assigning-accountability-partners-to-support-student-engagement-learning-and-growth/) to share responsibility within the learning community  Practice a [pedagogy of kindness](https://taylorinstitute.ucalgary.ca/resources/podcast/3qtl#cate-denial)   | Examine your teaching practices for [ableism and disabling learning environments](https://taylorinstitute.ucalgary.ca/resources/disabling-learning-environments-challenging-ableism-in-your-teaching-practices)   |  |

**Multiple Means of Representation**

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| **Strategies for Higher Education** | **Face-to-Face Examples** | **Online Examples** | **Blended and Hybrid Examples**  | **Your Examples**  |
| Use technology to customize the display of information and boost accessibility | Document cameras to displace text and visuals.Digital annotation tools for reading assignments. Pre-class readings with in-class discussions using multimedia. | Create [accessible course content](https://taylorinstitute.ucalgary.ca/resources/accessible-course-content) [Accessibility tools in Brightspace](https://elearn.ucalgary.ca/accessibility-and-universal-design-for-learning-udl/) (D2L)Use Open Education Resources (OERs)   | [Recorded lectures with interactive quizzes for review.](https://elearn.ucalgary.ca/category/yuja/getting-started-yuja/)Screen reader friendly documents and alt text for images.Put a copy of the course text on reserve in the library, and order a digital version for the library if possible  |  |
| Incorporate multimodal sources of information | Record class presentations | Use [alt text](https://accessibility.huit.harvard.edu/describe-content-images) for imagesUse models, graphics, frameworks, charts and graphs, in addition to text  | Include text to speech for videos |  |
| Incorporate multiple perspectives and pedagogical approaches | Some tried and true [in-class activities](https://taylorinstitute.ucalgary.ca/resources/teaching-in-the-classroom-activities-without-technology) require no technology, only active engagement, such as a fishbowl, mind dump, and think break.    | [Encourage participation](https://taylorinstitute.ucalgary.ca/resources/setting-up-positive-learning-environments-in-zoom) in online synchronous classes using Zoom using activities such as [think-pair-share](https://taylorinstitute.ucalgary.ca/resources/setting-up-positive-learning-environments-in-zoom).   [Collaborative activities](https://taylorinstitute.ucalgary.ca/resources/strategies-for-facilitating-collaborative-activities) are possible in any modality. | Use different pedagogical approaches to topics or concepts, such as logic, statistics, narrative, case studies, multiple perspectives, group work, and testimonials  |  |
| Connect prior knowledge to new learning | Use learning outcomes. Review past outcomes and point out how they build up to current ones.  | Use the whiteboard in Zoom to model a [think-aloud protocol, diagramming, and graphic organizers](https://taylorinstitute.ucalgary.ca/resources/metacognition-teaching-and-learning-activities) | Have students keep a [learning journal.](https://taylorinstitute.ucalgary.ca/resources/metacognition-teaching-and-learning-activities) Encourage them to consider how the current unit connects to previous ones as well as prior courses.  |  |
| Highlight and explore patterns, critical features, big ideas and relationships | Highlight patterns and themes between ideas, and have students create a concept map   | Use outlines and graphic organizers (College of William & Mary School of Education, 2014) | Review key concepts at the beginning of a lecture (La et al., 2018)  |  |
| Cultivate multiple ways of knowing and making meaning | Consider [Indigenous Ways of Knowing in course design](https://taylorinstitute.ucalgary.ca/resources/indigenous-ways-of-knowing-course-design) | Students create their own glossary of terms throughout the course  | Incorporate student-created materials such as a graphic organizer or Padlet notes |  |

**Multiple Means of Action and Expression**

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| **Strategies for Higher Education** | **Face-to-Face Examples** | **Online Examples** | **Blended and Hybrid Examples**  | **Your Examples**  |
| Incorporate variety in exam questions and in assessment methods | Variety of question types on exams: multiple choice, matching, short answer, fill in the blank, equations, label a diagram [Different methods of demonstrating skills](https://taylorinstitute.ucalgary.ca/resources/alternative-online-assessments), such as simulations, role play, debate, discussions, reflection papers  | Assessments that ask students to demonstrate various ways of understanding: written answer, [problem solving](https://taylorinstitute.ucalgary.ca/resources/effective-exams-in-geology), apply concepts and theories, factual recall, case study, and so on [Authentic assessment](https://taylorinstitute.ucalgary.ca/resources/module/critical-reflection/assessment): Provide opportunities to develop skills in real or simulated settings  | Allow students to present ideas through oral, written, or visual formats.Provide options for in-class presentations or recorded submissions. |  |
| Scaffold learning with opportunities for feedback | Use in-class polling activities  Incorporate [peer feedback, and in-class activities and exercises.](https://taylorinstitute.ucalgary.ca/resources/formative-assessment-large-and-small-classes) | [Formative feedback](https://teachingcommons.stanford.edu/teaching-guides/foundations-course-design/feedback-and-assessment/formative-assessment-and-feedback) helps students to gauge whether they are on track with their learning in a course, and where they may need to devote more time with their learning efforts. The discussion board can be used for peer feedback. [Mid-course feedback and goal-setting activities.](https://taylorinstitute.ucalgary.ca/resources/mid-semester-feedback) | Question and answer review sessions Do critiques of sample assignments.  |  |
| Enhance capacity for monitoring progress | Embed sample exam questions in lecture notes  Use [reflective learning logs](https://taylorinstitute.ucalgary.ca/news/promoting-reflection-and-resilience-through-course-design) in a course | Provide [opportunities for students to practice](https://taylorinstitute.ucalgary.ca/resources/module/test-anxiety) tests and/or test questions Incorporate [process analysis](https://taylorinstitute.ucalgary.ca/resources/metacognition-teaching-and-learning-activities) reflections into projects and papers.  | Have students practice their [summarization techniques.](https://taylorinstitute.ucalgary.ca/resources/metacognition-teaching-and-learning-activities) Incorporate a [post/pre evaluation](https://taylorinstitute.ucalgary.ca/news/promoting-reflection-and-resilience-through-course-design) into an activity or assignment |  |
| Build assessment literacy | Demonstrate an [Ethics of Care](https://taylorinstitute.ucalgary.ca/resources/reflecting-on-well-being-assessment-practices-using-ethics-of-care-lens) perspective by having class discussions about the assessments, and promoting assessment literacy – for example, by talking about strategies to write a multiple-choice exam.   | Do a [think-pair-share activity](https://taylorinstitute.ucalgary.ca/resources/setting-up-positive-learning-environments-in-zoom) when introducing a new project or assignment. Students discuss the project including what the learning outcomes are, what is expected of them, and what questions they still have.  | Conduct an [exam debrief](https://taylorinstitute.ucalgary.ca/resources/metacognition-teaching-and-learning-activities)Offer an extra mark to students who do a reflection response after an exam. [Sample reflection questions](https://taylorinstitute.ucalgary.ca/resources/metacognition-teaching-and-learning-activities) can be used to guide their reflections.  |  |
| Mitigate assessment anxiety | Explore [opportunities for students to practice](https://taylorinstitute.ucalgary.ca/resources/module/test-anxiety) tests and/or test questions [Low-stakes assessments](https://taylorinstitute.ucalgary.ca/resources/low-stakes-assessment), such as short quizzes, given at the beginning of the term, so that students can get a sense for the expectations in the course   | Use sample quizzes in the learning management system for practice and rapid feedback Outline your expectations using assignment guidelines  | Show sample assignments with feedback and how they were graded (if appropriate) Incorporate [s](https://taylorinstitute.ucalgary.ca/resources/scaffolded-writing-assignments-sociology)caffolded assignments, where a project or paper is broken into steps with a grade and feedback at each step  |  |

**References:**

CAST. (2024). *The UDL guidelines.* <https://udlguidelines.cast.org/>

Center for Teaching Innovation. (2024). *Metacognitive strategies (How people learn).* Cornell University, <https://teaching.cornell.edu/teaching-resources/teaching-cornell-guide/teaching-strategies/metacognitive-strategies-how-people>

College of William & Mary School of Education. (2014). *Graphic organizers: Guiding principles and effective practices considerations packet.* College of William & Mary in Williamsburg. https://education.wm.edu>centers>ttac>documents>packets>graphicorganizers

Martino, A. S. (2024). Episode 3: Can we think differently about time? <https://taylorinstitute.ucalgary.ca/resources/podcast/3qtl#alan-martino>

University of Tennessee Chattanooga. (2016). *Classroom assessment strategies.* Retrieved from <http://www.utc.edu/walker-center-teaching-learning/teaching-resources/classroom-assessment-strategies.php#self-awareness>