

University of San Francisco

# **Introduction to Universal Design for Learning (UDL) Faculty Training**

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**Karyn Schell and Tom Merrell**

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# Agenda

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- I. Higher Education/USF Landscape
- II. Who are our students?
- III. Barriers to Learning
- IV. Why UDL?
- V. UDL Defined
- VI. Tips, Strategies and Examples on How to Create Accessible and Inclusive Courses
- VII. Q&A

# Changing Higher Ed Landscape

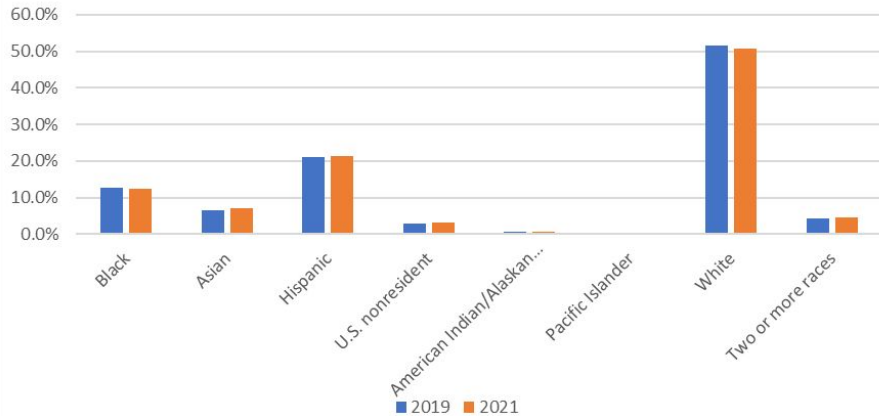
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## Who is the “Average” college student?

- Ethnicity (US/USF)
- Age (US/USF)
- Gender/sex
- Financial status
  - Job status
- Immigration status
- Disability

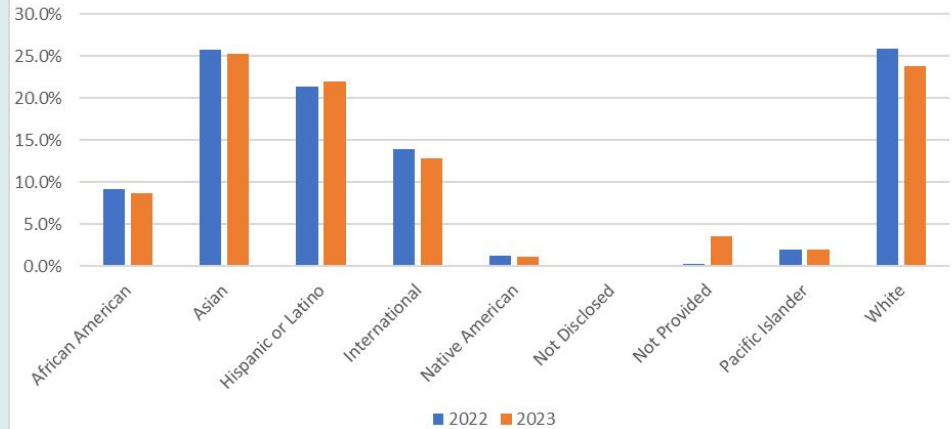
# Ethnicity (1)

Undergraduate enrollment in degree-granting postsecondary institutions, by race/ethnicity and nonresident status: Fall 2019 and 2021



Source: National Center for Education Statistics, May 2023

USF Degree Seeking Enrolled Students, by Race/Ethnicity: Fall 2022 and 2023



Source: USF Enrollment Census Dashboard

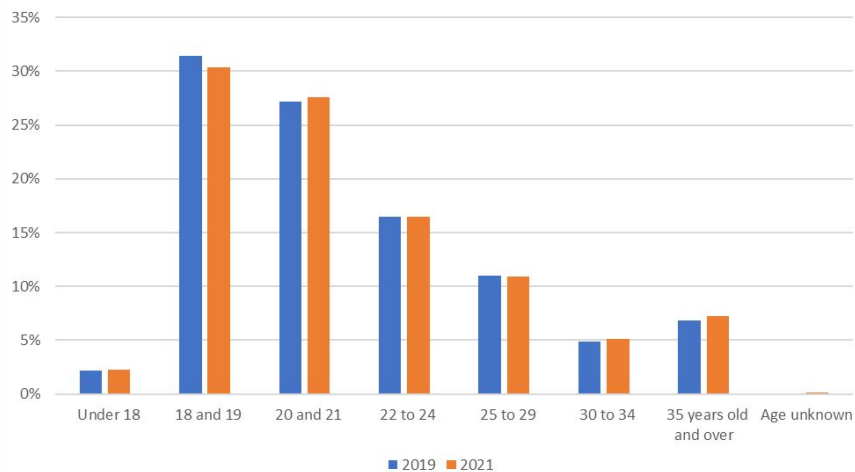
## Ethnicity (2)

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- Increase in African American students (USF)
- Increase in Hispanic/Latino students to F23 (US/USF)
- Increase in multicultural student population (US/USF)
- Decrease in White student population (US/USF)

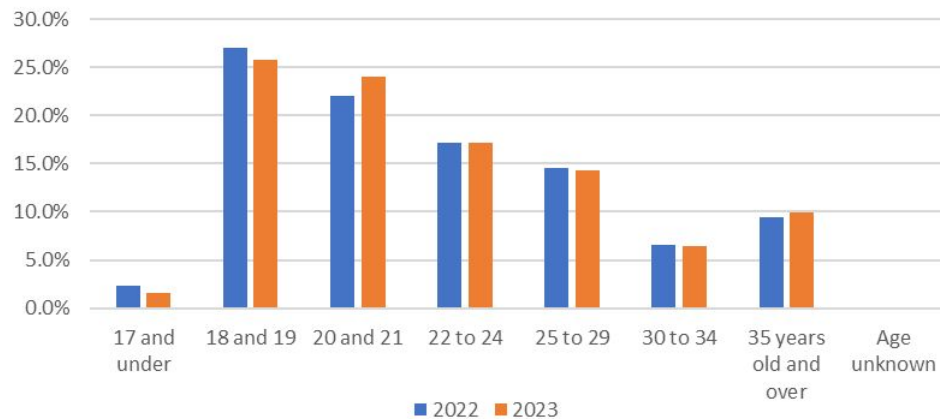
# Age (1)

Total fall enrollment in degree-granting postsecondary institutions, by age: Fall 2019 and 2021



Source: National Center for Education Statistics, November 2022

USF Degree Seeking Enrolled Students, by Age: Fall 2022 and 2023



Source: USF Enrollment Census Dashboard

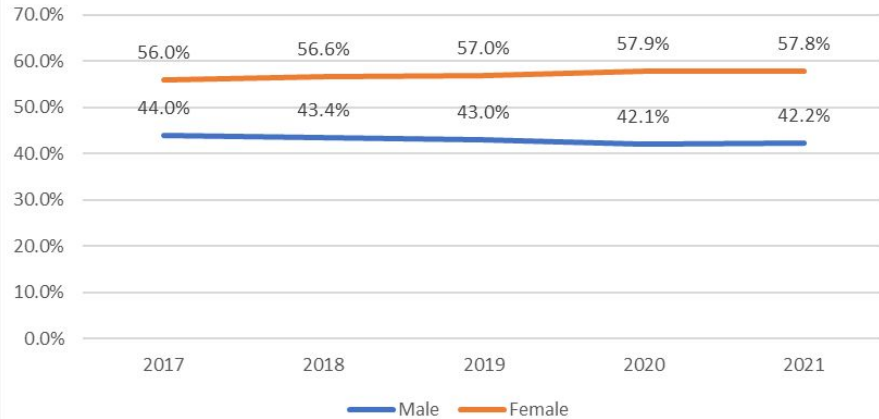
# Age (2)

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- Increase in 20-21 age group (US/USF)
- Increase in >35 age group (US/USF)

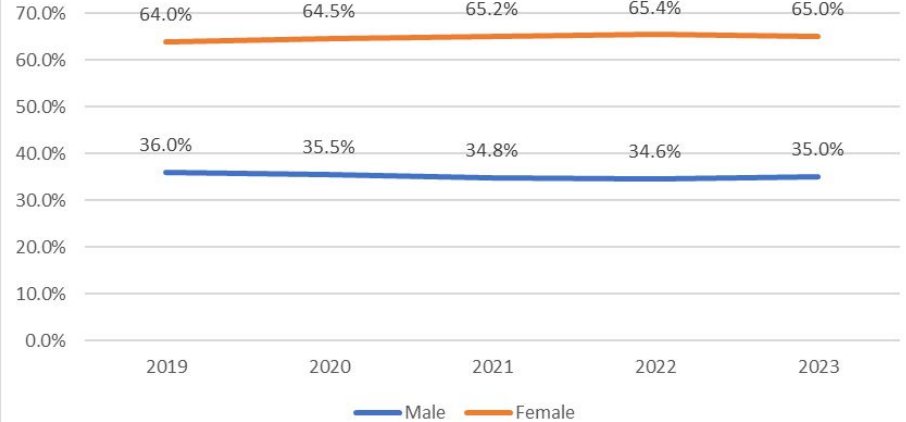
# Gender/Sex

Actual undergraduate enrollment in degree-granting postsecondary institutions, by sex: Fall 2017 to 2021



Source: National Center for Education Statistics, May 2023

USF Degree Seeking Enrolled Students, by Sex: Fall 2019 to 2023



Source: USF Enrollment Census Dashboard



# US Students: Gender/Sex

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- In fall 2021, female students made up 58 percent of total undergraduate enrollment (8.9 million students), and male students made up 42 percent (6.5 million students).
- Between 2010 and 2021, male enrollment decreased by 17 percent (from 7.8 million to 6.5 million students) and female enrollment decreased by 13 percent (from 10.2 million to 8.9 million students).
- In a 2020 survey from the Association of American Universities (AAU) that sampled more than 180,000 undergraduate and graduate students, nearly 17% identified as gay, lesbian, bisexual, asexual, queer, or questioning.

# Financial Status

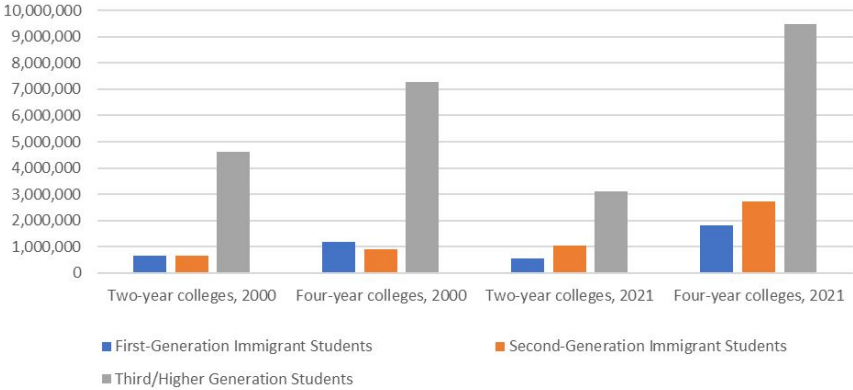
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## For the 2019-2020 Academic Year:

- At USF, 84% of all degree seeking undergraduates were awarded some type of financial aid (USF Fall Census and IPEDS reporting date, 2023).
- Nationwide, 72% of all undergraduates received financial aid (National Center for Education Statistics, National Postsecondary Student Aid Study, 2023).
- For the 2023-24 academic year, USF has a total of 1,644 total student employees (USF Student Employment Office).

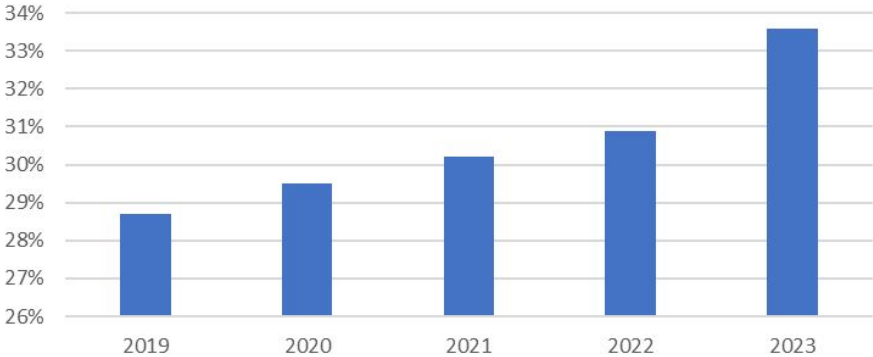
# Immigration (1)

Students (ages 18–54) Enrolled in U.S. Colleges, by Institution Type and Immigrant Generation, 2000–21



Source: Higher Ed Immigration Portal

USF Degree Seeking Enrolled Students, First Generation: Fall 2019 to 2023



Source: USF Enrollment Census Dashboard

# Immigration (2)

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- In 2021, immigrant-origin students accounted for 5.6 million students, or 31% of all students, in higher education.
- More than 80% of all immigrant-origin students in higher education are people of color.
- Immigrant-origin students drove 80% of the growth in U.S. higher education enrollments between 2000 and 2021.

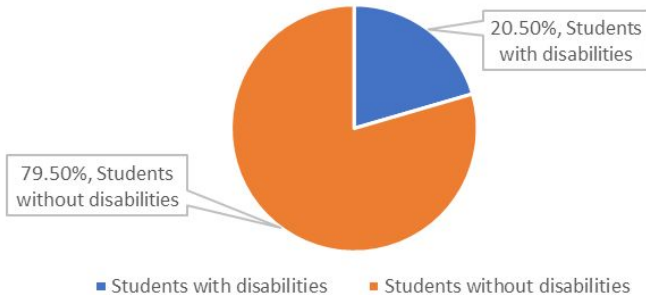
Immigrant-origin students constitute first-and-second generation immigrants in the U.S. First-generation immigrants were born abroad and immigrated to the U.S. to live. Second-generation immigrants are U.S.-born individuals with at least one immigrant parent.

Source: Higher Ed. Immigration Portal

# Disability

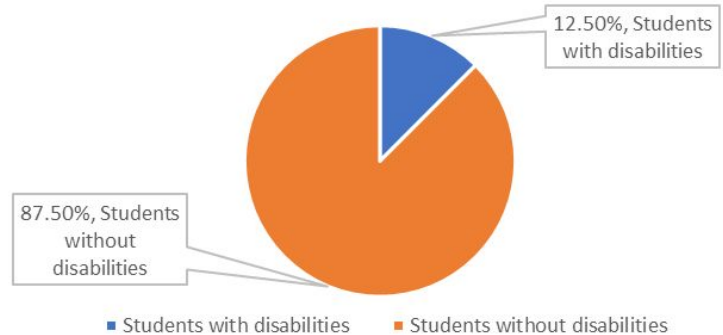
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Percentage distribution of students enrolled in postsecondary institutions, students with disabilities: Academic year 2019–20



Source: National Center for Education Statistics, June 2023

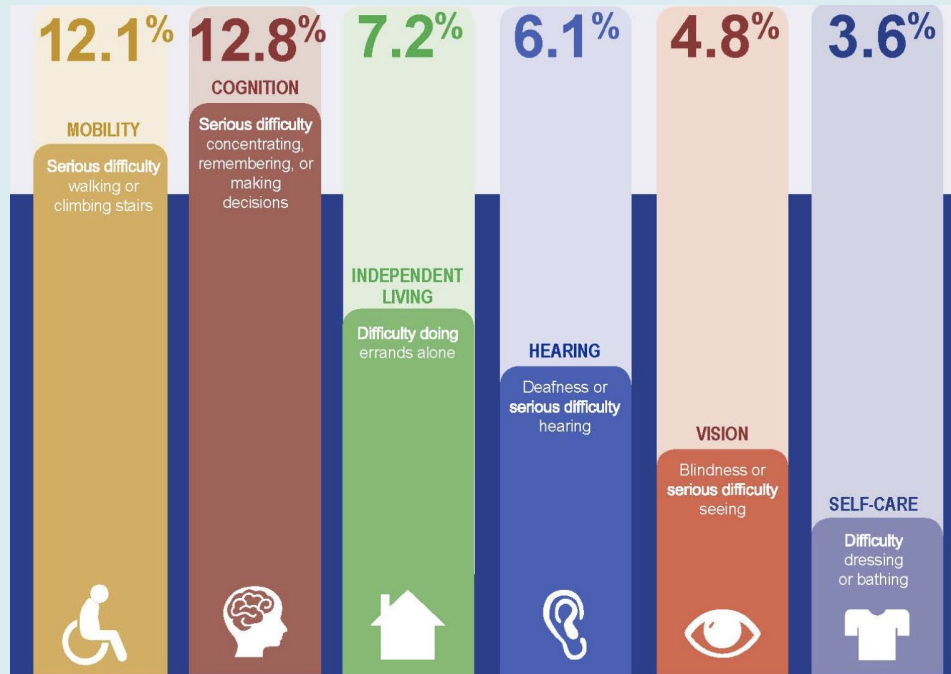
USF Students Registered with Student Disability Services, Fall 2023



Source: Student Disability Services, USF

# Visible vs. Invisible Impairments: Centers for Disease Control

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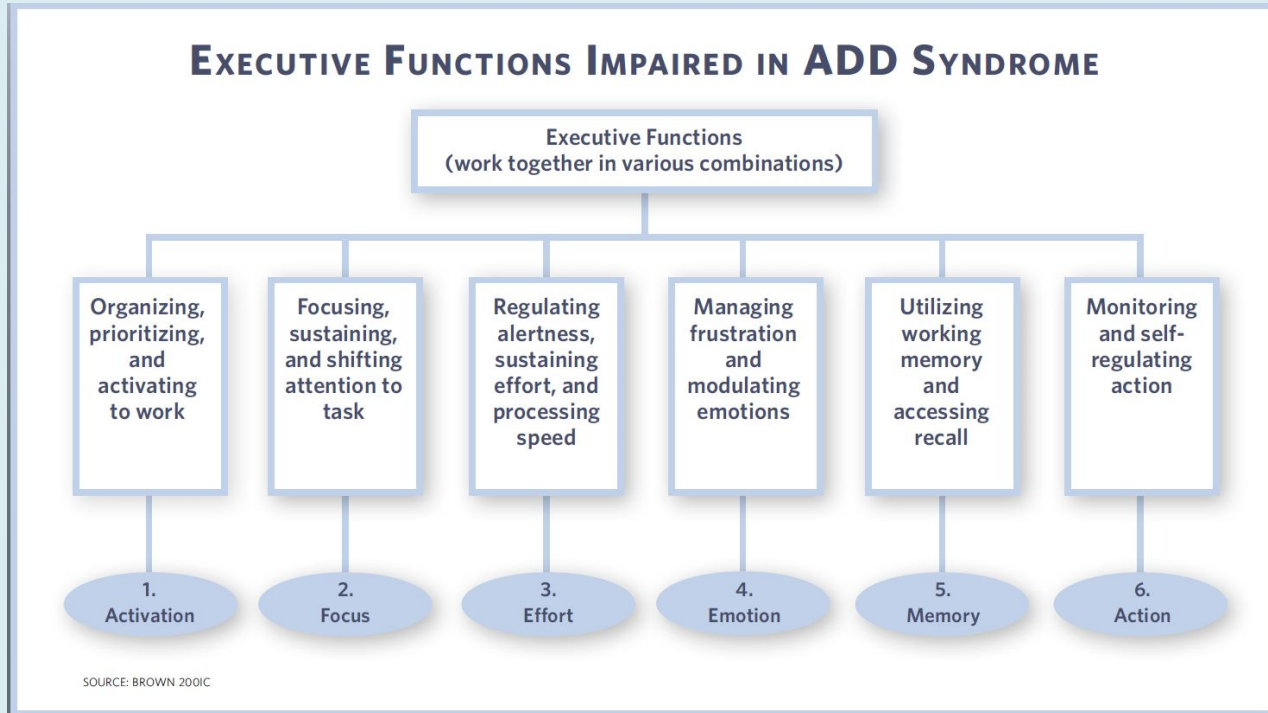
# “Invisible” Impairments: Executive Function

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## Executive Function:

- set of cognitive processes and mental skills located in the prefrontal cortex of the brain that help plan, monitor, and successfully execute goals
- involve anticipation, judgment, planning, and decision-making
- although most people have an occasional impairment in one cluster, individuals with Attention-Deficit/Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD) experience more severe or impairments of multiple clusters

# Executive Function: Six Main Clusters





# Executive Function: Challenges

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**Specific challenges at the university level include:**

- reading
- writing
- note-taking
- listening comprehension
- problem-solving
- adjusting to new scholastic and living environments
- sustaining effort and attention
- retaining large amounts of information

# Executive Function: Common Manifestations

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**You may hear comments such as:**

- “I can’t get started!”
- “I keep getting stuck!”
- “It’s like a radio signal that fades in and out.”
- “It’s like a computer virus that takes over my thoughts and ability to concentrate.”

**And you may witness:**

- severe procrastination
- general fatigue and exhaustion
- late assignment submissions
- inability to ignore distractions
- inability to control emotions or anger
- impulsivity and blurting out answers before hearing the entire question
- inability to follow instructions or remember sequences

# Student Testimonial: Recording Lectures

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“With my ADHD, I find it hard to stay alert and engaged with class. I also struggled with the class setup, 2 hour lecture than a 10 min break, followed by another 2 hours of lectures and presentations. I found that this long lecture format made it very difficult for me to comprehend class content on top of trying to learn at night. I asked if my professors could possibly record the lectures so I could review them on my own time when I was more alert. Through communicating with my teachers and SDS counselor, they agreed to record the lectures. This allows me and other SDS students to learn in a functional environment where we can truly focus and understand classwork. Since implementing this in my classes, I have been a lot less stressed and can productively complete my classwork.”     **-Sophomore**

# Barriers To Learning

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On the following slide, you will be directed to an anonymous “Poll Everywhere” question. You may scan the QR code, which will take you to the website or enter the website address listed to the left.

On the first page where it says “Register for credit,” click “Skip for now.”

## Question:

**What are some of the barriers to learning that your students have experienced in your courses? (give 1-3 examples)**

What are some of the barriers to learning that your students have experienced in your courses? (give 1-3 examples)



Nobody has responded yet.

Hang tight! Responses are coming in.



# Student Testimonial: Course Materials

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“The assessment courses and materials are very hard for students with disabilities to access. It took me a really long time to print all the materials out to bring to class, and they were not made available in a timely manner. Additionally, professors should be mandated to make the syllabus available early so students who need to order hard copy textbooks or audio materials have time to do this before assignments start. Late syllabi are really onerous on students with disabilities.”

**-Grad Student**

# Introduction to Universal Design for Learning (UDL)

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## UDL Definition

**UDL:** the design of teaching and learning products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design

[CAST Universal Design for Learning Guidelines and Checkpoints](#)

[CAST UDL Guidelines Downloads Options](#)

# Universal Design and Architecture

## Example: Exterior Ramp

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# Why UDL? Who Benefits?

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- people with different learning preferences, (e.g., auditory, visual, kinesthetic, social, solitary, etc.) that may benefit from multisensory learning
- remote learners
- learners from different ethnic, cultural, and socioeconomic backgrounds
- international students
- learners who are working/single parents
- non-traditional/adult learners
- learners with disabilities/physical impairments
  - forced Intimacy
- neurodiverse learners
- mature learners

# UDL Main Principles

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## Multiple Means of Engagement

Stimulate motivation and sustained enthusiasm for learning by promoting various ways of engaging with material.



## Multiple Means of Representation

Present information and content in a variety of ways to support understanding by students with different learning styles/abilities.



## Multiple Means of Action/Expression

Offer options for students to demonstrate their learning in various ways (e.g. allow choice of assessment type).



# Creating An Inclusive Classroom: Multiple Means of Engagement

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**Multiple Means of Engagement**: providing different opportunities for student involvement; having a variety of teaching and learning activities to **stimulate interest, sustain effort and persistence, and promote self-evaluation**

- interactive activities
- group discussions
- discussion boards
- allowing rough draft submissions
- clear course objectives, rubrics and checklists for self-regulation
- metacognitive (“learning how to learn”) and reflection activities
- experiential learning opportunities
- meaningful, real-world, “authentic” assignments

# Multiple Means of Representation: Accessible Course Materials

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**Multiple Means of Representation**: offering flexibility with how learners can access course content to allow for variability in how learners comprehend and perceive information; providing options for **perception, language and symbols** and **comprehension**

## 1. Accessible Course Materials to Enhance Perception

- use common file formats such as .doc, .docx and .pdf so that documents are compatible with text-to-speech software
- put a copy of the course text on reserve in the library
- use Open Education Resources (OER)
- post slides, readings, and course materials online in advance if appropriate
- post electronic equivalents of paper handouts
- include captions for graphics
- enable closed captioning and provide transcripts for videos

# Multiple Means of Representation: Multimodal Sources of Information

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## 2. Multimodal Sources of Information to Promote Comprehension and Enhance Perception

- augment required readings with alternative formats such as audio and video
- video recordings of lectures if allowed
- add an audio file explaining a major assignment
- provide models and graphics in addition to text
- use animations
- embed interactive questions/quizzes into videos

# Multiple Means of Representation: Promoting Comprehension

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## 3. Additional Ways to Promote Comprehension

- explain field-specific terminology, vocabulary and symbols
- activate background knowledge
- connect to previous content
- elicit patterns, similarities, differences and other relationships
- illustrate how to link ideas and transfer knowledge

# Multiple Means of Action and Expression: Assignments and Demonstration of Skills

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**Multiple Means of Action and Expression**: encouraging students to demonstrate their learning through various forms so they can express themselves the most proficiently and/or effectively; providing options for **physical action**, **expression** and **communication** and **executive functions**

## 1. Assignments and demonstration of skills

- allow students to draw or write, use multimedia or a recording
- write an essay or create a visual concept map
- produce a written or an oral journal entry
- produce a pre-recorded video or give an in-class performance
- use speech-to-text or text-to-speech
- give a choice in topic
- provide clear instructions, objectives and deadlines and in an obvious place
- provide prompts, scaffolds, checklists, sample work and examples

# Multiple Means of Action and Expression: Exams

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## 2. Exams

- variety of question types on exams: multiple choice, matching, short answer, fill in the blank, equations, label a diagram
- exam questions that assess various ways of understanding: remember/ comprehend, analyze/ apply, and evaluate/ create (i.e., Bloom's Taxonomy)
- incorporate graphics and/or images into some questions



# Multiple Means of Action and Expression: Student Choice

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## 3. Student choice

- choice of assignment format: research paper, presentation, website, poster, video, podcast, etc.
- choice of due date or topic
- incorporating social media as a communication tool
- offer tools and technologies to support learner needs and reduce barriers (assistive technology, spelling/grammar checkers, dictation software, typing vs. writing by hand)

# Assessment: Construct Relevance

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When creating assessments, it's important to only assess the skills or abilities that we want our students to be able to demonstrate, which are known as constructs.

- An assessment can be considered “construct irrelevant” if its methods and materials require additional skills and understanding that are not relevant to the construct being evaluated.
- Construct-irrelevant features of assessments may pose barriers for some students, preventing an accurate measurement of the construct.

# Construct-Irrelevant Factors

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Examples of construct-irrelevant factors:

- motor coordination (handwriting or typing skills)
- short-term and working memory
- organization and time management
- focus and attention
- ability to work under pressure
- the ability to read
- the ability to write

# Examples of Construct-Irrelevant Assessments

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- Math assessment that includes questions phrased in lengthy and complex passages to assess students' understanding of math concepts
- Essay exam in a Biology class that is both timed and closed book
- Written journal entries in a foreign language conversation class
- Including fill-in-the-blank questions when evaluating the ability to write a formal letter with connected discourse

# Where to begin...

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The first phase in implementing UDL is to just do something, but knowing where to start can feel very overwhelming and even intimidating. One way is to begin by selecting and creating accessible instructional materials:

- **Accessible documents:** create and/or provide text-based files that are screen readable (have headings, proper color contrast, font size, etc.)
- **Alternative (alt) text:** all still images, animations and videos are tagged with descriptive metadata (descriptions with 1-2 sentences)
- **Captions, transcripts and audio description:** all videos that you use should have closed captions and descriptions of the significant audio included

# 20-Minute UDL: Step 0

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The following are recommended twenty-minutes techniques to analyze and organize what work needs to be done to create UDL-aligned courses.

**STEP 0: Identify the “pinch points,” persistent forms of struggle or confusion for students, where your students will benefit the most from UDL strategies**

Reflect on a course you have taught several times and ask yourself:

- When do students ask the same questions every time the course is offered?
- When do they get things wrong on assignments, quizzes and/or tests?
- When do they ask for alternate explanations?

# 20-Minute UDL: Step 1

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## **STEP 1: Identify single-stream elements** (i.e., accessed by only one format)

First evaluate your instructional materials and determine:

- Are your course materials all in written, video or audio format only?
- Do the discussions and conversations only take place in the classroom and out loud?
- Are your lecture notes and/or in-class materials text only, slide presentations with only images and/or video clips?

Then determine if any of the pinch points from Step 0 intersect with single-stream content.

# 20-Minute UDL: Step 2

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## **Step 2: Brainstorm new mediums, methods and/or expressions for the single-stream “pinch points”**

For where learners express barriers, find at least one way to provide additional access or to remove the barriers. For example:

- for text-based explanations of math problems, record a video with the camera above the paper while you write out and explain each step by hand
- provide an outline of the content of a video
- provide time average time estimates to read or watch course materials
- allow audio submissions instead of typed papers
- accompany written texts with videos (with closed captions, of course!) and vice versa
- choose accessible textbooks that are screen readable and have embedded audio recordings of written text, in addition to alt text for the images



# You May Already Be Utilizing UDL!

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On the following slide, you will be directed to another anonymous “Poll Everywhere” question. You may scan the QR code, which will take you to the website or enter the website address listed to the left.

On the first page where it says “Register for credit,” click “Skip for now.”

## Question:

**What are some ways that you have already implemented to make your courses more accessible?**

What are some ways that you have already implemented to make your courses more accessible?

Nobody has responded yet.

Hang tight! Responses are coming in.



# What's One EASY UDL Principle You Can Start Implementing?

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## Poll Everywhere Question:

What is one easy UDL principle you can start implementing?

## What is one easy UDL principle you can start implementing?

Nobody has responded yet.

Hang tight! Responses are coming in.



# Resources (1)

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## USF Resources:

- [USF Accessibility Tool Kit](#)
- [ETS Training Website](#)
- [ETS Universal Design for Learning Toolkit](#)
- [Student Disability Services](#)
- [Flexible deadline policy: BIOL 106L](#)
- [Attendance modification policy: BIOL 106L](#)
- [Web Accessibility Standards](#)
- [Planning an Accessible Event at USF](#)
- Poll Everywhere: email [itt@usfca.edu](mailto:itt@usfca.edu) to request an account be made on your behalf

# Resources (2)

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## Universal Design for Instruction/Learning Resources:

- What is Universal Design for Learning: introductory video
- CAST.org (Center for Applied Special Technology)
- CAST.org's The UDL Guidelines
- Universal Design for Learning: One Small Step (University of Saskatchewan)
- University of Washington DO-IT (Disabilities, Opportunities, Internetworking, and Technology)
- Example of alternative Authentic Assessment (Indiana University Bloomington)
- Alternative Assessment (Landmark College video)
- Tobin, T. and K. Bheling. Reach Everyone, Teach Everyone: Universal Design for Learning in Higher Education. West Virginia University Press, 2018.

# Resources (3)

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## Executive Function and Invisible Impairments:

- [What is Executive Function? \(Understood\)](#)
- [Executive Function: Exploring Six Aspects of a Complex Syndrome](#)

## Accessibility Resources:

- [MyBlindspot.org](#)
- [CDC: Disability Impacts All of Us](#)

# Questions?

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**Please complete our brief survey that will be sent to you!**



# Contact

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**Karyn Schell**

**Professor, Spanish Studies**

**Department of Language Literatures and Cultures**

[kschell@usfca.edu](mailto:kschell@usfca.edu)

**Tom Merrell**

**Assistant Dean and Director**

**Student Disability Services**

[merrellt@usfca.edu](mailto:merrellt@usfca.edu)

**THANK YOU!**