GUIDE TO **UNIVERSAL DESIGN FOR LEARNING** IN

PUBLIC SERVICE & SAFETY

Shaping, Serving, and Protecting Our Communities

CTE TECHNICAL ASSISTANCE CENTER OF NY

ABOUT THIS GUIDE

Universal Design for Learning (UDL) is a framework for designing learning experiences that are inclusive, accessible, and engaging for all students. UDL is not a checklist of required practices, but a mindset of continuous improvement. By increasing flexibility and options, UDL helps teachers proactively remove barriers, meet students where they are, and provide everyone with an equal opportunity to learn.

This document is part of a series that illustrates how UDL principles can be applied in each of Advance CTE's 14 career clusters. The series extends and tailors the tips provided in two prior publications, Supporting All Students in New York State CTE Programs [PDF] and Supporting Special Populations in New York State CTE Programs [PDF], available on the CTE TAC's website.

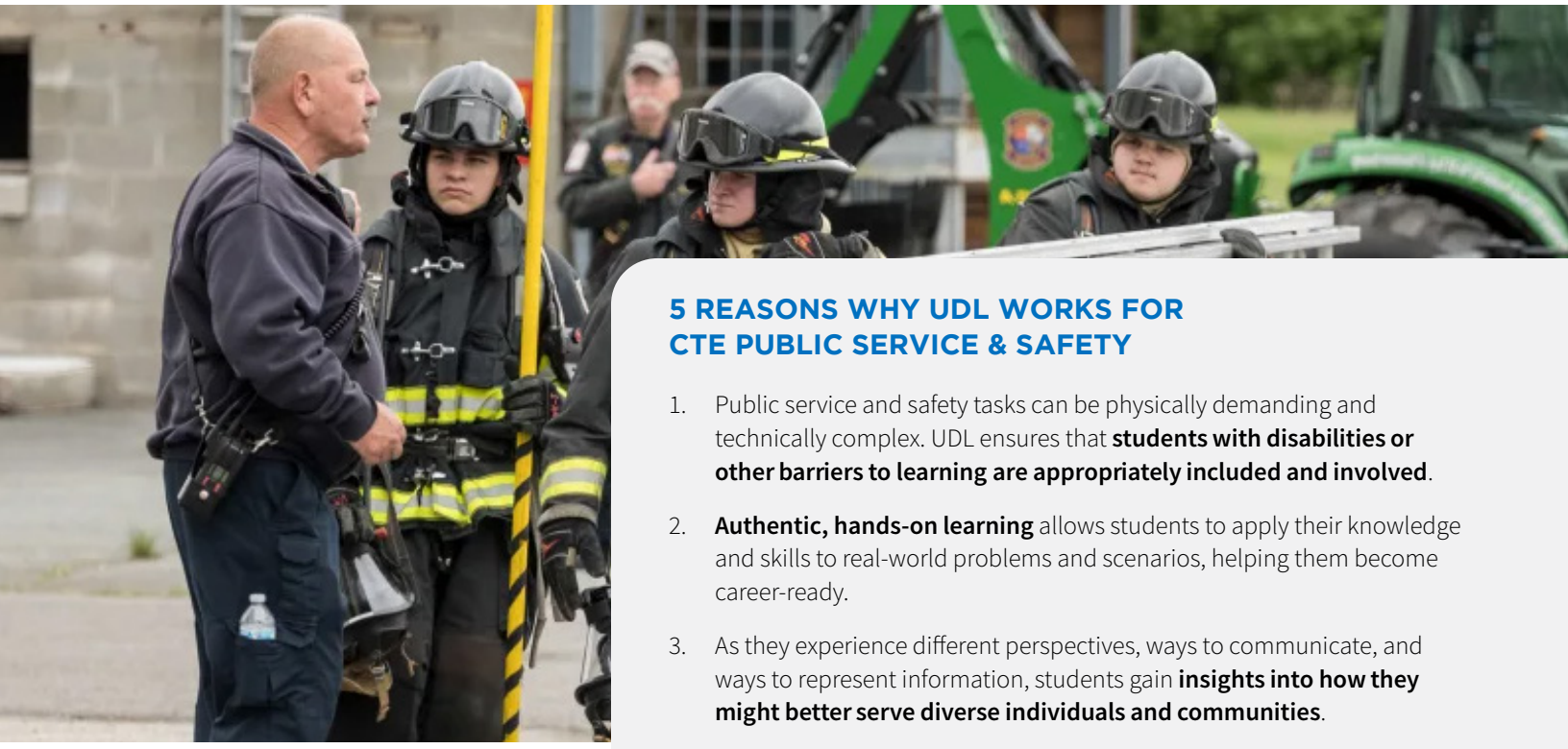

Photo: OU BOCES

With its emphasis on relevant, authentic, hands-on learning, UDL is a natural fit for CTE classrooms!

5 REASONS WHY UDL WORKS FOR CTE PUBLIC SERVICE & SAFETY

1. Public service and safety tasks can be physically demanding and technically complex. UDL ensures that **students with disabilities or other barriers to learning are appropriately included and involved**.
2. **Authentic, hands-on learning** allows students to apply their knowledge and skills to real-world problems and scenarios, helping them become career-ready.
3. As they experience different perspectives, ways to communicate, and ways to represent information, students gain **insights into how they might better serve diverse individuals and communities**.
4. With attention to the emotional components of learning, UDL nurtures the **empathy, communication, and interpersonal skills** required in safety and public service.
5. UDL **encourages students to think critically and creatively**, skills essential for responding to fast-paced, unpredictable, and high-pressure situations.

QUICK REFERENCE GUIDE TO UDL FOR CTE

Universal Design is the process of creating objects, environments, and experiences that can be accessed, understood, and used to the greatest extent possible by people with a wide range of abilities, needs, and characteristics. Universal Design for Learning (UDL) applies the concept of Universal Design to learning contexts.

UNIVERSAL: UDL is a framework for **creating learning experiences that work for *everyone***. Proactively identifying and removing barriers to learning creates a more inclusive environment where all students have equitable opportunities to learn.

DESIGN: There is no one approach to learning that is optimal for every student in every situation. The UDL principles guide teachers to **plan for learner variability by offering flexibility and options**.

FOR LEARNING: Rather than a one-size-fits-all approach, **UDL empowers students to tailor the learning experience** for their individual needs, goals, and preferences. By discovering how they learn best, students develop into self-directed, resourceful, and skillful learners.

THE UDL PRINCIPLES*

	ENGAGEMENT	REPRESENTATION	ACTION & EXPRESSION
What is it?	The **WHY** of learning	The **WHAT** of learning	The **HOW** of learning
Why is it important?	Students differ in **what interests them** and **what motivates them to learn**.	Students differ in how they **perceive and make meaning from information**.	Students differ in how they **navigate learning environments and express what they know**.
What does it look like in practice?	Students engage in authentic, hands-on learning. Learning is relevant to students' identities, personal interests, and career goals. Students collaborate, co-create, and build community with peers. Students feel safe, included, and welcome. Fun and creativity are encouraged.	Course materials are accessible for all learners. Multiple media are used to present information. Language and symbols are clarified and decoded. The curriculum and course materials represent diverse individuals and perspectives. Learning is structured to help students build knowledge.	Learning activities and assessments are accessible for all learners. Students are guided to organize information, manage time, set goals, and plan their learning. Students communicate and express themselves in different ways. Students participate in class activities and demonstrate their learning in different ways.

** Abridged and adapted from the CAST UDL Guidelines.*

SAMPLE LESSON

Let's look at a sample lesson to see how the general principles described on page 2 can be applied in a CTE classroom.

Examples abridged and adapted from the lesson "Physical Evidence Can't Lie: Collecting Evidence at the Scene of a Traffic Collision" by Shad Canestrino: https://ctetac.us/publicservicelesson

Key to abbreviations:
R = Representation, **A = Action & Expression**, **E = Engagement**

Photo: GST BOCES

ELEMENT	WHY DOES IT WORK?	GO FURTHER WITH UDL
Learning goals Students will be able to determine and measure Areas of Impact and complete a traffic collision sketch.	Allows teachers to envision multiple ways students can achieve and demonstrate learning **(A)**.	Share the learning objectives for each lesson with students to **set expectations and short-term goals (A)**. Identify the academic, Common Career Technical Core, and cluster-specific industry standards to **illustrate the lesson's relevance** to students' career goals **(E)**.
"Bell-ringer" activity Watch a slow-motion video of a vehicle collision and discuss observations.	Focuses attention and sparks curiosity **(E)**. Authentic examples are relevant to jobs and careers **(E)**.	Turn on closed captions or provide a video transcript as an **alternative format (R)**. Preview discussion questions in **multiple formats (R)** (verbally and in writing) to **direct attention (E)** and **support planning (A)**. As an **alternative to oral participation**, invite students to share responses using a written "entry ticket," collaborative document, or interactive tool **(A)**.
Handout Glossary of lesson-specific terms	Supports comprehension and provides essential background knowledge **(R)**. Proactively addresses language barriers **(R)**.	Play a vocabulary game to **assess students' prior knowledge (R)** and **make learning fun (E)**. **Support review and long-term recall** (e.g., student-created flashcards) **(A)**.

ELEMENT	WHY DOES IT WORK?	GO FURTHER WITH UDL
Lecture "Traffic Collision Investigation — Processing the Scene"	Ensures all students have prerequisite background knowledge **(R)**. Previews steps students will perform during activities **(A)**.	Pause to **check for comprehension (R)**. Share digital copies of slides so students can **preview or review the content (A)** and **customize the display of information (R)**. Integrate visuals and video clips into the presentation to **illustrate using multiple media (R)**. **Promote active learning** by guiding students to glean information from resources or research as an alternative or supplement to the lecture **(E)**.
Demonstration Bosch CDR interface tool	Pace and delivery of information can be adjusted or adapted for student needs (e.g., pause, repeat, slow down) **(R)**.	Show the overview video AND perform the live demonstration to **present information in multiple formats (R)**. Provide written step-by-step instructions to **supplement verbal explanations (R)**. Allow students to **try connecting and using the CDR tool themselves (A)**.
Skills practice Students measure the location of their desk in the classroom and draw a simple sketch of the classroom including their desk location.	Beginning with familiar examples supports comprehension, transfer, and generalization **(R)**. Sample sketch provides a visual model **(R)**. Scaffolds the upcoming hands-on activity **(A)**.	Conduct a short exercise using a compass and Rolatape to **ensure all students have prerequisite skills (R)**. Invite students to use digital design tools as **an alternative to sketching by hand (A)**. Permit students the **choice of working individually or in groups (E)**.
Hands-on activity Students measure and sketch a simulated collision scene.	Helps students connect concepts to practice **(A)**. Relevant, authentic learning promotes career readiness **(E)**.	Crowdsource/compare measurements as a class to **support collaboration** and **minimize risks** by ensuring all students have accurate data to sketch **(E)**. Offer written instructions as a **reference/ memory aid (A)** and **alternative format to verbal instructions (R)**.
Closure Summative assessment quiz	Ensures students understand the "big picture" **(R)**. Scenario-based questions assess learning authentically **(A)**. Prepares students to transition to their next class or activity **(A)**.	Analyze results to **identify learning gaps (R)**. Assign the quiz as homework to **extend processing time (A)** and **reduce test anxiety (E)**. **Make the quiz fun** by converting it into a poll, game, or collaborative activity **(E)**.

TRY-IT ACTIVITY 1

Apply the framework above to one of the extension activities suggested in the lesson plan or another activity of your choice. Identify examples of UDL principle(s) and/or practices the activity addresses and propose two or three ways you could adapt the activity to go even further with UDL. Refer to the **UDL Principles** in the **Quick Reference Guide** on *page 2* for ideas.

EXTENSION ACTIVITY (CHOOSE 1)	UDL PRINCIPLES/PRACTICES ADDRESSED	WAYS TO GO FURTHER WITH UDL
Guest speaker Peer or self-evaluation activity Research project on other uses for sketches and measurement in public safety Create a job aid or how-to video on measuring and sketching a collision scene Other:		

TRY-IT ACTIVITY 2

How could you make the lesson and/or extension activity more meaningful for the students in *your* CTE Public Service & Safety course by:

Tip: Refer to the table on page 6 for information on student demographics and special populations within CTE and CTE Public Service & Safety in New York State.

Ensuring students see images and examples of people like themselves working in public service and safety?

Addressing specific barriers they might encounter (e.g., disabilities, access to resources, language skills)?

Making the lesson or activity more relevant to their identities, interests, local context, and/or career goals?

WHO ARE OUR STUDENTS IN CTE PUBLIC SERVICE & SAFETY?

POPULATION	All U.S. CTE	All NYS CTE	NYS CTE LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY
Female	46.7%	42.6%	**49.1%**
Nonbinary	*no data*	0.1%	***no data***
Students of Color	51.0%	59.0%	**33.4%**
American Indian or Alaskan Native	*0.9%*	*0.8%*	***0.7%***
Asian	*4.6%*	*12.3%*	***1.0%***
Black or African American	*13.1%*	*13.9%*	***8.0%***
Hispanic/Latino	*28.0%*	*29.4%*	***21.4%***
Native Hawaiian or Other Pacific Islander	*0.4%*	*0.3%*	***0.1%***
Two or More Races	*4.0%*	*2.3%*	***2.1%***
Individuals from Economically Disadvantaged Families	45.3%	59.7%	**50.7%**
Individuals Preparing for Nontraditional Fields	24.3%	18.0%	**45.1%**
Individuals With Disabilities (ESEA/IDEA)	10.7%	18.6%	**20.4%**
Homeless Individuals	1.4%	3.5%	**2.1%**
English Learners	5.4%	3.5%	**2.3%**
Youth in Foster Care	0.2%	0.2%	**0.5%**
Youth With Parent in Active Military	1.0%	0.3%	**0.3%**
Migrant Students	0.3%	0.02%	**0.1%**

Sources: PCRN National Enrollment Profile, 2021-22; NYSED Enrollment Data, Secondary CTE Concentrators, 2022-23

GUIDED APPLICATION
GETTING STARTED WITH UDL IN CTE

Implementing UDL doesn't require special pedagogy or training. In fact, you're probably using UDL principles in your teaching without even knowing it! Here are a few ways you can build upon the good teaching you already do.

Complete a printed worksheet by hand or populate a digital copy to share with your principal, consultant teachers, or others who can support your UDL journey. If you share the sheet, don't forget to fill in your information below!

My name:

My CTE program(s) or course(s):

STRATEGY 1: IDENTIFY OPPORTUNITIES

For ***each*** of the three UDL principles, list one or two examples of strategies you're not currently using in your teaching, but you'd like to learn about or try. Indicate any resources, information, or support you need in order to be successful.

Refer to the **UDL Principles** in the **Quick Reference Guide** on page 2 for ideas.

ENGAGEMENT	REPRESENTATION	ACTION & EXPRESSION
[Example: I want to use polls or games to introduce lessons]	*[Example: I want to learn how to enable auto-captions in Google Slides]*	*[Example: I want to create graphic organizers to help students take notes]*
Resources required:	**Resources required:**	**Resources required:**

Remember that UDL is not a checklist! You don't need to implement every practice to have a positive impact. Start with one or two small changes. See how they work for you and your students before adding others.

STRATEGY 2: THE PLUS ONE (+1) APPROACH

Plus one (+1) means adding one option to each resource, activity, or assignment in a lesson or course, as appropriate. Start with options that require a minimal investment of your time and effort to build your momentum.

Choose a specific lesson or learning activity from your course. List each element of the lesson or activity, then propose a +1 for each element. Identify which UDL principle your +1 reflects and briefly explain how that principle is reflected.

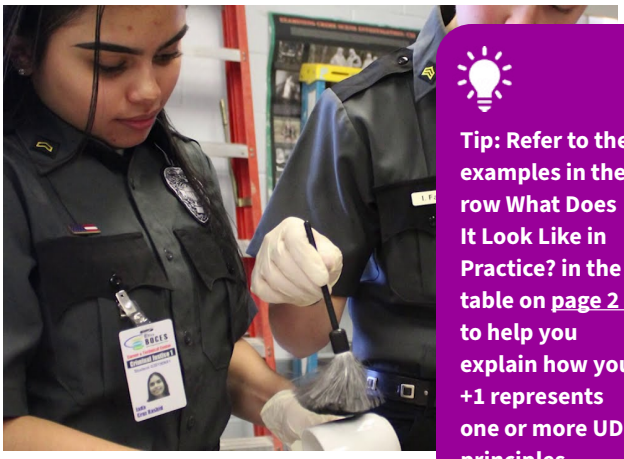

Photo: Ulster BOCES

Tip: Refer to the examples in the row What Does It Look Like in Practice? in the table on page 2 to help you explain how your +1 represents one or more UDL principles.

For example:

- Add a short video to a traditional lecture for **multiple means of representation**.
  Bonus: *Make sure the video you select has captions or a transcript to double your impact!*
- Allow students to submit a video, podcast, infographic, or other creative product instead of a written essay, lab report, or research paper to provide **multiple means of action and expression**. Or, offer a choice of a multiple-choice quiz or an open-ended essay question to check students' comprehension.
  Bonus: *Foster critical thinking by inviting students to co-create assignment guidelines and grading criteria, propose quiz questions, and/or participate in peer assessment activities.*
- Offer **multiple means of engagement** by allowing students to choose whether to complete some learning activities individually or in teams. Or, let them choose their own topics and/or formats for assignments.
  Bonus: *Permitting a choice of formats is a UDL double-dip of boosting engagement AND providing options for action and expression!*

Lesson or activity title/topic:

WHAT YOU DO NOW	YOUR +1	WHICH UDL PRINCIPLE(S) DOES YOUR +1 REFLECT? HOW?