Google Docs Accessibility (A11y)

Building Accessible Google Docs

- Heading Styles
- Table of Contents
- Columns and Lists
- Tab Stops
- Paragraph Spacing
- Meaningful Link Text

- Images
- Captioning
- Tables
- Color Contrast
- Headers and Footers
- Accessibility Checker

A11y

What is Assistive Technology?

Assistive Technology (AT) are "products, equipment, and systems that enhance learning, working, and daily living for persons with disabilities."

Screen Readers

Magnification Software

Speech Recognition

Trackball Mouse

Keyboard

Zoom Text

Braille Computer Keyboard
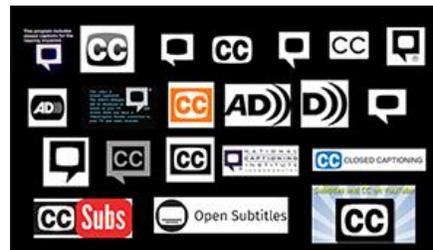
Captions/Subtitles

Captioned Telephone

Video Relay Services

Captioning Videos

Per federal and state law, and CSU policy, instructional media (e.g., videos, captured lectures, recorded presentations) must have captions. This includes instructional media used in classrooms, posted on websites or shared in Canvas.

- All students who are enrolled in a course must be able to access the content in the course.

- **Faculty:** Funding is available to help faculty generate captions and transcripts for instructional media. Materials should be submitted **at least six weeks** in advance of their use in instruction.

- **Staff:** For CSUN staff who do not provide classroom material, there is a cost through chargeback. For information on the chargeback, email ncod@csun.edu.

csun.edu/captioning

and together, as Matadors, we will move mountains.

www.csun.edu/captioning

What are Screen Readers

Screen readers are a form of assistive technology (AT) software that *enables access* to a computer, and all the things a computer does, by attempting to identify and interpret what is being displayed on the computer screen using **text-to-speech**. Screen readers can only access and process **live text** (fully editable or selectable text).

- **Provides access** to someone who is visually impaired, mobility or has a learning disability to access text on the screen.

- Offers same level of **independence** and privacy as anyone else.

Types of screen readers

Screen reader program for Microsoft Windows that allows blind and visually impaired users to read the screen either with a text-to-speech output or by a refreshable Braille display. **NVDA screen reader** can be **downloaded free of charge** by anyone.

VoiceOver (Apple)

Provides auditory descriptions of each onscreen element using gestures, a keyboard, or a braille display.

Android

Adds spoken, audible, and vibration feedback to your device.

ZoomText

Screen magnifier for Microsoft Windows that allows you to see and hear everything on the computer.

How Do Screen Readers Work?

- Screen readers read line-by-line from left-to-right and top-to-bottom.

- Screen readers start at the top of a document or website and read any text including alternative text for images, graphics or charts.

- Screen readers navigate a document or website using the keyboard **without** a mouse. **Tab** key: jump from link to link, **Enter**: select a link, **arrow** keys: navigate a document or website.

- Reading order is important for users with visual challenges. The users can become confused if the document (content, tables, images or charts) is poorly organized or out of order.
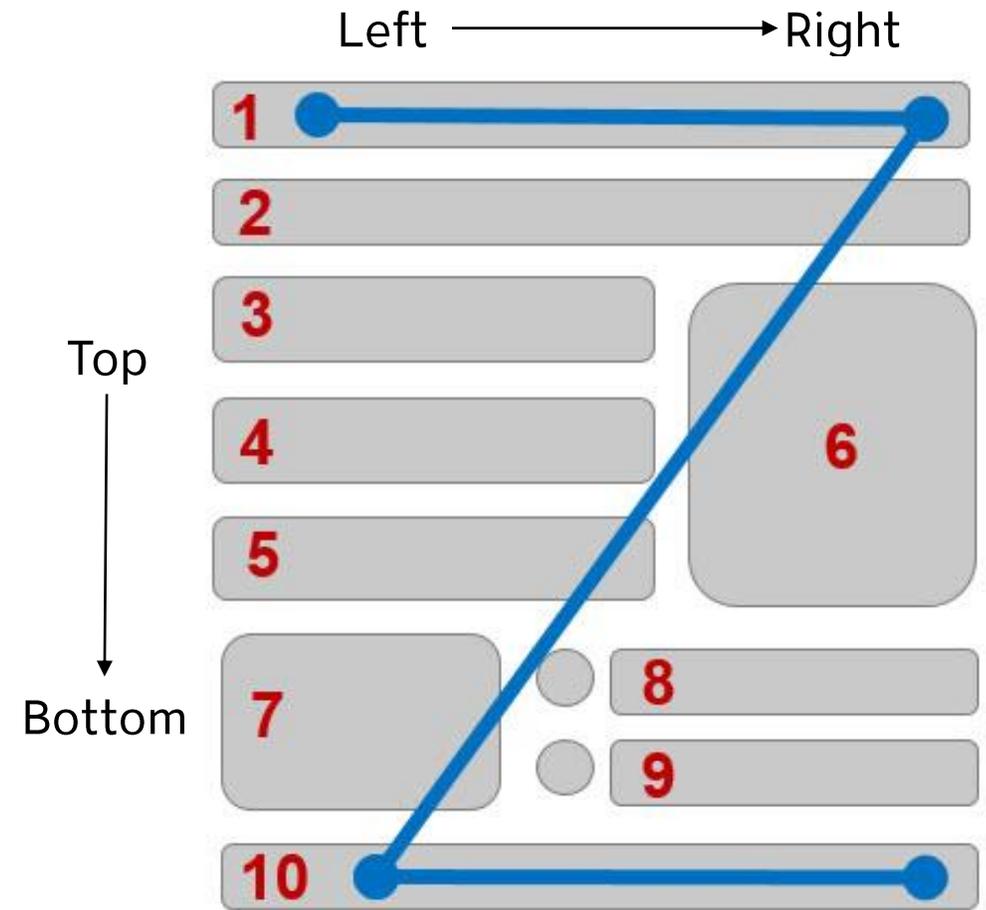
Click vs Select

Screen readers and physical or mobility limitation users navigate a document or website using the keyboard **without** a mouse. The word "Click" is not inclusive of people who can't use the mouse. Use the word "Select" to write step-by-step instructions.

"Click" or "Click on" Example

- Go to YouTube video player
- Click on Settings gear icon
- Click on Subtitles/CC
- Click on Options to Customize
- Click on Caption Style

Use "Select" Example (Recommend)

- Go to YouTube video player
- Select Settings gear icon
- Select Subtitles/CC
- Select Options to Customize
- Select Caption Style

Digital Accessibility Content Analogy

Header

Body
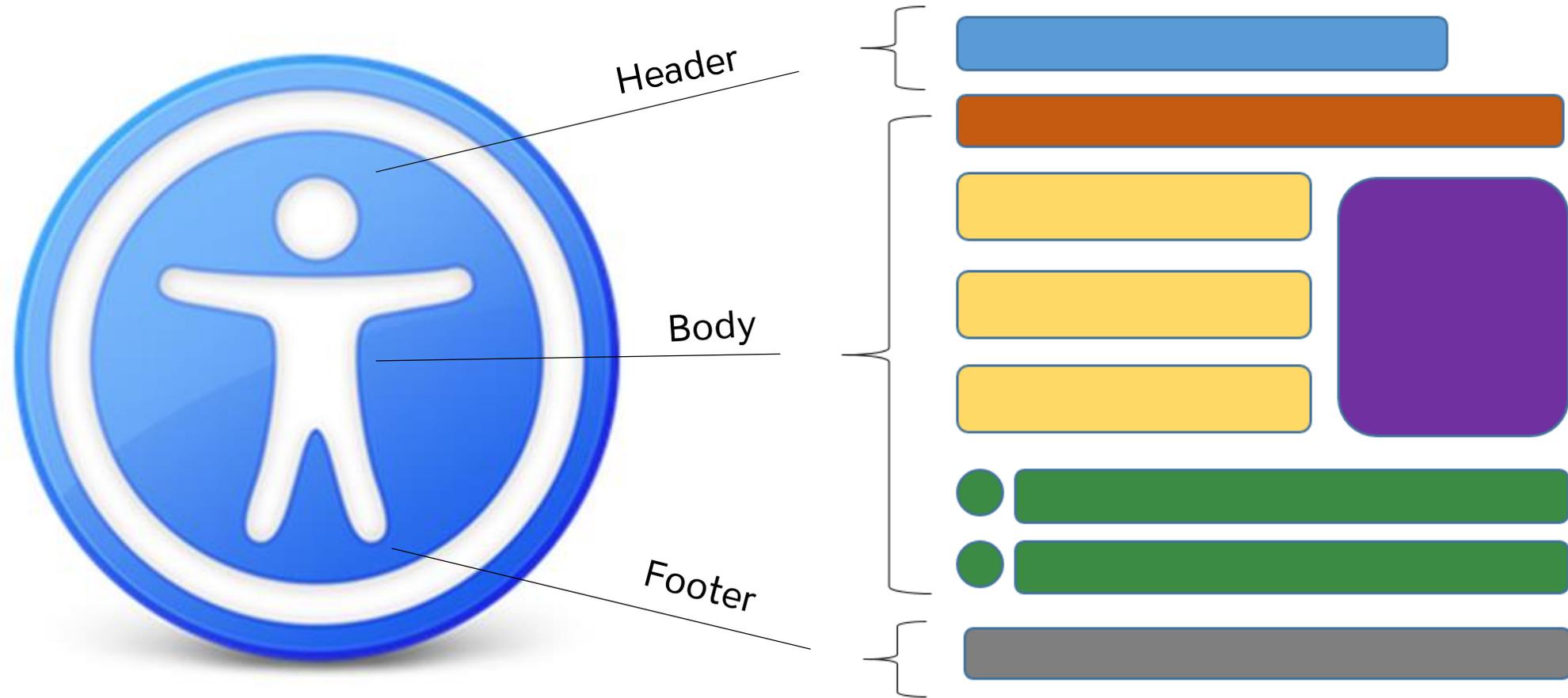
Footer

Organize content with headings, subheadings, images, videos, and footer are important for **usability** and **accessibility**.

Readability

- Divide large blocks of text into smaller sections

- Avoid overly complex sentences

- Provide adequate whitespace

- Use line or paragraph spacing (avoid Enter/Return for "blank" space)

- Avoid underlining text. Underlining is interpreted by screen readers and people with low vision as linked text.

- Font size between 12 to 18 point

- San-serif fonts are more suited to electronic formats *(Arial, Calibri, Verdana or Franklin Gothic Book)*

- Capitalization for the heading is fine **not** the entire paragraph. Most people have difficult to read it if all text capitalized.

Serif   Sans-Serif

Abc   Abc

Mysterious Dash or Hyphen

Screen readers do not know what the **–** symbol represents (minus, hyphen, en dash or em dash) so screen readers **will not** read it. *It is always a good practice to spell the word and spell out any abbreviations or make a reference to your abbreviation when used for the first time.*

For example:

- May 8th, 2022 from 3:30 **-** 5:00pm. The screen reader reads three, thirty five. Recommend May 8th, 2022 from 3:30 **to** 5:00pm.

- Final exams May 14 **-** 20, 2022, screen reader reads May 1420, 2022. Recommend May 14 **to** 20, 2022.

- Homework assignment pages 200 **–** 281 for tonight's reading material. Recommend pages 200 **to** 281.

- The fiscal year 2015**-**2016. Recommend The fiscal year from 2015 to 2016.

- Grading scale 95 **-** 100%, screen reader reads 95100%. Recommend 95 **to** 100%.
  - ❖ A + , screen reader reads A+. Recommend A plus.
  - ❖ A – , screen reader reads A. Recommend A minus.
  - ❖ Recommend to spell the word plus or minus for consistency purpose.

Styles vs Direct Formatting
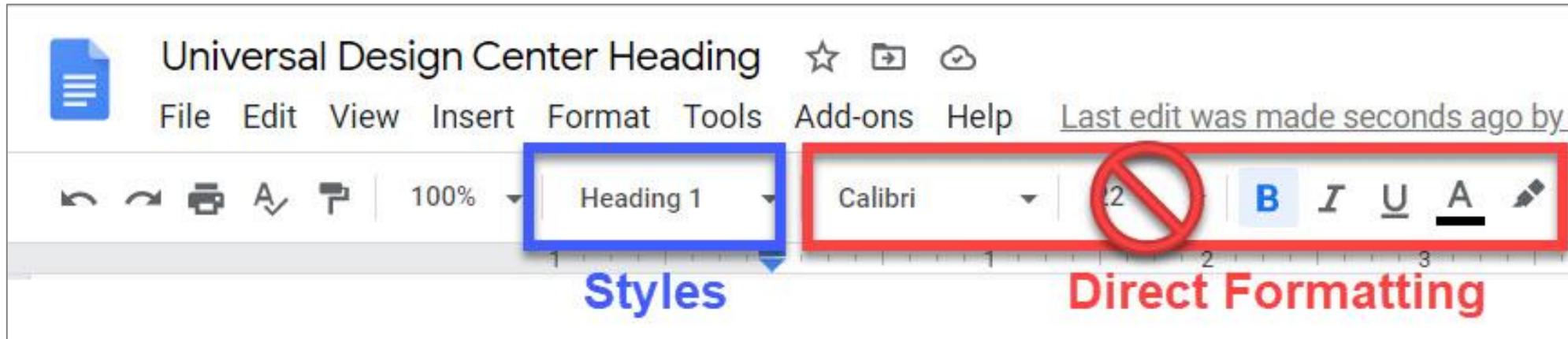
Styles Formatting

- Provide structure and make document accessible
- Easier to modify existing formatting
- Create and update a Table of Contents
- Quicker navigation to different sections in a document
- Retain document structure when export to PDF
- Accessible to any assistive technology like screen readers
- **Save time and save lives!**

Direct Formatting

- Not accessible to any assistive technology such as screen readers
- Can't create a Table of Contents
- Can't create navigation to different sections in a document
- **Huge barriers!**

Headings and Document Structure

Example 1: Reading long, dense text documents can be a daunting task for learners

As part of our commitment to excellence through diversity and inclusion, California State University, Northridge (CSUN) strives to ensure that campus communication and information technology is accessible to everyone. The California State University system statement on accessibility is articulated in California State University - Executive Order 1111, in accordance with both federal and state laws including the Americans with Disabilities Act of 1990 (ADA) and Section 508 of the U.S. Rehabilitation Act.

Need assistance or have a question not answered here? Please contact the Universal Design Center (UDC) at UDC@csun.edu or, during business hours (Monday through Friday, 8am to 5pm Pacific time), at (818) 677-5898.

In this context, "accessibility" means that people with disabilities have access – to facilities, to information and to technology.

"Universal design" takes this concept one step further, to ensure that everyone can perceive, understand, engage, navigate and interact regardless of ability or preference.

The UDC supports the campus community in their efforts to make it possible for individuals to learn, communicate, and share via information and communication technology. One way we do this is by assisting the campus community to ensure their information and communication technology is interoperable, usable and accessible, so that individual learning and processing styles and/or physical characteristics are not barriers to access.

The role of the UDC is to help CSUN implement business practices which enable the campus to meet policy standards under the Accessible Technology Initiative Coded Memoranda. What does this mean to me?

Everyone has a part in creating accessible and usable information. The responsibility of creating and maintaining accessible content falls to the entire campus community.

Example 2: Well-structured documents help readers organize and process texts

Universal Design Center — **Heading 1**

Accessibility Statement — *Accessibility Statement* (circled)

As part of our commitment to excellence through diversity and inclusion, California State University, Northridge (CSUN) strives to ensure that campus communication and information technology is accessible to everyone. The California State University system statement on accessibility is articulated in California State University - Executive Order 1111, in accordance with both federal and state laws including the Americans with Disabilities Act of 1990 (ADA) and Section 508 of the U.S. Rehabilitation Act. — **Normal paragraph**

Need help? — **Heading 3**

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What is Accessibility? What is Universal Design? — **Heading 2**

In this context, "accessibility" means that people with disabilities have access – to facilities, to information and to technology. "Universal design" takes this concept one step further, to ensure that everyone can perceive, understand, engage, navigate and interact regardless of ability or preference.

Universal Design Center Mission

The UDC supports the campus community in their efforts to make it possible for individuals to learn, communicate, and share via information and communication technology. One way we do

Headings Structure Example

Before Adding Headings	Adding Headings
Item titles are bold at the start of each line	Text with section titles added with headings

Before Adding Headings

Item titles are bold at the start of each line

**Course:** ENGL 315

Title: Digital Writing

Class #: 15275

Days: TuTh

Instructor: Jane Doe

Email: jane.doe@csun.edu

Office: Sierra Hall 300

Phone: 818-677-9999

Adding Headings

Text with section titles added with headings

Course Info *(Heading)*

Course: ENGL 315
Title: Digital Writing
Class #: 15275
Days: TuTh

Instructor Info *(Heading)*

Instructor: Jane Doe
Email: jane.doe@csun.edu
Office: Sierra Hall 300
Phone: 818-677-9999

Heading Styles
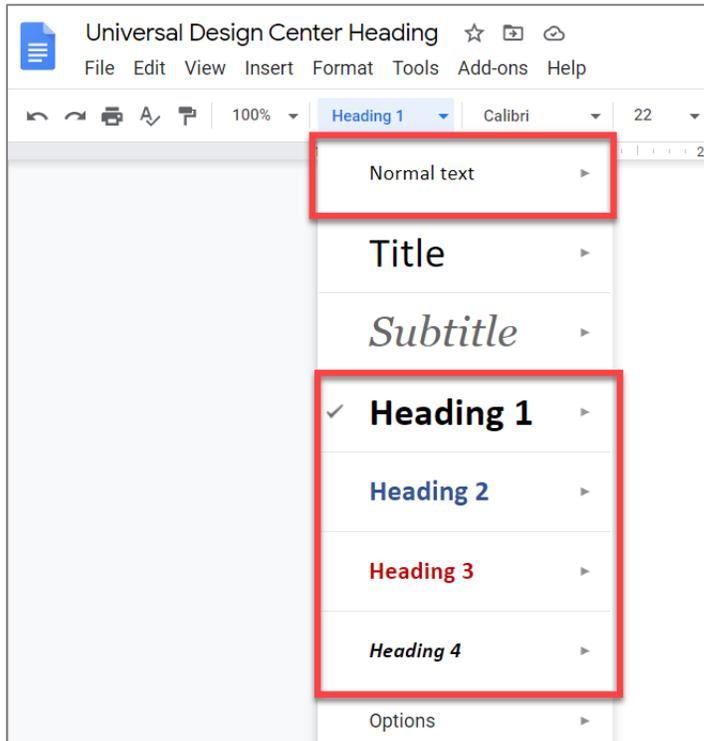
Heading Styles (Heading 1 through Heading 6) in a logical sequence. Do not skip heading levels i.e. Heading 2 to Heading 4, headings should be in order.)

- **Heading 1:** Document title or main content heading/title (just one)
- **Heading 2:** Major section heading
- **Heading 3:** Sub-section of the Heading 2
- **Heading 4:** Sub-section of the Heading 3, and so on, ending with Heading 6
- **Normal:** Text or Paragraph

Using heading styles means you can also quickly build a **Table of Contents**, reorganize your document, and reformat its design without having to manually change each heading's text.

Headings are styles to give a document structure by category or topic.

Without headings, a person using assistive technology like a screen reader **cannot** navigate by sections, subsections, or scan section titles to understand the document structure.

Heading and Paragraph

Avoid making the heading style and paragraph in one section because it would cause the Table of Contents to automatically populate the long list of titles.

Universal Design Center

Accessibility Statement: As part of our commitment to excellence through diversity and inclusion, California State University, Northridge (CSUN) strives to ensure that campus communication and information technology is accessible to everyone.

Universal Design Center Mission: The UDC supports the campus community in their efforts to make it possible for individuals to learn, communicate, and share via information and communication technology. One way we do this is by assisting the campus community to ensure their information and communication technology is interoperable, usable and accessible, so that individual learning and processing styles and/or physical characteristics are not barriers to access.

Shared Campus Responsibility: Everyone has a part in creating accessible and usable information. The responsibility of creating and maintaining accessible content falls to the entire campus community.

Table of Contents

Make sure the heading style is listed on a single line and add the main content below the heading style in a normal paragraph.

Universal Design Center *Heading 1*

Accessibility Statement *Heading 2*
As part of our commitment to excellence through diversity and inclusion, California State University, Northridge (CSUN) strives to ensure that campus communication and information technology is accessible to everyone.

Universal Design Center Mission *Heading 2*
The UDC supports the campus community in their efforts to make it possible for individuals to learn, communicat... ...munication technology. One way we do this is by assisting t... Normal style for paragraph ...information and communication technology is inter...perable, usable and accessible, so...at individual learning and processing styles and/or physical characteristics are not barriers to access.

Shared Campus Responsibility *Heading 2*
Everyone has a part in creating accessible and usable information. The responsibility of creating and maintaining accessible content falls to the entire campus community.
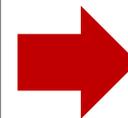
Table of Contents

Heading Styles compatible with other programs

Google Docs

Format Tools Add-ons Help

Normal text   Calibri

✓ Normal text ▶

Title ▶

Subtitle ▶

Heading 1 ▶

Heading 2 ▶

Heading 3 ▶

Heading 4 ▶

Heading 5 ▶

Options ▶

Home Insert Design Layout References Mailings Review View Grammarly ACROBAT Tell me what you want to do...

Cut Calibri
Copy
Format Painter B U x²
Clipboard Font Paragraph

AaBbCcD AaBbCcD **AaBb** *AaBbC* AaBbCcl *AaBbCcD* AaB
¶ Normal ¶ No Spac... Heading 1 Heading 2 Heading 3 Heading 4 Title

AaBbCcD *AaBbCcD* AaBbCcD *AaBbCcD* **AaBbCcD** AaBbCcD *AaBbCcD*
Subtitle Subtle Em... Emphasis Intense E... Strong Quote Intense Q...

AaBBCcD **AaBbCcD** *AaBbCcD* AaBbCcD
Subtle Ref... Intense R... Book Title ¶ List Para...

Create a Style

Microsoft Word

Canvas

Header 2 -> This is the Title

Header 3 -> This is the sub title

Header 4 -> This is a category

Paragraph -> This is the body of the content

InDesign

Paragraph Styles

Paragraph Style 1 [+]

[Basic Paragraph]

H1

H2

H3

H4

H5

H6

Paragraph
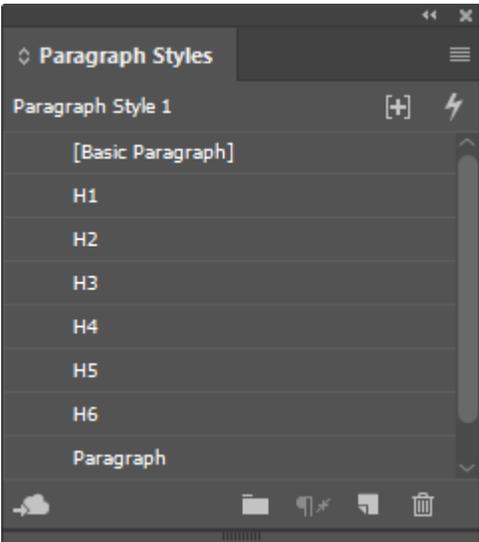
Website

<h1> Main Heading </h1>

  <h2> Sub Heading </h2>

    <h3> Sub sub heading </h3>

  <h2> Sub Heading </h2>

    <h3> Sub sub heading </h3>

    <h3> Sub sub heading </h3>

Heading 1 – Update 'Heading 1' to match

Unlike Microsoft Word, to modify headings, **Direct Formatting** and **Styles** must be used. For example, **Heading 1**

1. Highlight heading title text

2. Select preferred font, color, and size

3. Select **Heading 1** then **Update 'Heading 1' to match**

4. Repeat steps for Heading 2 through 6 if needed
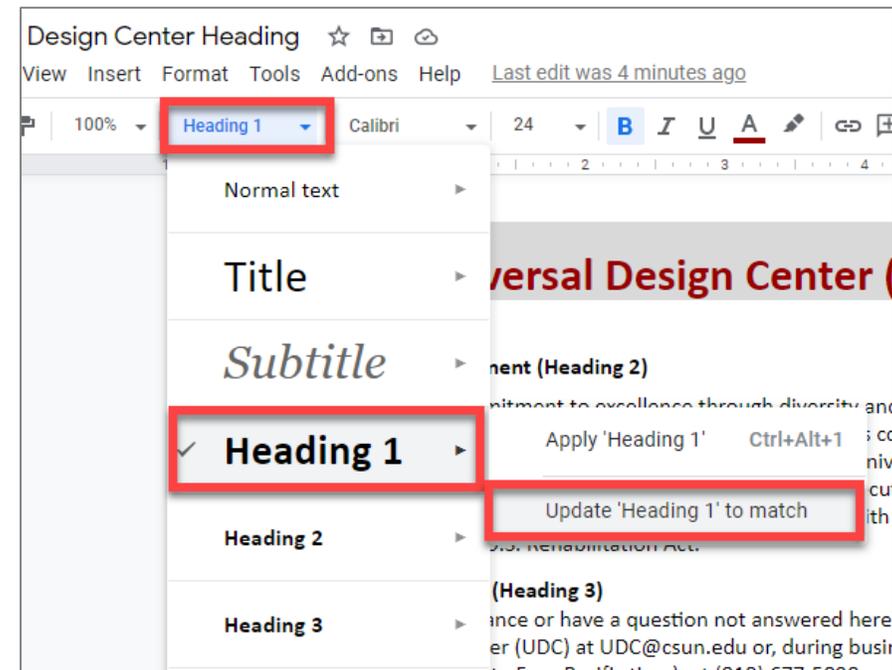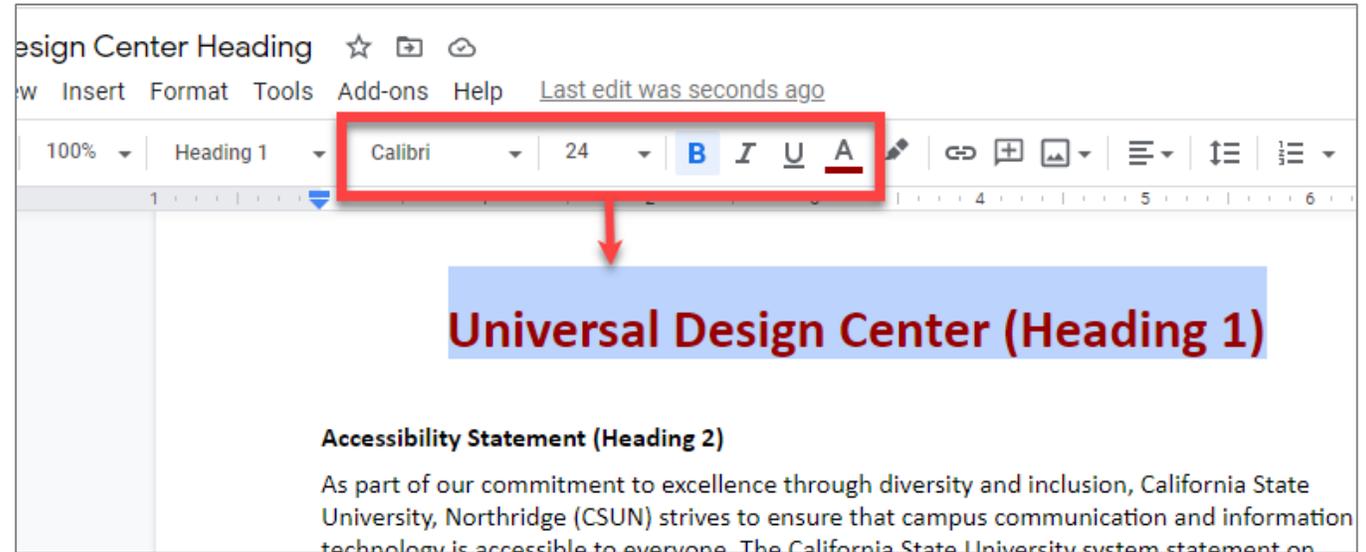
Heading 2 – Update 'Heading 2' to match

Repeat for Heading 3 Sub-section Titles, etc.

Apply Heading 2

- Highlight heading title text "What is Accessibility? What is Universal Design?"
- Open Styles menu
- Select Heading 2
- Select Apply Heading 2
- This will retain the same Heading 2 structure
- Repeat same steps to apply more Heading 2 in the document
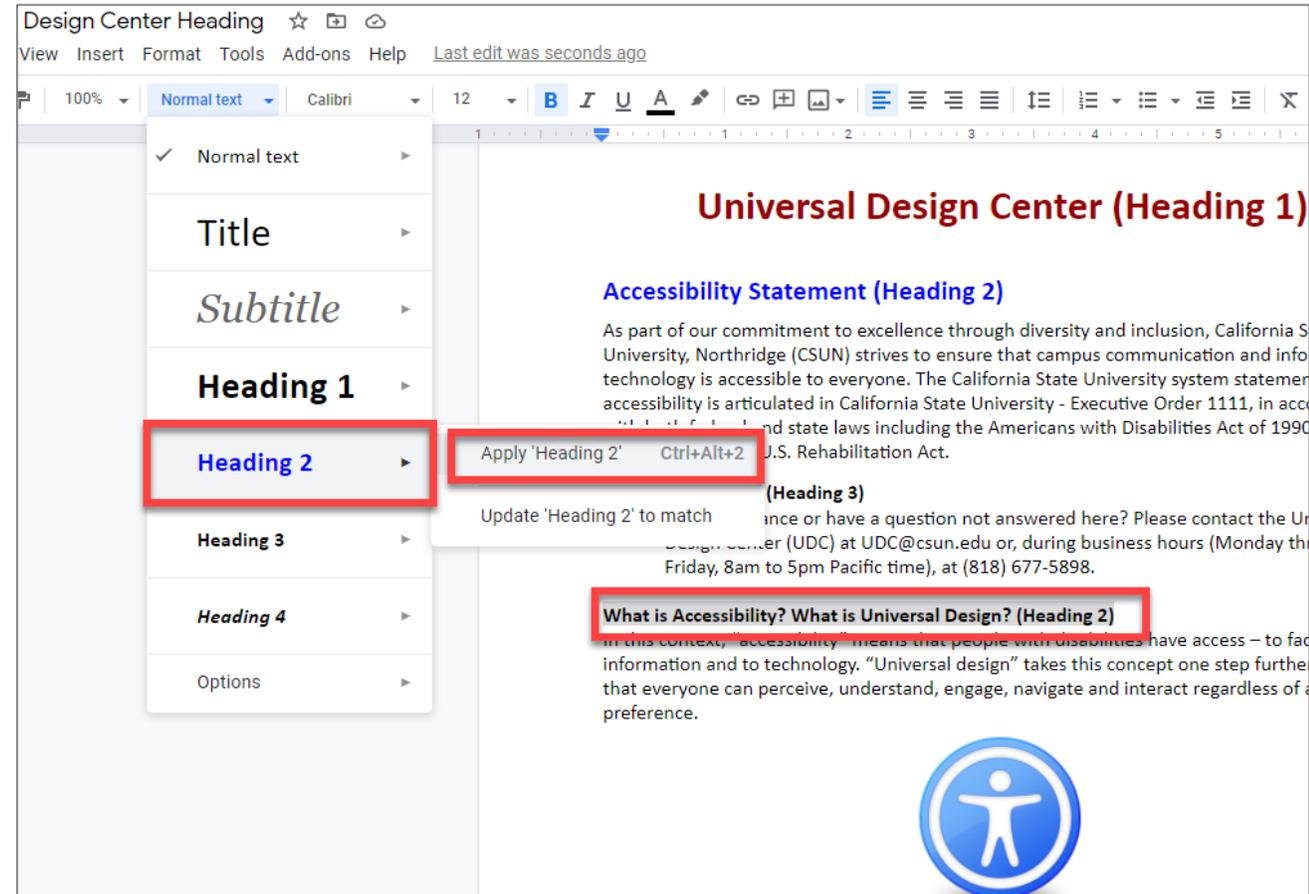
Heading Styles with Border Line

1. Select Heading 2 title

2. Format > Paragraph Styles > Borders and Shading

3. Adjust preferences for your border

4. Select **Update 'Heading 2' to match**

Heading Styles with Background Color

1. Select Heading 2 title

2. Format > Paragraph Styles > Borders and Shading

3. Adjust preferences for your border

4. Select **Update 'Heading 2' to match**

Document Outline

The quickest way to check a document's heading structure is to open **View** tab, select **Show Document Outline**
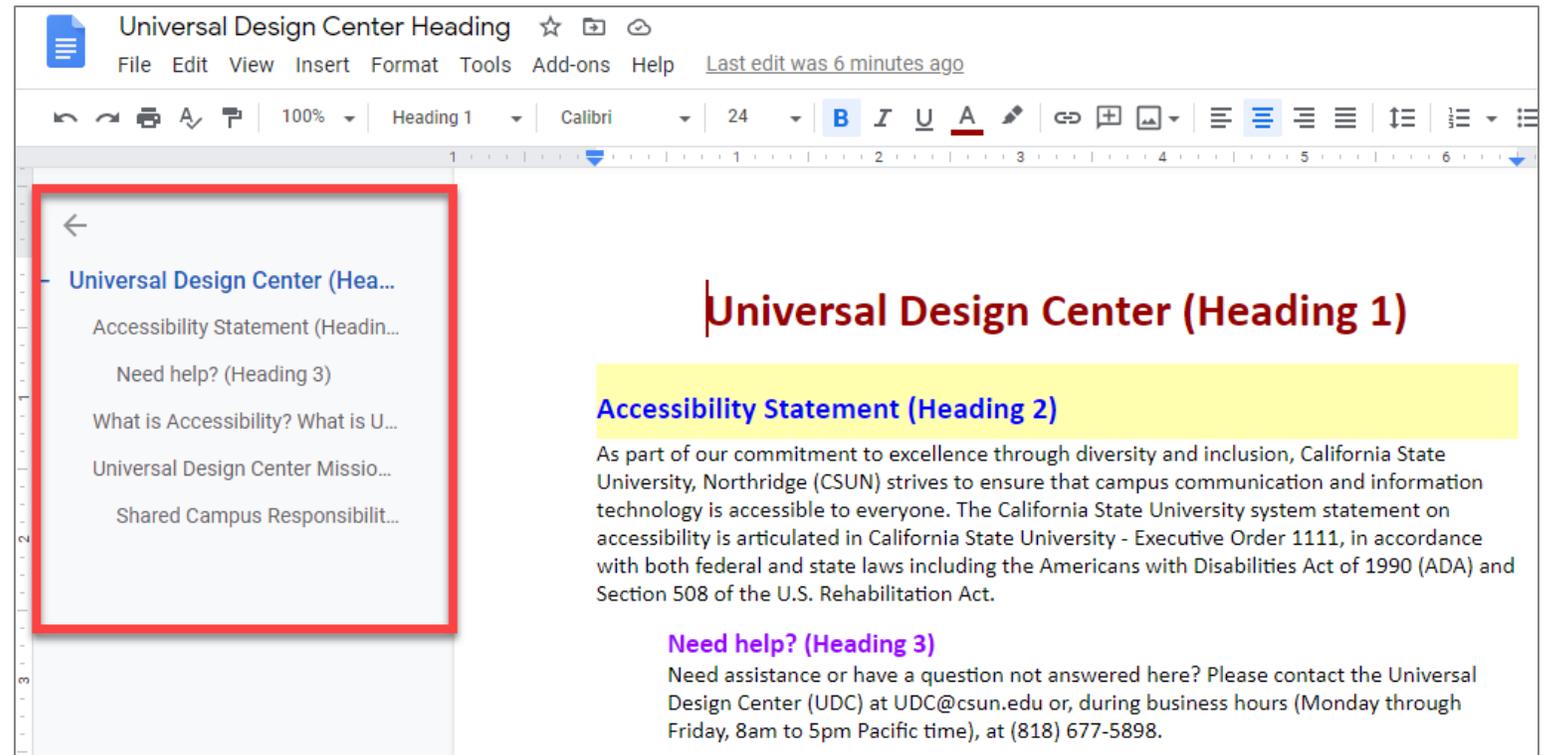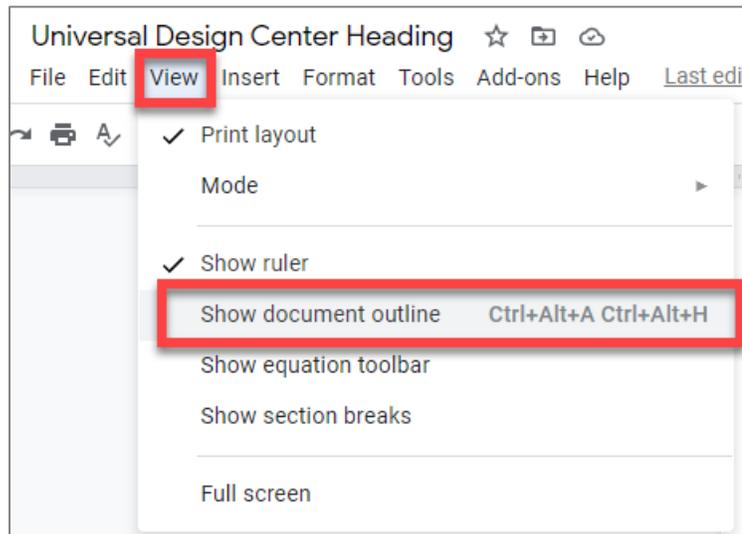
Automatic Table of Contents

Heading 1

Table of Contents

Table of Contents

- Headings structure will automatically populate a table of contents and provide accessible for screen readers rely on headings structure to navigate a page quickly.

- Adding Table of Contents to any documents or syllabus **over 8 pages** to make it easier for readers to go directly to a specific section in the document.

- **Insert > Table of Contents >** Select **with page numbers**
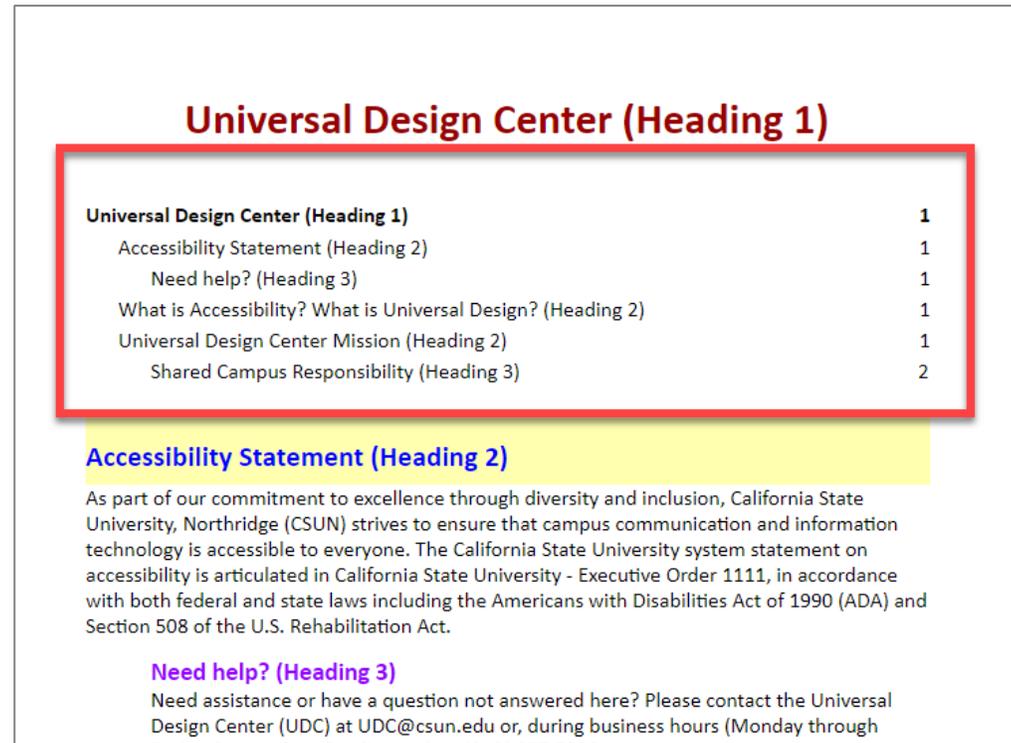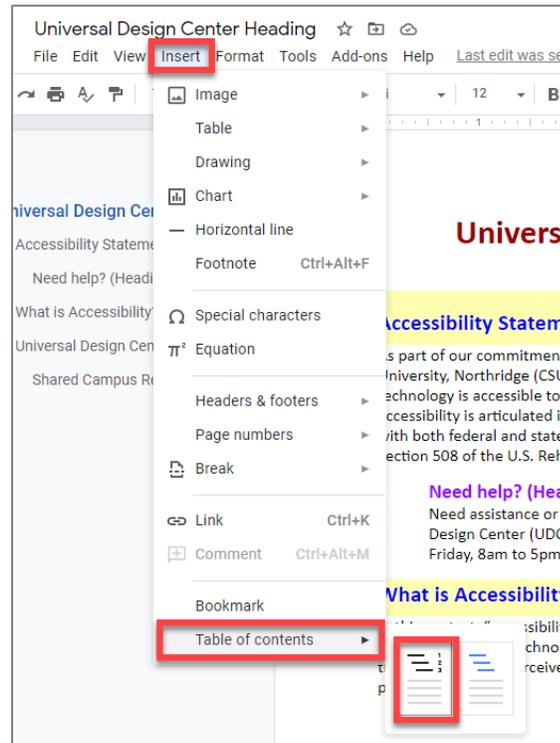
Lists
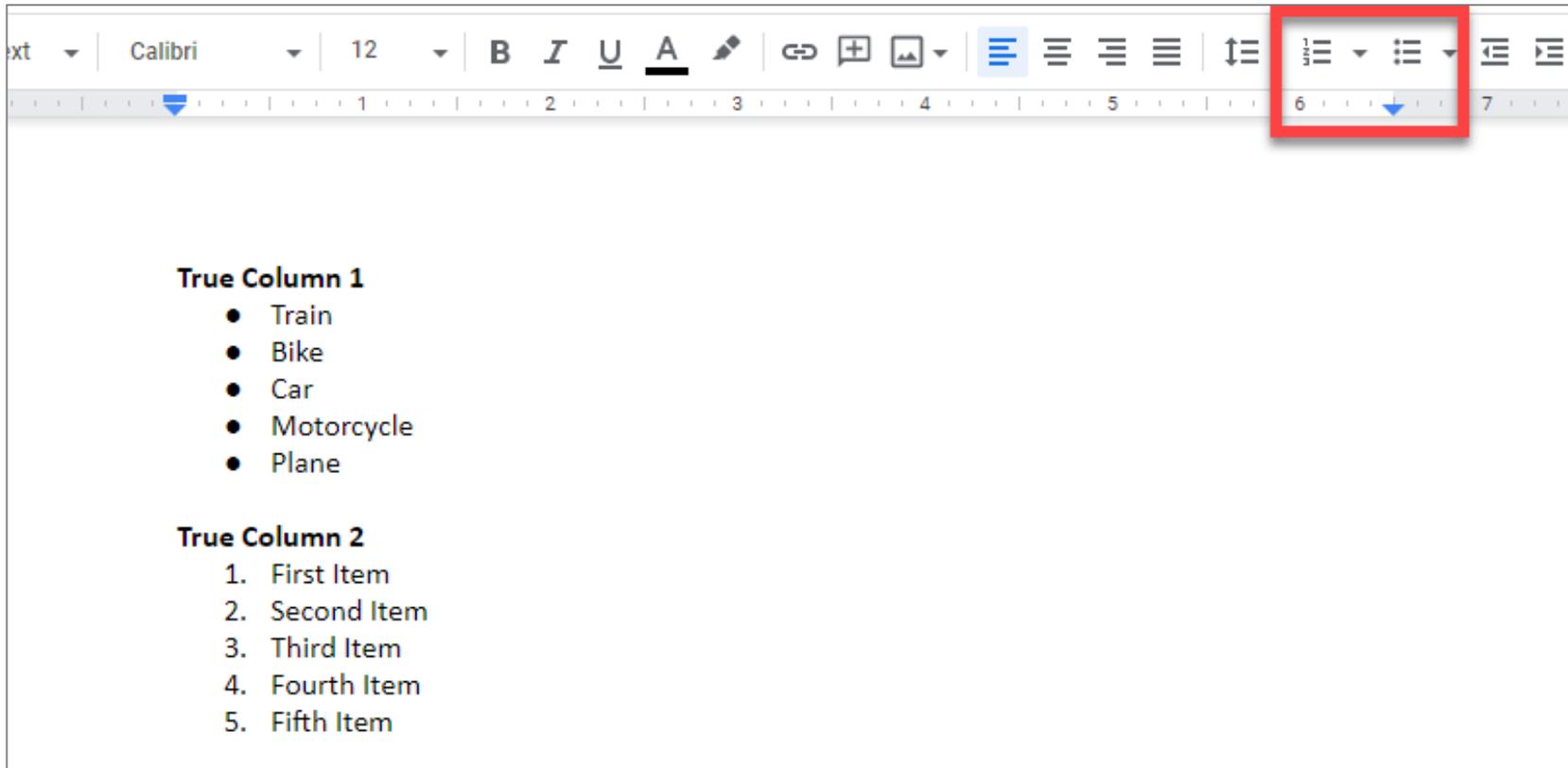
- Use the bulleted or numbered list formatting tool.

- Screen readers can read the number of items in a list before it begins to read the items.

Universal **D**esign **C**enter

Columns, 1 of 2

- If you want to make columns, format them as columns. Screen readers can read the content organized in columns.

- Do not put text on one line and use several tab stops to move it over. Screen readers will read it one line a time, not as columns.
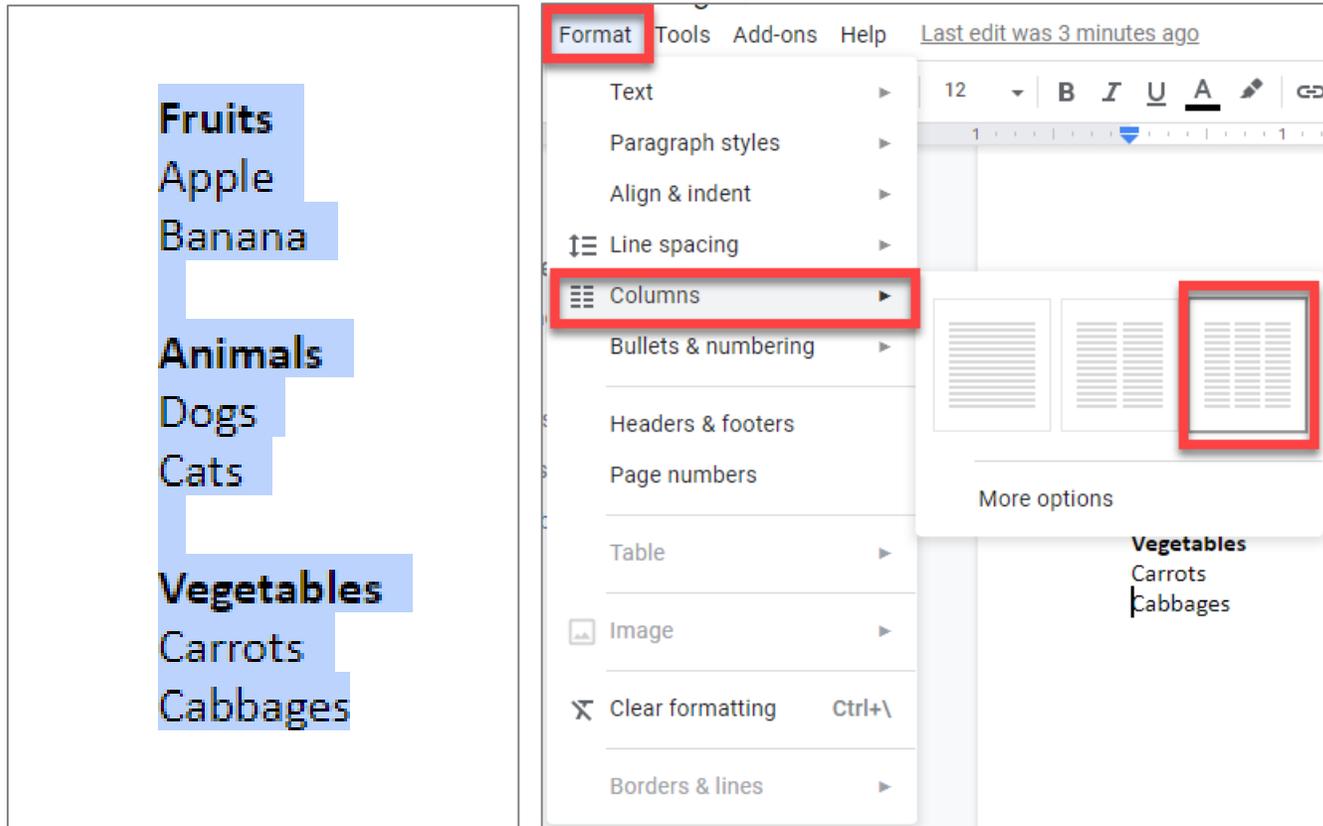
Optional: If you want to add line between the columns, select **More Columns**, checkbox **Line Between.**
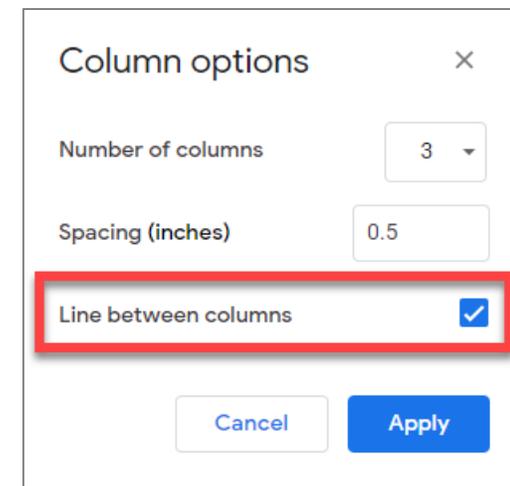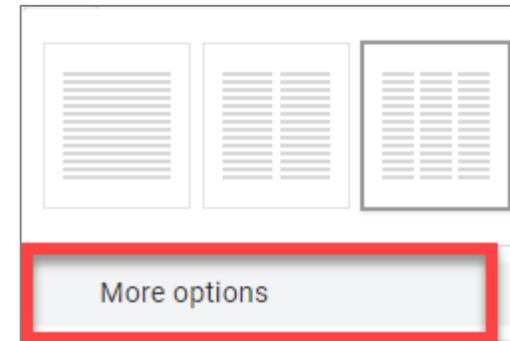
Columns, 2 of 2

Unlike Word, the columns are not automatically set up.

- First, put the cursor below the first list, select **Insert**, **Break**, **Column Break**.
- Repeat until you have all your columns set.
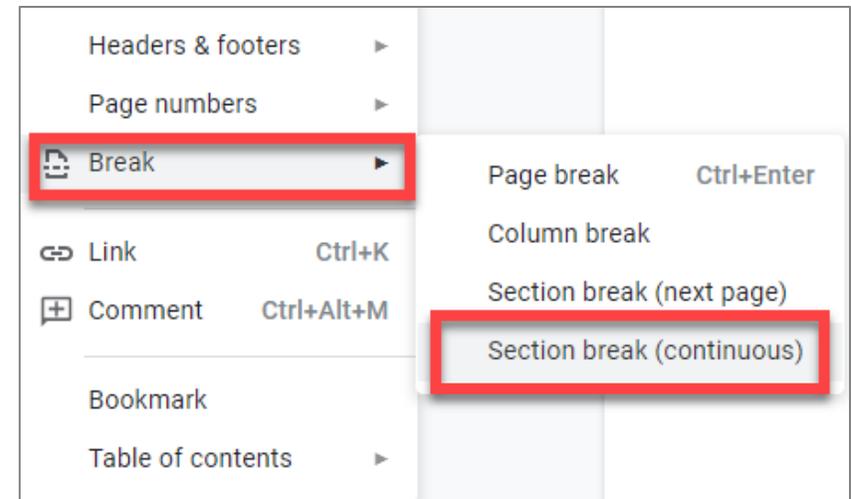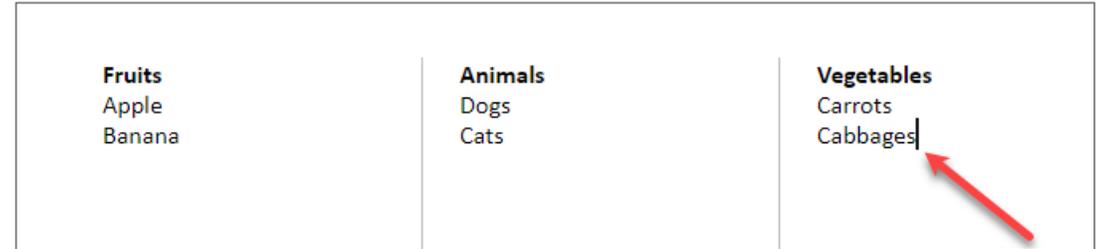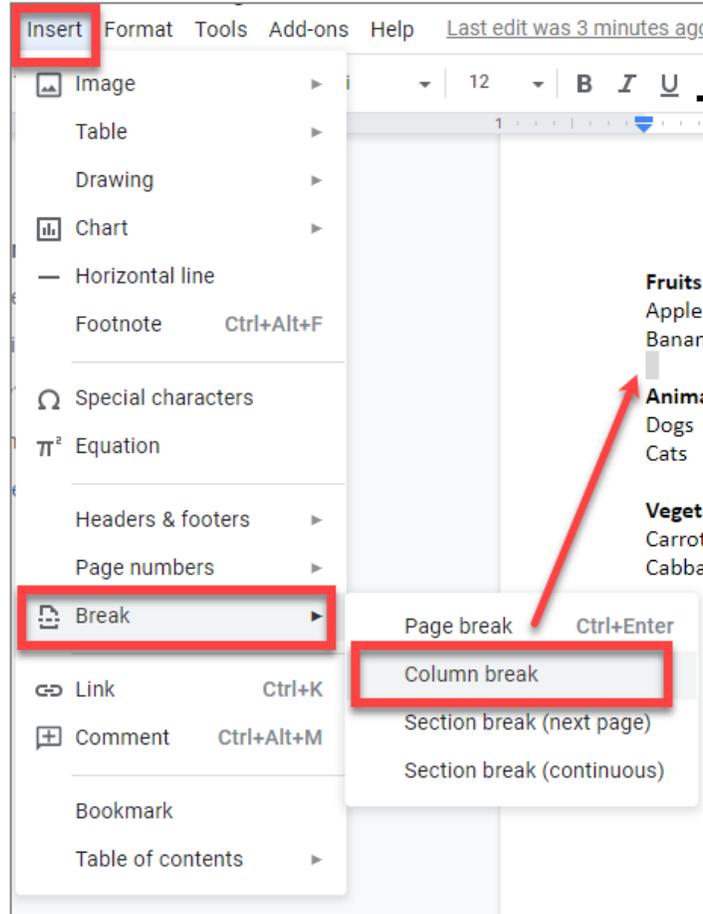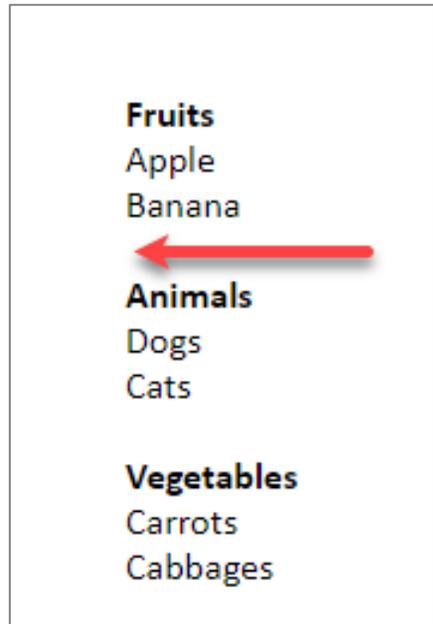
With your Google Docs opened

- Select **Add-ons** tab, then select **Manage add-ons**

- Search **Show** and Install **Show**

- Select **Add-ons, Show, Show All** paragraph marks. *Select Hide all to hide paragraph marks.*

Screen readers can read blank characters as "Blank". This can be very irritating, especially if there are multiple blank characters.

Accessibility Statement (Heading 2)¶

As part of our commitment to excellence through diversity and inclusion, California State University, Northridge (CSUN) strives to ensure that campus communication and information technology is accessible to everyone. The California State University system statement on accessibility is articulated inoCalifornia State University - Executive Order 1111, in accordance with both federal and state laws including the Americans with Disabilities Act of 1990 (ADA) and Section 508 of the U.S. Rehabilitation Act.¶

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In this context,o"accessibility"Omeans that people with disabilities have access – to facilities, to information and to technology. "Universal design"Otakes this concept one step further, to ensure that everyone can perceive, understand, engage, navigate and interact regardless of ability or preference.¶

Tools   Add-ons   Help   Last edit was made 2 hours ago by Va

Document add-ons
Grackle Docs   ▶
Show   ▶   Show all
Get add-ons   Hide all
Manage add-ons   Show   ▶
                               Hide   ▶
                               Highlight symbols
                               About

Use Page Break, 2 of 2

1. Put your cursor where you want one page to end and the next page to begin

2. Go to **Insert** > **Page Break**

3. See link for in depth information: **Page breaks for cleaner documents**
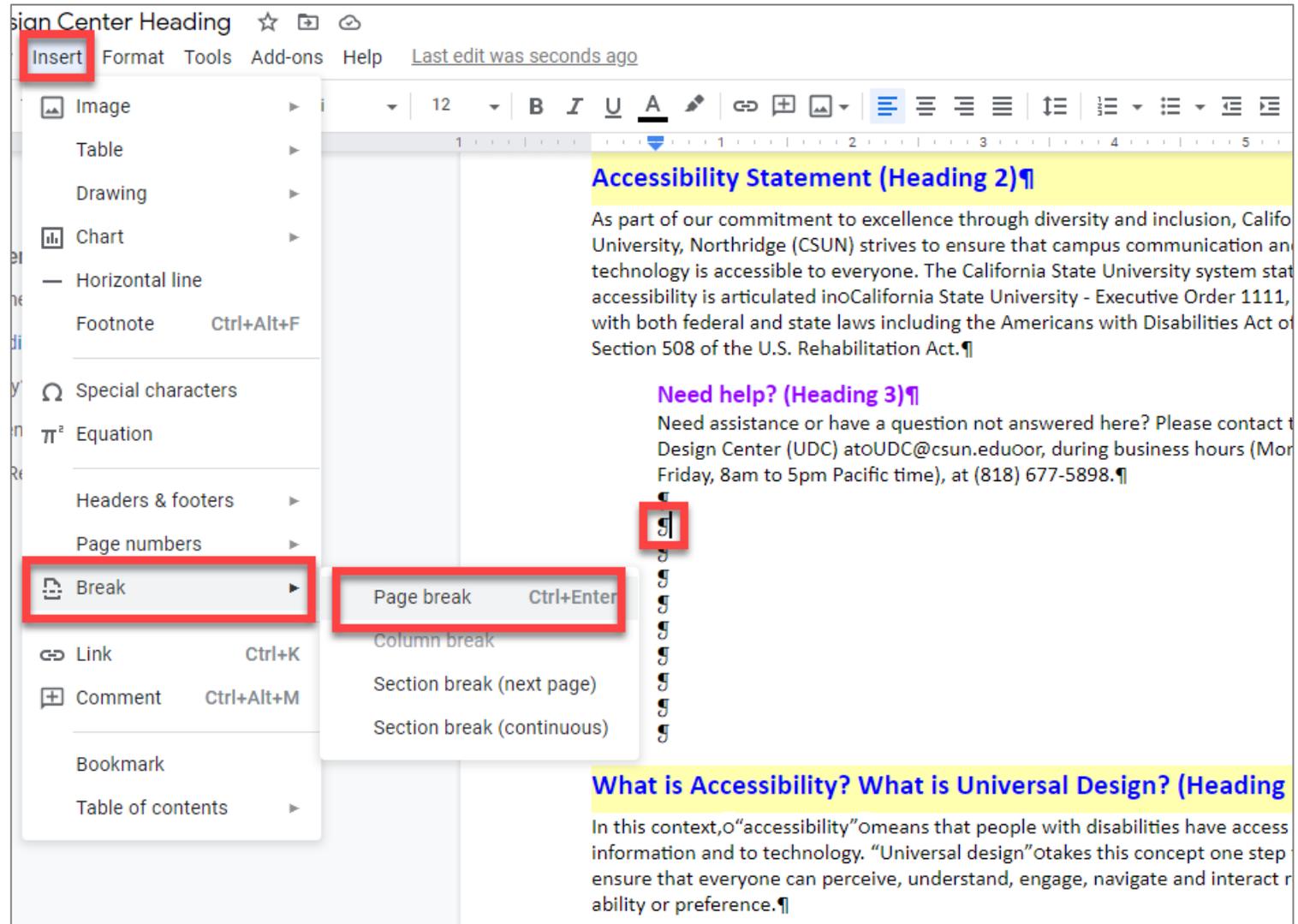
Tab Stops

To create three columns in one line, set Tab Stops.

1. View tab then Show Ruler

2. Highlight the selected text

3. Place mouse cursor on the ruler at 2.5" then select "Add left tab-stop"

4. Place mouse cursor on the ruler at 4.5" then select "Add left tab-stop"

Note: You can also set **indentation** in lieu of a single tab-stop.
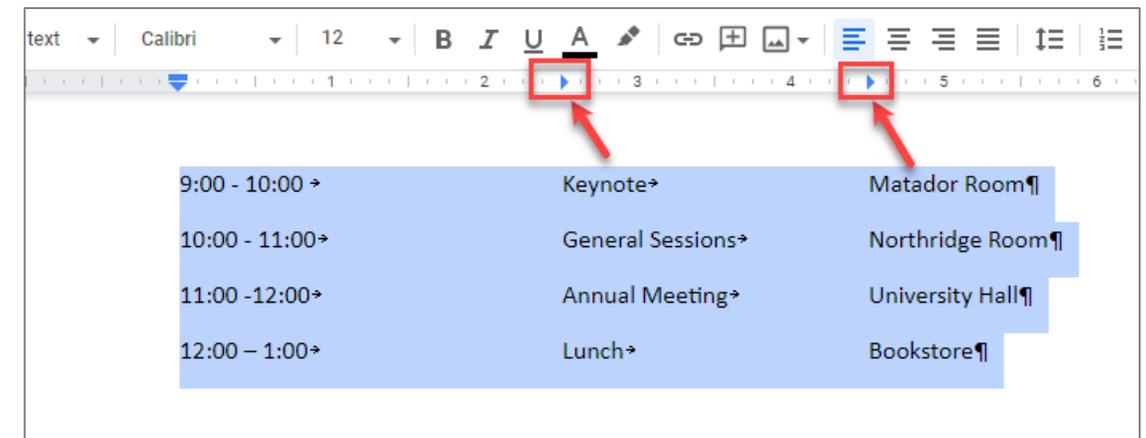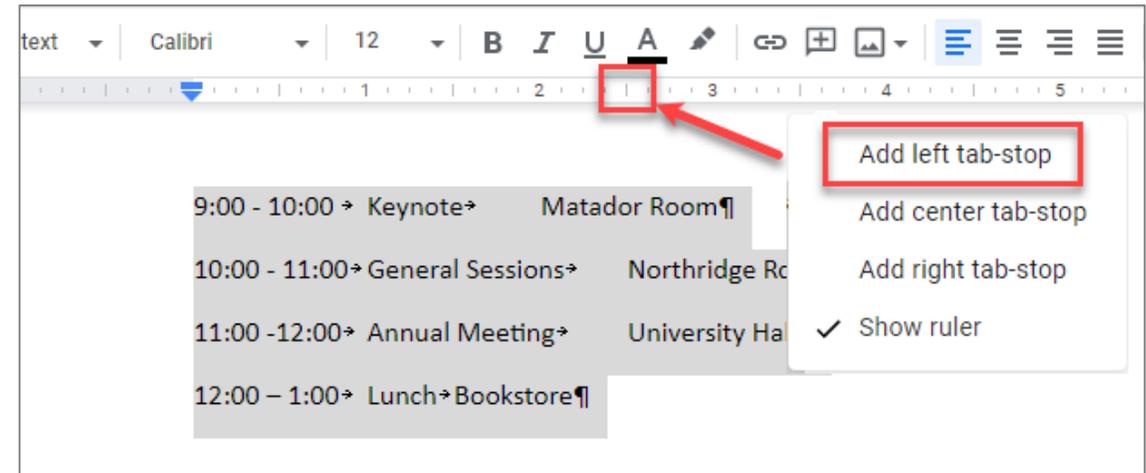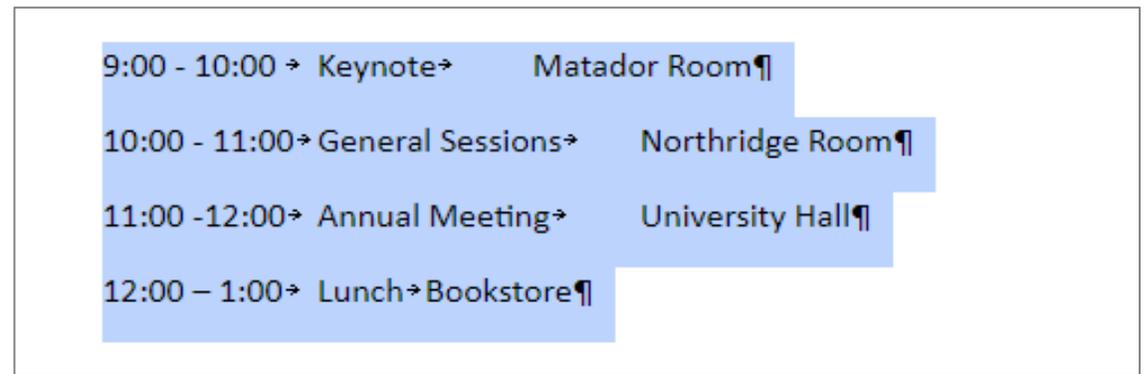
Paragraph or Line Spacing

- Avoid creating blank lines to create spaces between text.

- Use line or paragraph space to increase or decrease the amount of space between headings and paragraphs.

- Heading levels space between a heading and the previous section's body text.

How many spaces BEFORE a paragraph?

As part of our commitment to excellence through diversity and inclusion, California State University, Northridge (CSUN) strives to ensure that campus communication and information technology is accessible to everyone.

How many spaces AFTER a paragraph?

Universal Design Center (Heading 1)

Accessibility Statement (Heading 2)

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Shared Campus Responsibility (Heading 3)

Everyone has a part in creating accessible and usable information. The responsibility of creating and maintaining accessible content falls to the entire campus community.

Paragraph Spacing

- Select one or more paragraphs to update paragraph spacing

- **Format** > **Line Spacing > Custom spacing**

- Paragraph spacing, you will need to experiment in order to get the desired spacing.

- Repeat the same steps above if you'd like to add spacing for Heading Styles then select Update "Heading" to match.

Descriptive Link Text, 1 of 2

Not Accessible – vague and redundant

CSUN News

CSUN Honors Four Exceptional Graduate Students for Thesis and Project Work

CSUN's Division of Academic Affairs has selected four exceptional CSUN graduate students as the winners of the 2020 Distinguished Thesis/Graduate Project Competition, with each receiving a $1,000 award and recognition from the university. **Read more.**

CSUN Team to Tap into Power of Inouye Telescope to Study Sun's Atmosphere

With the aid of a telescope in Hawaii, a team of professors at California State University, Northridge hope to solve some of the mysteries found in the sun's atmosphere, information that could help us better understand the impact of solar flares, as well as what is happening with other stars in our solar system. **Read more.**

Minimizing the COVID Slide During the Summer

In response to the COVID-19 pandemic, schools across the nation transitioned to meeting online. Given the abruptness of the transition and lack of preparation parents had in becoming in-home teachers' aides, many parents and educators are worried about a "COVID slide" or "COVID slowdown," where students fail to retain any new information learned before and during the pandemic — as well as over the summer, when students are not in school. **Click here**

Screen readers read: "Read more, **link**" "Read more, **link**" "Click here, **link**"

Accessible – descriptive and unique

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CSUN's Division of Academic Affairs has selected four exceptional CSUN graduate students as the winners of the 2020 Distinguished Thesis/Graduate Project Competition, with each receiving a $1,000 award and recognition from the university. **Learn more about CSUN's Four Exceptional Graduate Students.**

CSUN Team to Tap into Power of Inouye Telescope to Study Sun's Atmosphere

With the aid of a telescope in Hawaii, a team of professors at California State University, Northridge hope to solve some of the mysteries found in the sun's atmosphere, information that could help us better understand the impact of solar flares, as well as what is happening with other stars in our solar system. **Continue reading about CSUN's Astronomy Team.**

Minimizing the COVID Slide During the Summer

In response to the COVID-19 pandemic, schools across the nation transitioned to meeting online. Given the abruptness of the transition and lack of preparation parents had in becoming in-home teachers' aides, many parents and educators are worried about a "COVID slide" or "COVID slowdown," where students fail to retain any new information learned before and during the pandemic — as well as over the summer, when students are not in school. **Learn more about the "COVID Slide".**

Screen readers read: The content and link text then announce the word **"link"**

Full URL text https://www.csun.edu/universal-design-center
(raw URL may not make sense to screen reader users or others, so make the link text descriptive i.e. Universal Design Center)

Descriptive Link Text, 2 of 2

A presentation that is intended to be displayed electronically and in a printout, include the URL and a description in the link text. For example, "Universal Design Center (www.csun.edu/universal-design-center)."

Best Practices for Accessible Links

DESCRIPTION

- Link text must always properly **describe the purpose** of the link and tell a user **where** the link will take them.

- Do not use text such as "**click here**" or "**read more,**" nor web addresses (URLs).

PRESENTATION

- Each link on the page should be **visually different** from regular text on the website.

- Can be differentiated by color, **bold,** underline, or *italics*.

- Using color alone **does not** make it accessible.

FUNCTIONALITY

- Link functionality is about ensuring a link functions the way the user expects.

- Links must always enhance the accessibility of a webpage.

- Users must be able to access links using a mouse, keyboard, or speech recognition commands.

LINKED IMAGES

- A linked image is an image (with or without text) that is linked to another resource or webpage.
- Linked images need link descriptions as well as image descriptions (alt text).
- If the link description is different than the alt text, enter the link description in the HTML Title field.
- Visit Linked Images on the Best Practices for Accessible Images page for more information.

Visual Challenge
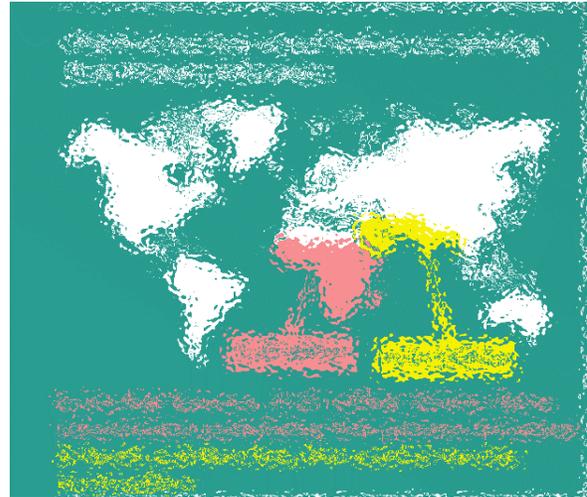
Normal vision   Low vision   Color blindness   Blind or deaf-blind
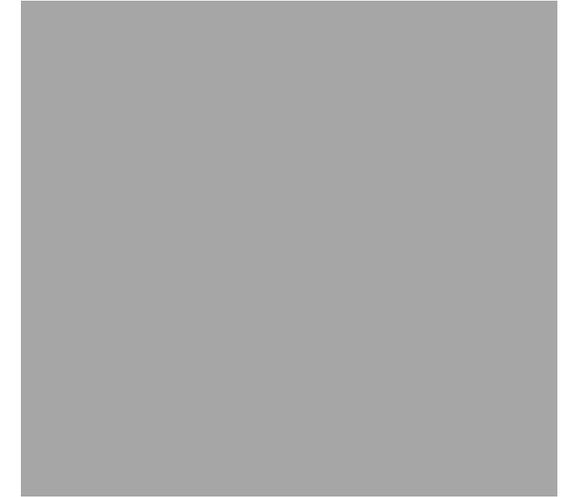
What's the best way to make images accessible to everyone?

Image Alternative or Alt Text

Screen readers and other AT announce that it's an "image" or "graphic", then read the alt text: "Three plants going through transformation with text quote Accessibility user-friendly document for CSUN student success."

- The purpose of **Alt Text** is to allow low vision or blind users who use text-to-speech assistive technologies (AT), such as screen readers, to understand the purpose of graphic images. Sighted users usually don't see alt text unless they use AT.

- Screen readers and other AT **can't** convert images into texts. So, when writing alt text, consider the following for images:

  o Describe the content and the purpose of the image clearly and concisely, in a phrase or a sentence or two. Keep alt text short 200 characters or less.

  o Image with text (for example, the CSUN wordmark) should include the words on the image.

  o "Image of...", "Photo of..." is not needed because screen readers and other AT announce that it's an "image" or "graphic".

  o When completing the alt text, use proper punctuation such as periods to indicate the end of the alt text. Without proper punctuation, some screen readers will run the alt text into the body text that follows and cause confusion to the user.

  o Don't insert hyperlinks in alt text because they are not clickable and can't create descriptive link text.

How to Describe Images?

A stair chase leading up to an entryway is painted yellow with bold black text that reads museums are now.

A hand reaches out of a computer screen giving the hand gesture for stop. The screen reads 'access denied!'
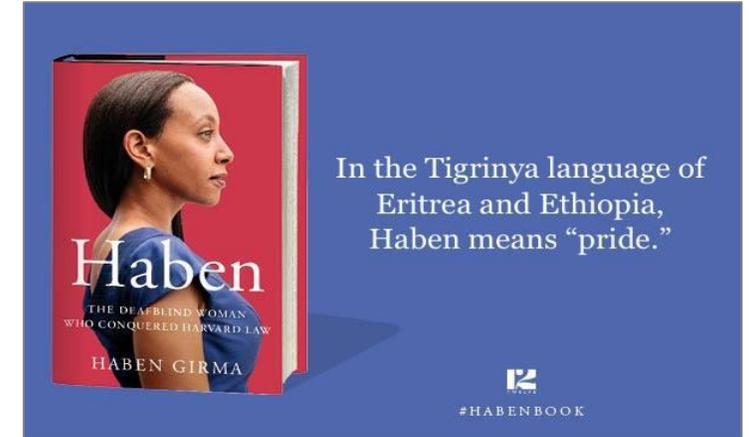
On the left is the book cover for Haben The Deafblind Woman Who Conquered Harvard Law, and on the right is the quote: "In the Tigrinya language of Eritrea and Ethiopia, Haben means 'pride.'"

Michelle Obama claps and Barack waves.

Student holds a diploma hardcover up in the air during CSUN commencement. Caption text "and together, as Matadors, we will move mountains."

More examples of How to Describe Images

- Document Learning Tools: Describing images

- How to Describe Images (Art, Chemistry, Diagrams, Flow Charts, Formatting & Layout, Graphs, Maps, Mathematics, Page Layout, Tables, Text-only images)

- Periodic Table of the Elements

- UDC Best Practices for Describing Images

Google Docs - Adding Alt Text

1. Select an image, drawing, or graphic.

2. Right click > **Alt Text.**

3. Add the alt text in the **Description** field.

4. Select **OK**.
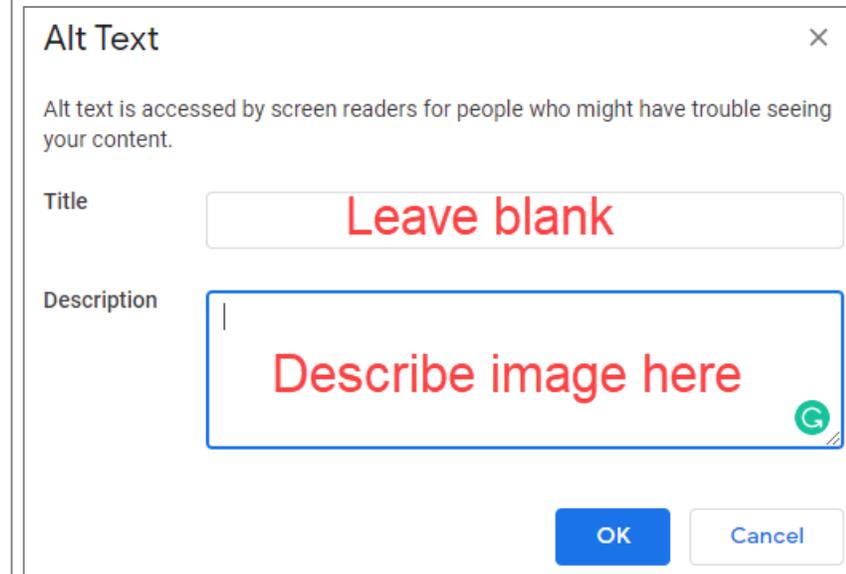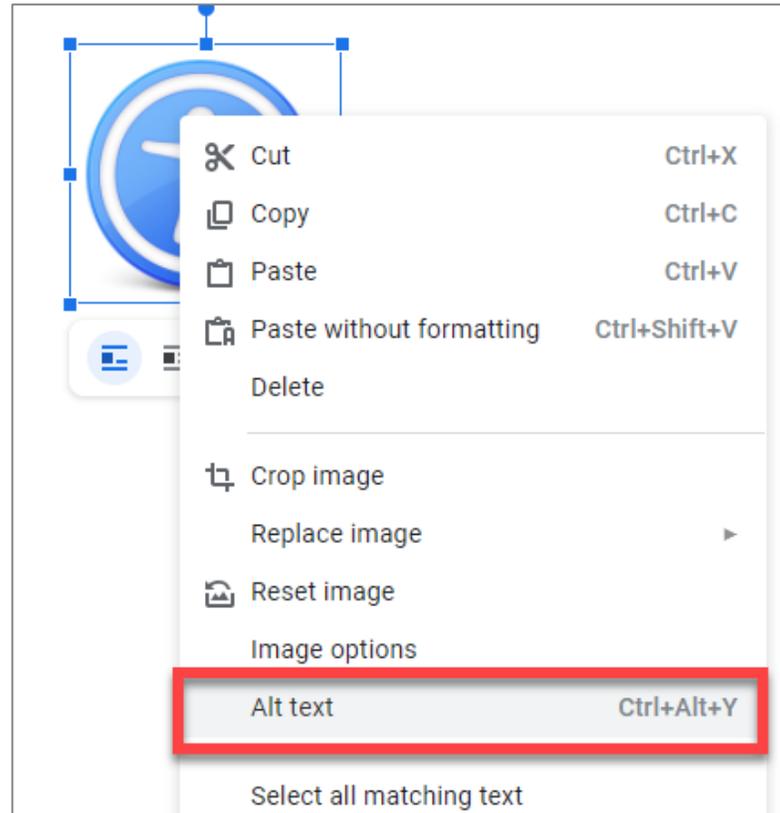
What are Decorative Images?

- Conveys no information; does not provide meaningful information.
- Purely for visual effect.
- The horizontal line that divided the two sections.
- Line border image used as part of page design.
- Decorative images do not require a text alternative.
- **Decorative images, lines, borders, or shapes ignore by assistive technologies, such as screen readers.**
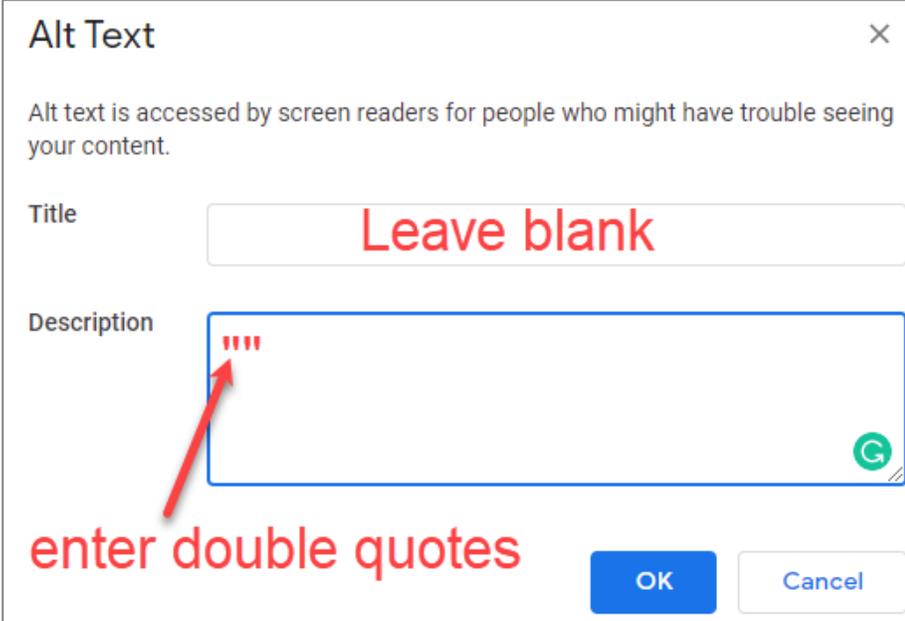
Alt Text

Alt text is accessed by screen readers for people who might have trouble seeing your content.

Title — Leave blank

Description — "" enter double quotes

OK   Cancel

Content text here.

Footer text here.

This line separator does not need alternative text because it does not convey any additional information.
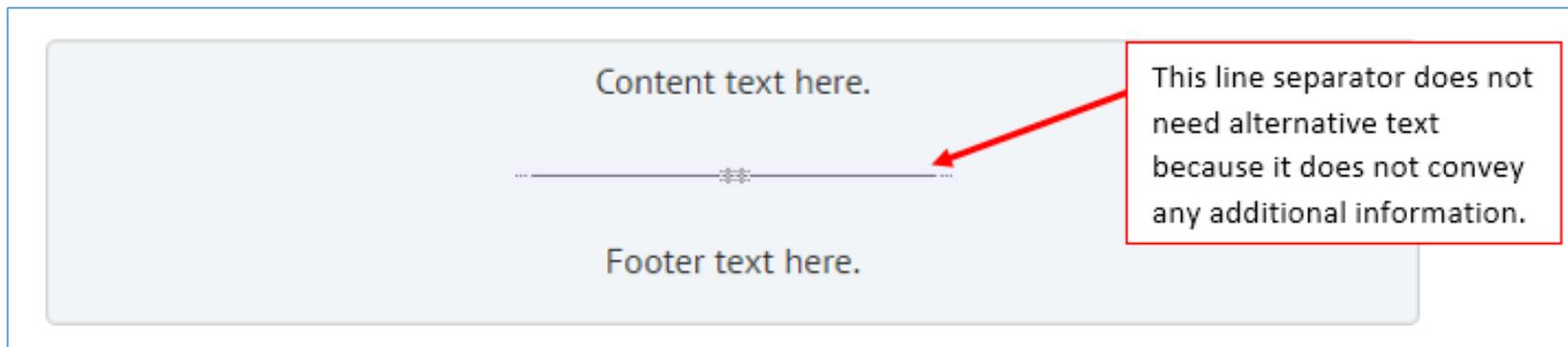
Image Position

Text wrapping around an image, screen readers will skip it. To ensure screen readers do not skip over an image, the image needs to be on its own line "**InLine with Text**".
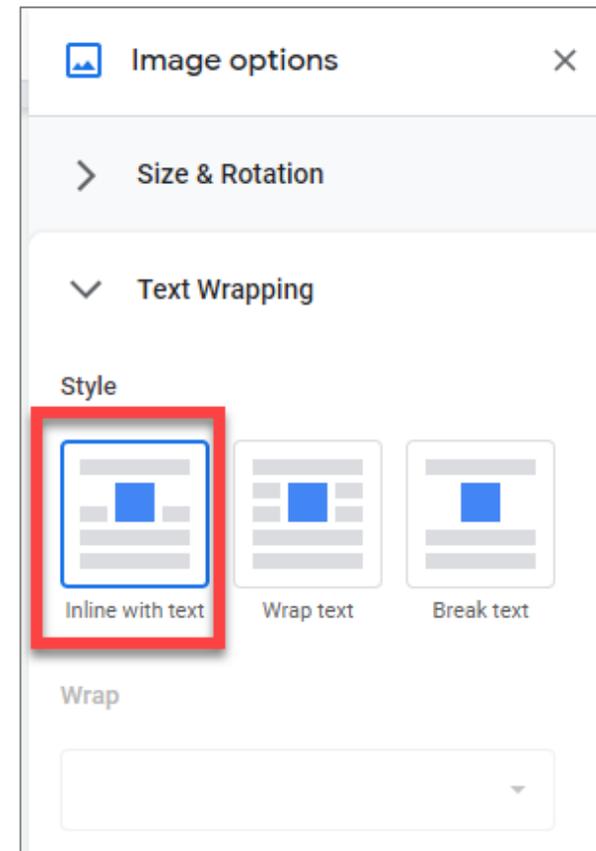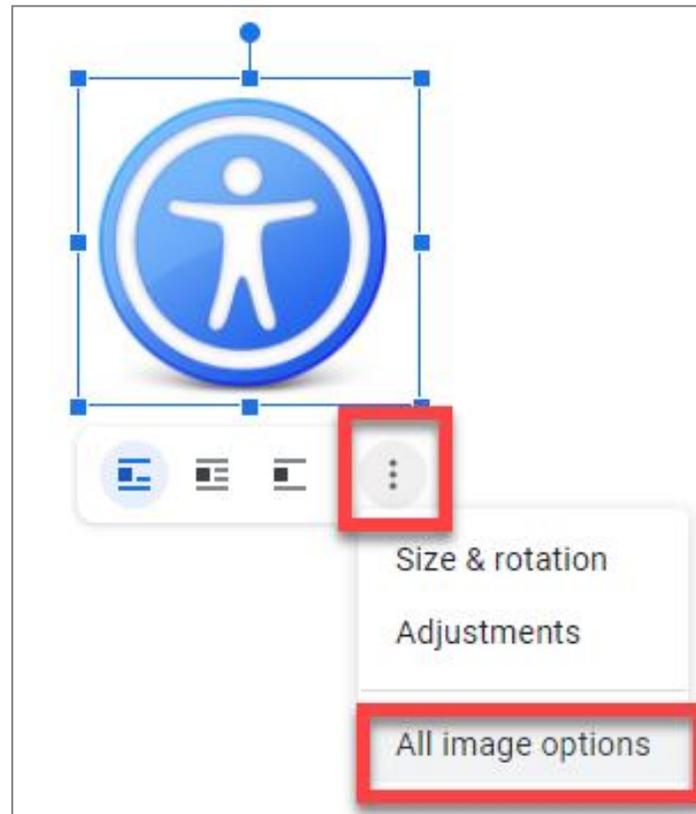
Images

- At times alternative text and caption are not the most appropriate method to describe an image. As such, the description of the image can be conveyed within the surrounding body of the text.

- If you do this, include the words "In the image above", "..below", etc. that way the user knows you are describing the image that did not have alt text and caption within the paragraph.

One of Australia's most remarkable natural gifts, the Great Barrier Reef (**shown in the image above**) is blessed with the breathtaking beauty of the world's largest coral reef. The Reef contains an abundance of marine life and comprises of over 3000 individual reef systems and coral cays and literally hundreds of picturesque tropical islands with some of the worlds most beautiful sun-soaked, golden beaches.

Complex Images

Some images, such as graphs, charts or informative illustrations require fairly lengthy explanations to make them accessible. When this is the case, there are a few options:

1. Provide a brief alt text description of the image and a longer description within the text of the document. This may be helpful for others as well since some people have difficulty understanding charts and graphs.

2. Provide a brief alt text description of the image and create a section at the end of the document for long descriptions.

3. Provide a brief alt text description of the image and create a separate document with a long description of the image.

Credit to [Explore Access](#)

Website Accessibility Assessment of All Organizational Sites

- Fewer than 2 errors on page
- 3 to 5 errors on page
- 6 to 10 errors on page
- More than 10 errors on page

5%
30%
20%
45%
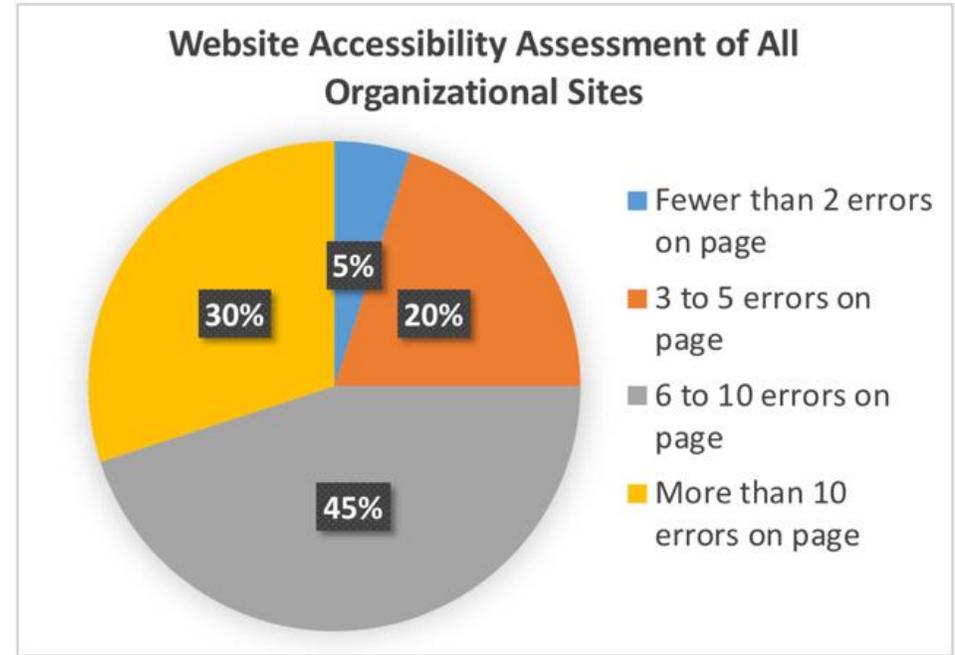
Example of Option 1

Chart 1. Website Accessibility Assessment of All Organizational Charts. Findings from the assessment indicate the following: 5% of organizational websites had fewer than 2 errors on the home page; 20% had 3 to 5 errors; 45% had 6 to 10 errors; and 30% had more than 10 errors on the home page.

Provide descriptions if using color to convey meaning

Example 1: Inaccessible color highlights in red

May 11 to 17, 2019

Example 1: Accessible with a description

May 11 to 17, 2019* (final exams)

Example 2: Inaccessible table

Example 2: Accessible table

Example 3: Inaccessible color shape
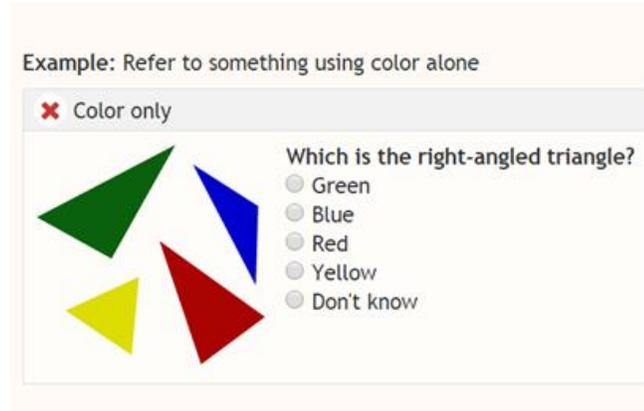
Color identical may not be recognized by colorblind users
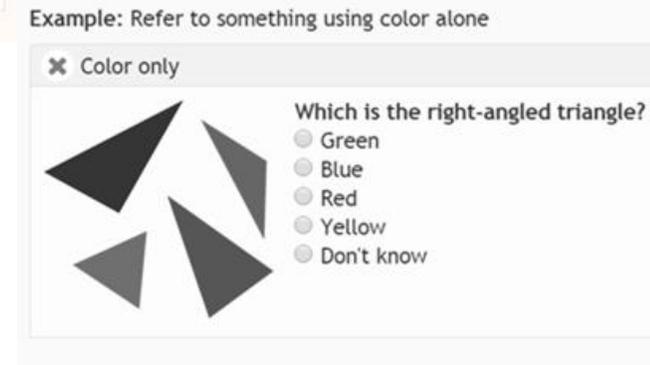
Example 3: Accessible color and number

Check Color Contrast

## Colour Contrast Analyser (CCA) — Example 1

Foreground colour — RGB — rgb(44, 44, 44)

Background colour *(purple)* — HEX — #800080

▼ Sample preview

example text showing contrast

WCAG 2.1 results — Contrast ratio 1.5:1

▼ 1.4.3 Contrast (Minimum) (AA)

[Paraphrased] Text (including images of text) has a contrast ratio of at least **4.5:1** for "regular" sized text and at least **3:1** for large scale text (at least 18pt / 24px, or bold and at least 14pt / 18.5px), unless the text is purely decorative.

❌ Fail (regular text)   ❌ Fail (large text)

▼ 1.4.6 Contrast (Enhanced) (AAA)

[Paraphrased] Text (including images of text) has a contrast ratio of at least 7:1 for "regular" sized text and at least 4.5:1 for large scale text (at least 18pt / 24px, or bold and at least 14pt / 18.5px), unless the text is purely decorative.

❌ Fail (regular text)   ❌ Fail (large text)

▼ 1.4.11 Non-text Contrast (AA)

[Paraphrased] The visual presentation of user interface components (their states – including focus indication – and boundaries) and graphical objects has a contrast ratio of at least 3:1 against adjacent color(s)

❌ Fail (UI components and graphical objects)

People who have low vision or colorblind could encounter some difficulty distinguishing text color from a background color if the contrast is insufficient contrast ratio 1.5:1.

Colour Contrast Analyser (CCA) — Example 2

Foreground colour *(black)* — RGB — rgb(0, 0, 0)

Background colour — HEX — #E69500

▼ Sample preview

example text showing contrast

WCAG 2.1 results — Contrast ratio 8.7:1

▼ 1.4.3 Contrast (Minimum) (AA)

[Paraphrased] Text (including images of text) has a contrast ratio of at least **4.5:1** for "regular" sized text and at least **3:1** for large scale text (at least 18pt / 24px, or bold and at least 14pt / 18.5px), unless the text is purely decorative.

✅ Pass (regular text)   ✅ Pass (large text)

▶ 1.4.6 Contrast (Enhanced) (AAA)

✅ Pass (regular text)   ✅ Pass (large text)

▶ 1.4.11 Non-text Contrast (AA)

✅ Pass (UI components and graphical objects)

This example has a great color contrast ratio of 8.7:1. The contrast is sufficient for those who have color deficiencies

Color Contrast Examples

Bad Examples	Good Examples
Red on black is bad	Yellow on black is good
Blue on orange is bad	Black on orange is ok
Red on green is bad	White on green is good
Grey on purple is bad	Aqua on purple is ok

- Download Colour Contrast Analyser onto your computer (PC/Mac) to ensure accessible contrast or use an online contrast checker from WebAIM.
- WCAG Level AA requires a contrast ratio of at least **4.5:1** for regular sized text (12 or 14 pt. font) and **3:1** for large text (18 pt. font).
- Coblis Color Blindness Simulator

Tips for Creating Accessible Tables

Use Google Docs' built-in to create Tables

- Create tables by inserting them. **Avoid creating tables by drawing boxes** and lines or by using tabs and spaces. Screen readers have difficulty understanding tables with odd cell sizes.

- Simple Data Tables only.

- Screen readers read tables from left to right, top to bottom, one cell at a time.

Keep your table simple

- Simple tables are easier to interpret for all students and screen readers.

- **Avoid** merging cells, split cells, no blank cells, as well as tables nested within a cell.

- Use tables to organize data not format information. Never use table for layout.

- The complex a table (merging cells, nesting multiple headings under one, adding blank lines, etc.) the worse it will be for accessibility.

- Sample of Simple Tables vs. Complex Tables by Penn State.

Accessible grading scale in table vs non-table format

Non-table format

A plus = 1000 to 970 points

A = 969 to 940 points

A minus = 939 to 900 points

B plus = 899 to 870 points

B = 869 to 840 points

B minus = 839 to 800 points

C plus = 799 to 770 points

C = 769 to 740 points

C minus = 739 to 700 points

D plus = 699 to 670 points

D = 669 to 512 points

D minus = 639 to 600 points

F = 599 points or lower

*Different screen readers may read texts differently. The "**+/-**" may not be read out loud. Screen readers will read **+** symbol for plus but not **-** symbol. Screen readers do not know whether **-** symbol is minus, hyphen, dash, en dash or em dash. It is always a good practice to spell them out and spell out any abbreviations or make a reference to your abbreviation when used for the first time. Visit [Screen Readers: A Guide to Punctuation and Typographic Symbols](#).*

Table format

Grade	Points	Percentage
A plus	960 to 1000	96 to 100%
A	930 to 959	93 to 95%
A minus	900 to 929	90 to 92%
B plus	860 to 899	86 to 89 %
B	830 to 829	83 to 85%
B minus	800 to 829	80 to 82%
C plus	760 to 799	76 to 79%
C	730 to 759	73 to 75%
C minus	700 to 729	70 to 72%
D plus	660 to 699	66 to 69%
D	630 to 659	63 to 65%
D minus	600 to 629	60 to 62%
F	599 points or lower	59% or lower

Use Tables for Data

Use tables for presenting data, not for changing the visual layout of the page. In the table, include a heading row (rather than starting with data in the first row) because screen readers automatically read the first row as a heading row.

- Select **Insert** tab, then select **Table.**
- Select the number of rows and columns by highlighting the boxes on the grid.
- Right-click to select Table Properties to adjust color, dimensions, or alignment.
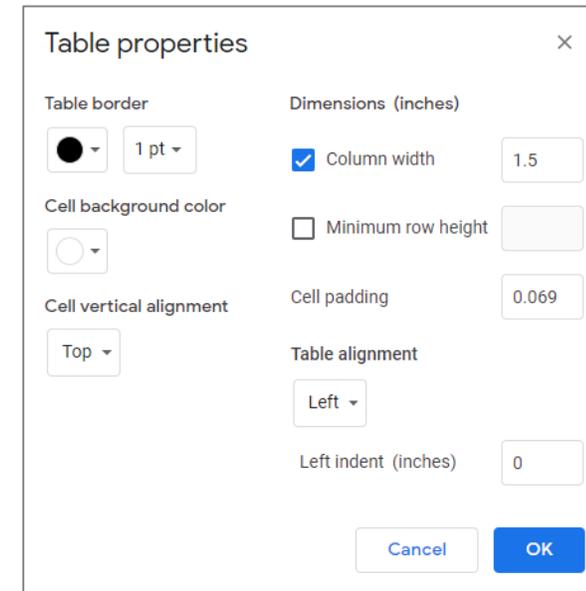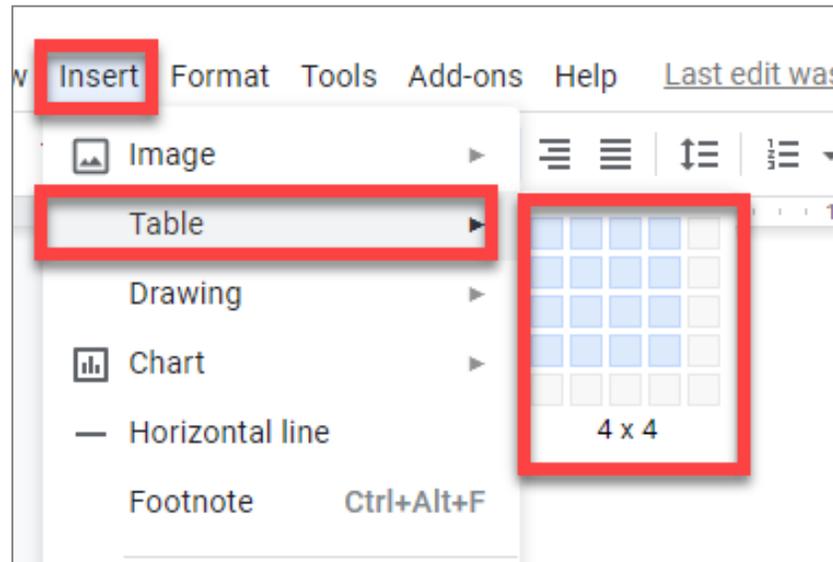
Table Color

Avoid using color as the only means to convey information. For example, in the table below, the complete and incomplete items may appear the same to someone who is color blind:

Project	Due Date	Completed
Project 1	March 15, 2020	X
Project 2	April 15, 2020	X
Project 3	May 15, 2020	X

A **better** option would be to provide another way of conveying information not just color alone:

Project	Due Date	Completed
Project 1	March 15, 2020	N or No
Project 2	April 15, 2020	Y or Yes
Project 3	May 15, 2020	Y or Yes

Headers and Footers

Q: Should I included headers and footers in my document?

A: Headers and Footers are not always read immediately to screen reader users. However, if a screen reader user wants to look at the header there are methods for them to do that.

Headers and Footers can be used to hold document information but should **never** hold important document content such as filename, document owner etc.

## Select Insert tab, select Headers & Footers

Accessibility Checker for Google Docs

There isn't a complementary service provided by Google to do an accessibility check. However, there is **Grackle Docs,** which is an Add-ons that extends the accessibility of **Google Docs** by automatically checking all aspects of your document and advising you how to make things better. Grackle Docs is free for 30 days. Learn more about **Grackle Docs**.

Alternative to download Google Docs to Word

- The most reliable method for creating a PDF from a Google Doc document is to first export it as an MS Word document, then convert the Word document into a PDF. This will preserve the majority of formatting elements that are present within the Word document.

- File > Download > Microsoft Word (.docx)

- **Microsoft Office is available for free to all CSUN faculty, staff and students. Faculty and staff may also use Office Online or install Office on their personal devices.**

Word Accessibility Checker
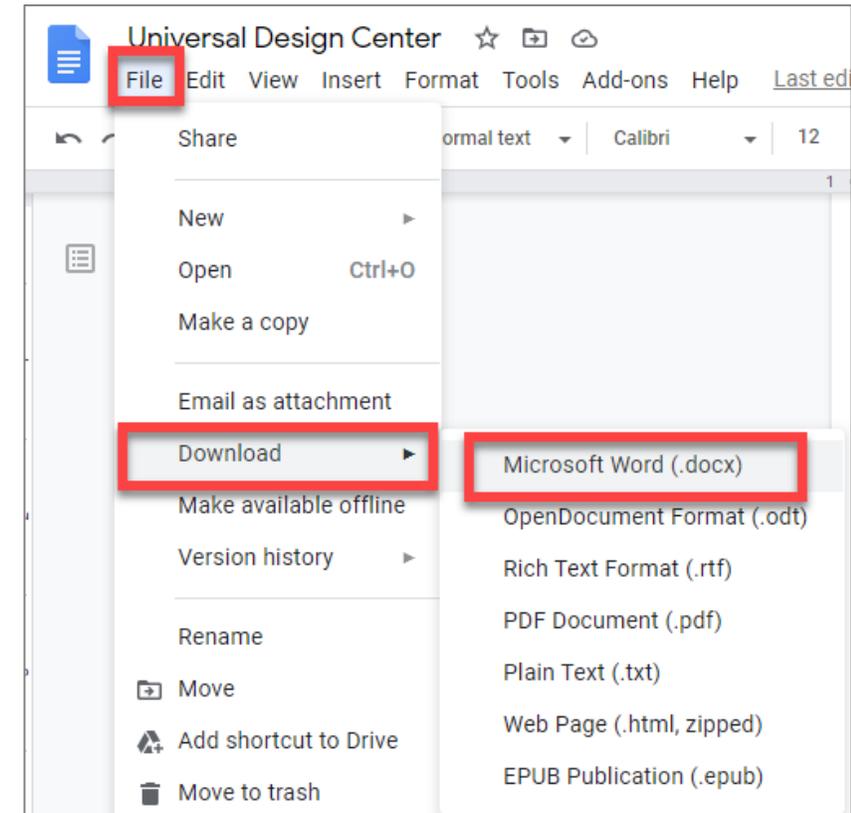
The accessibility checker will identify certain accessibility issues:

- Headings that are not in logical order

- Images with no alt text

- Tables have the header box checked

- Tables that have merged cells or with empty cells

- Large numbers of repeated blank characters (spacebars, tabs, enters)
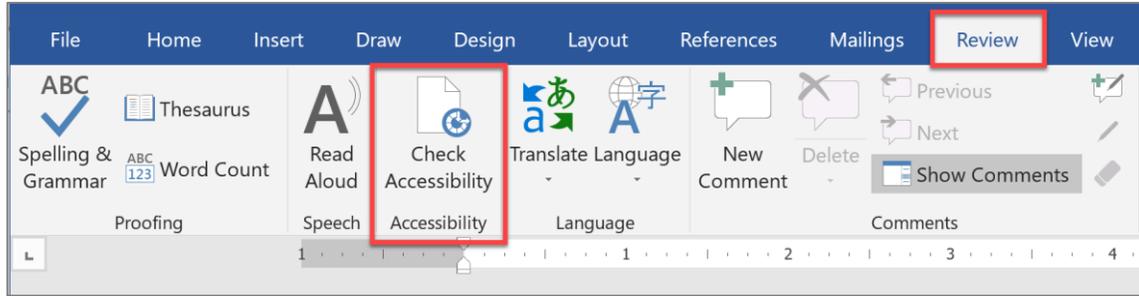
- Word 365: Select **Review** tab, select **Check Accessibility**
- Word 2016: Select **File** menu, then **Check for Issues** and select the **Check Accessibility** from the drop-down menu.

Universal **D**esign **C**enter

csun.edu/udc

# Check for Issues, Check Accessibility

Always use Word's built-in Accessibility Checker

Repair Errors, Warnings and Tips
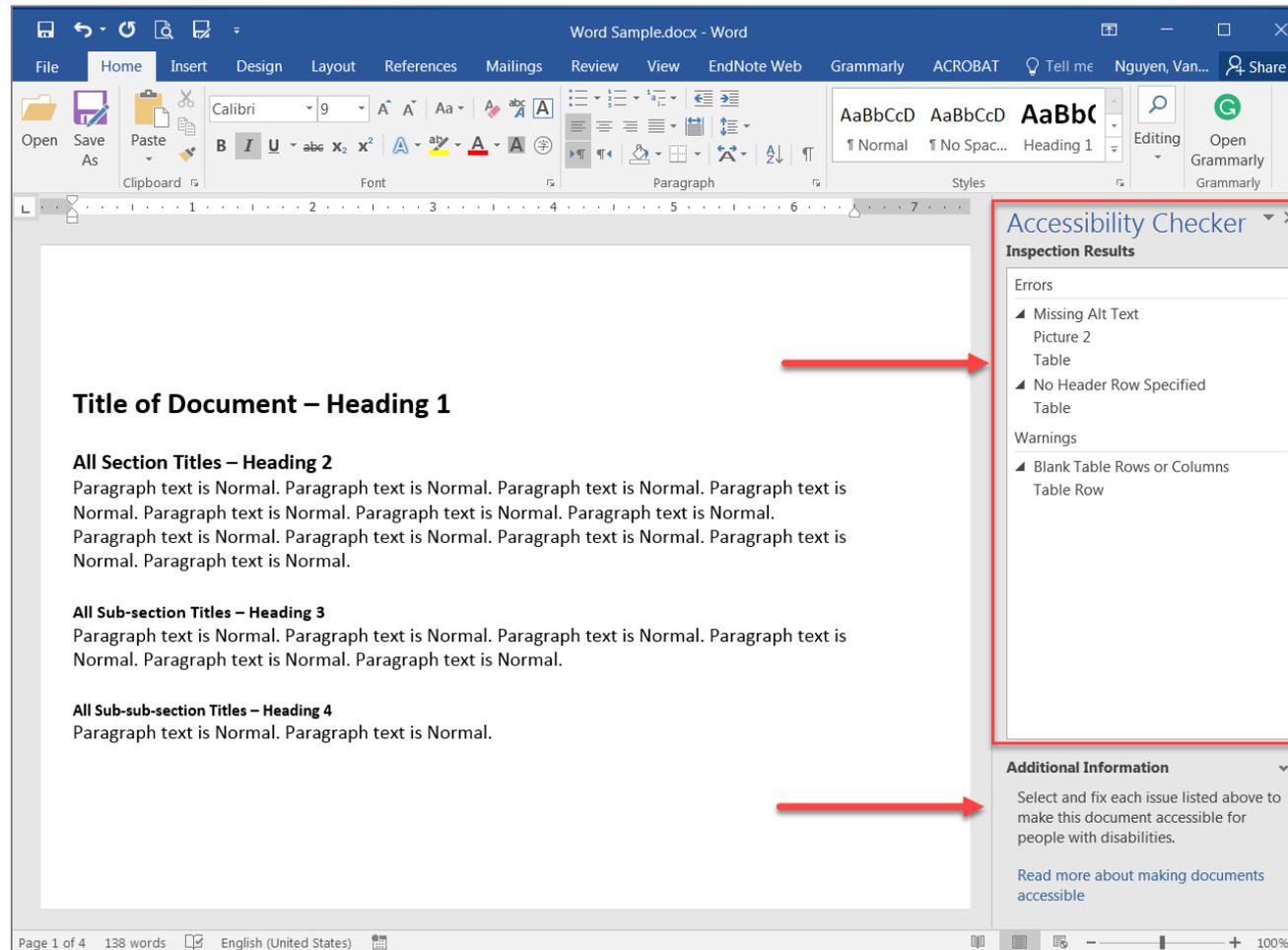
How to add a document title?

A document title is a descriptive and meaningful version of the file name. When converting to PDF, titles are often visible in the PDF window or tab. Well defined PDF titles can help students assess the content of a document. This quick assessment helps students save time deciding which documents to engage with. The best way to add a PDF title is to edit an original document such as Microsoft Office file.

1. Open Microsoft Word

2. Select **File** from the menu and select **Info** tab

3. In the **Properties** section, select **Add a Title** field to add a document title.

4. A title is a short descriptive sentence of what the document is about. For example, file name '**Accessible Tables.doc**' versus the title '**Guide for Creating Accessible Tables**'.

5. Save the changes you made.
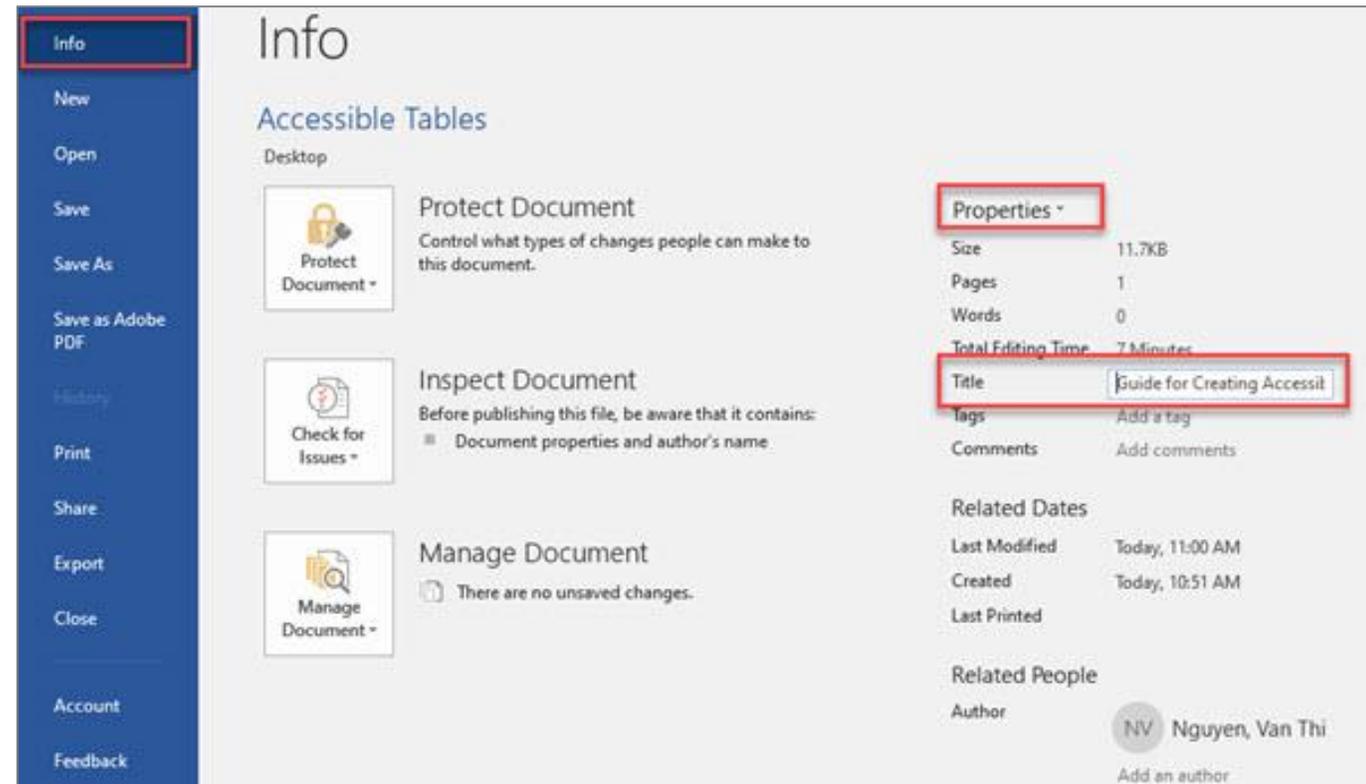
Windows: Converting a document to PDF

1. Select **File** from the menu and select **Save As.** Choose where you want to save the file.

2. In the **Save As** dialog box, choose **PDF** in the Save as type list.

3. Select **Options** button in the same dialog box, make sure to select these boxes
   - Document structure tags for accessibility
   - Document Properties
   - Create bookmarks using: Headings

4. Select **OK** and **Save** the PDF.
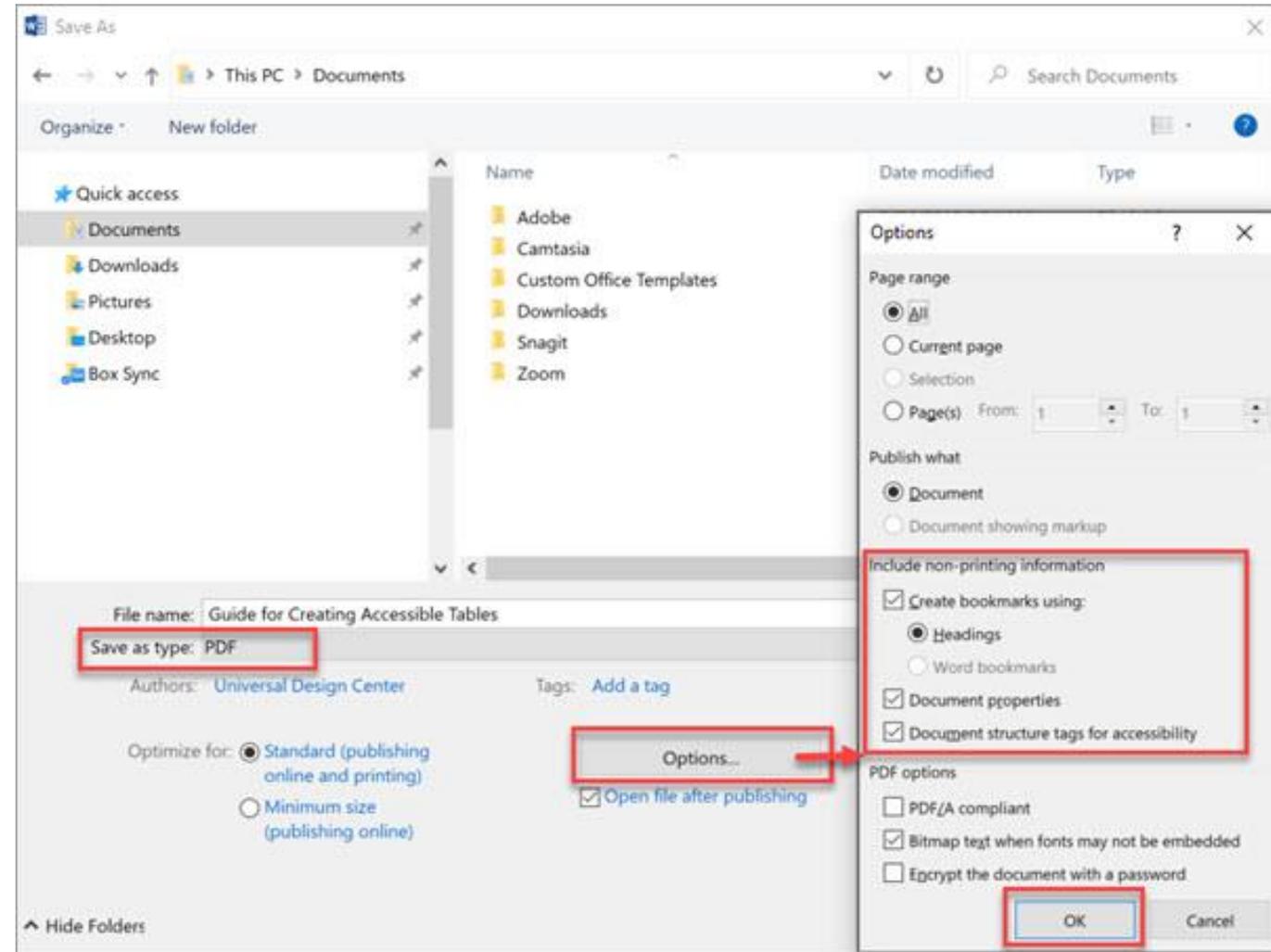
Mac: Converting a document to PDF

1. Select **File** from the menu and select **Save As.** Choose where you want to save the file.

2. In the **Save As** dialog box, choose **PDF** (Export Formats) in the File Format.

3. Select 1st radio button "**Best for electronic distribution and accessibility (Uses Microsoft online service)**"

4. Select **Export** button
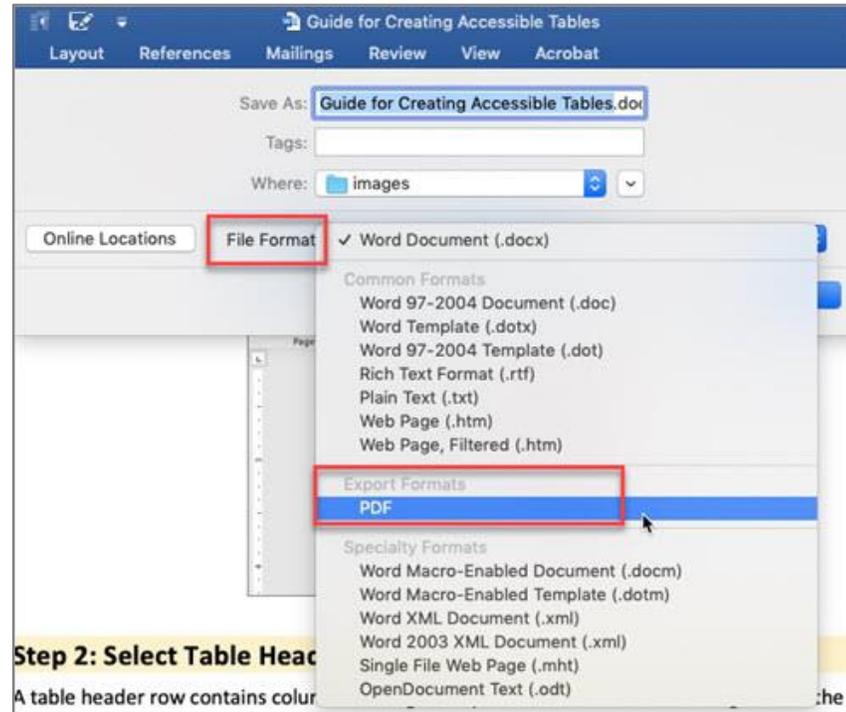
Never Choose Print to PDF Option

Never choose a "Print" to PDF option in Office, or in any other program. A screen reader user may still be able to access the text of a PDF created in this way, but heading structure, alternative text, a logical reading order, and any other tag structure will be **lost**.

Use **Save As** choose **PDF**.
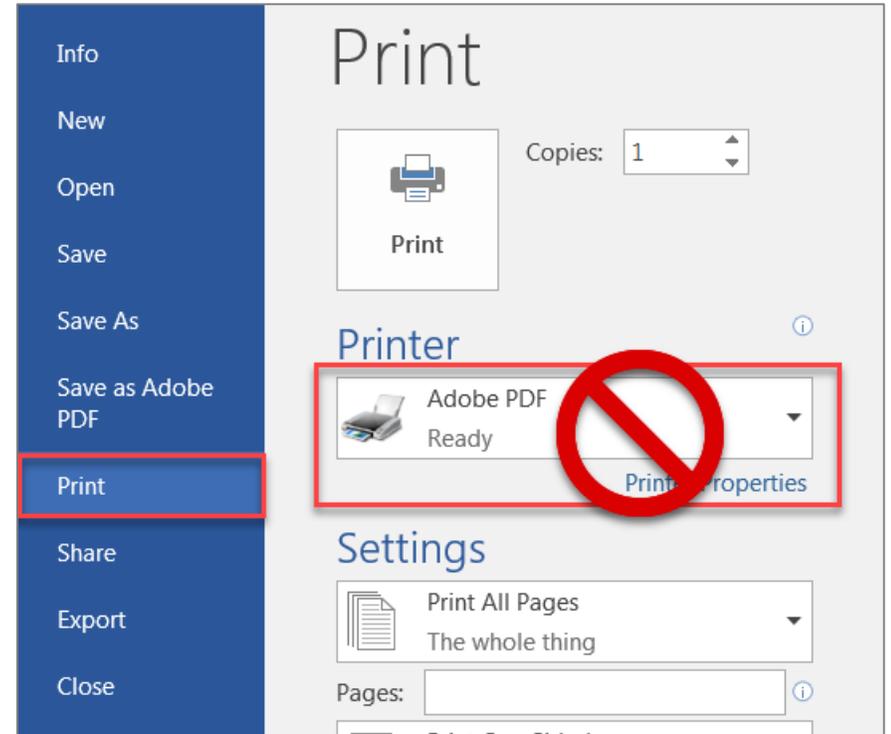
# Open PDF files from Adobe Acrobat not Web Browser by default

Windows

- Save PDF files on desktop

- Right-click on PDF file, select Open with, Choose another app
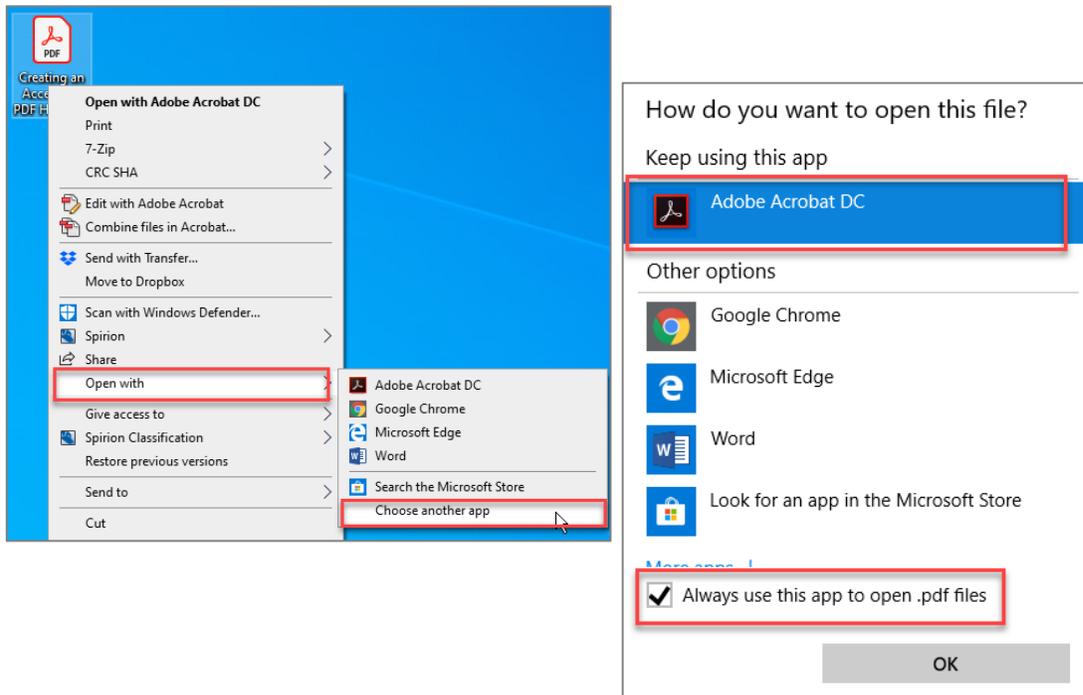
Mac

- Save PDF files on Desktop

- Select PDF (not double click)

- File tab, Always Open with, Other

Adobe Creative Cloud for Faculty & Staff

Adobe Acrobat DC
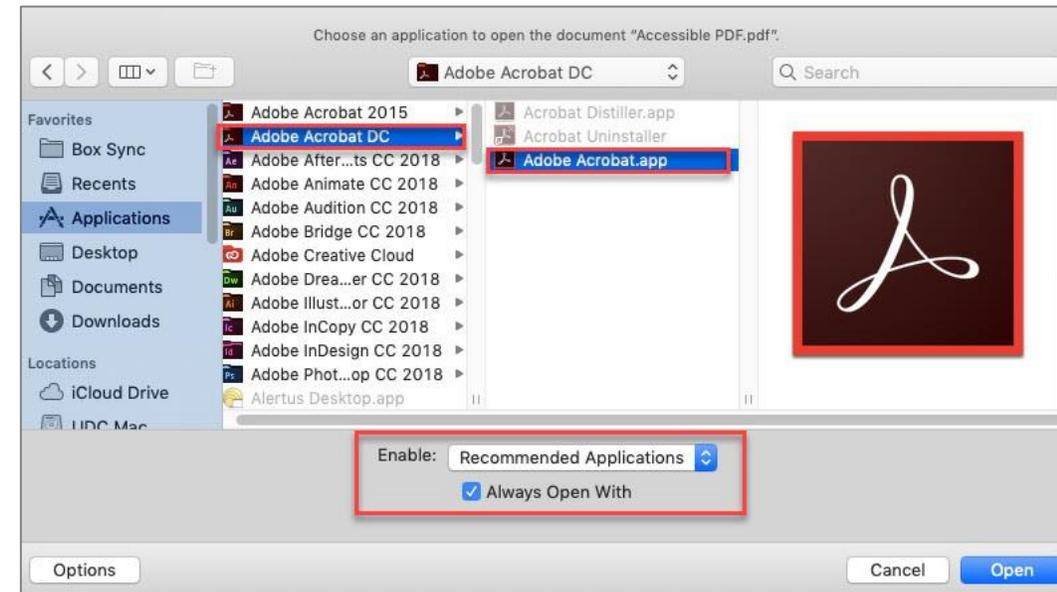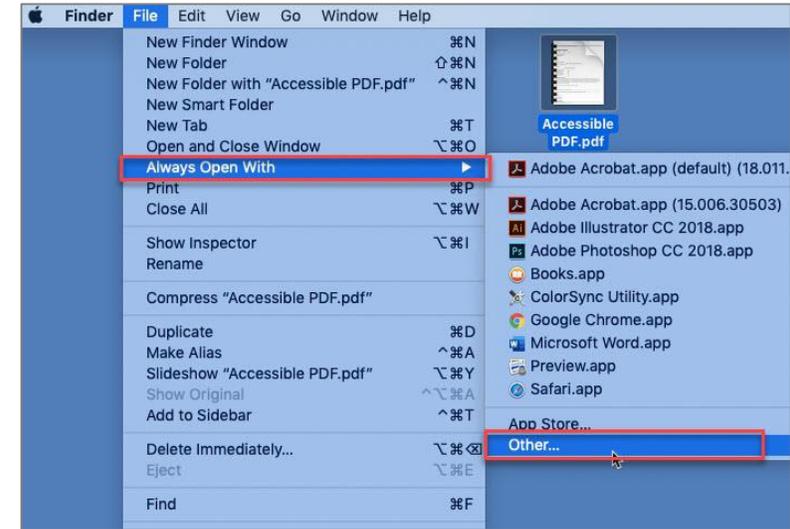
- Adobe Creative Cloud software is now available for use (at no additional charge) on all faculty and staff university-owned computers, labs and classroom devices, and for all students.

- Please note that this deployment of Adobe software is not available for use on personally-owned faculty and staff devices at this time.

- Learn more about Adobe Creative Cloud for Faculty & Staff

- ***Adobe Reader** is for viewing, printing, signing, sharing, and annotating PDFs. Adobe Reader doesn't have Accessibility checking tool.*

Create with Accessibility in Mind
Best Practices

Document Accessibility

user-friendly document for CSUN student success

Alternative Text
Images
Shapes

Video/Audio
Captions/transcripts

Structure
Headings
Lists, etc.

Navigation/Links
Link requirements

Color
Color contrast
Meaning without color

User Interface
Keyboard accessibility
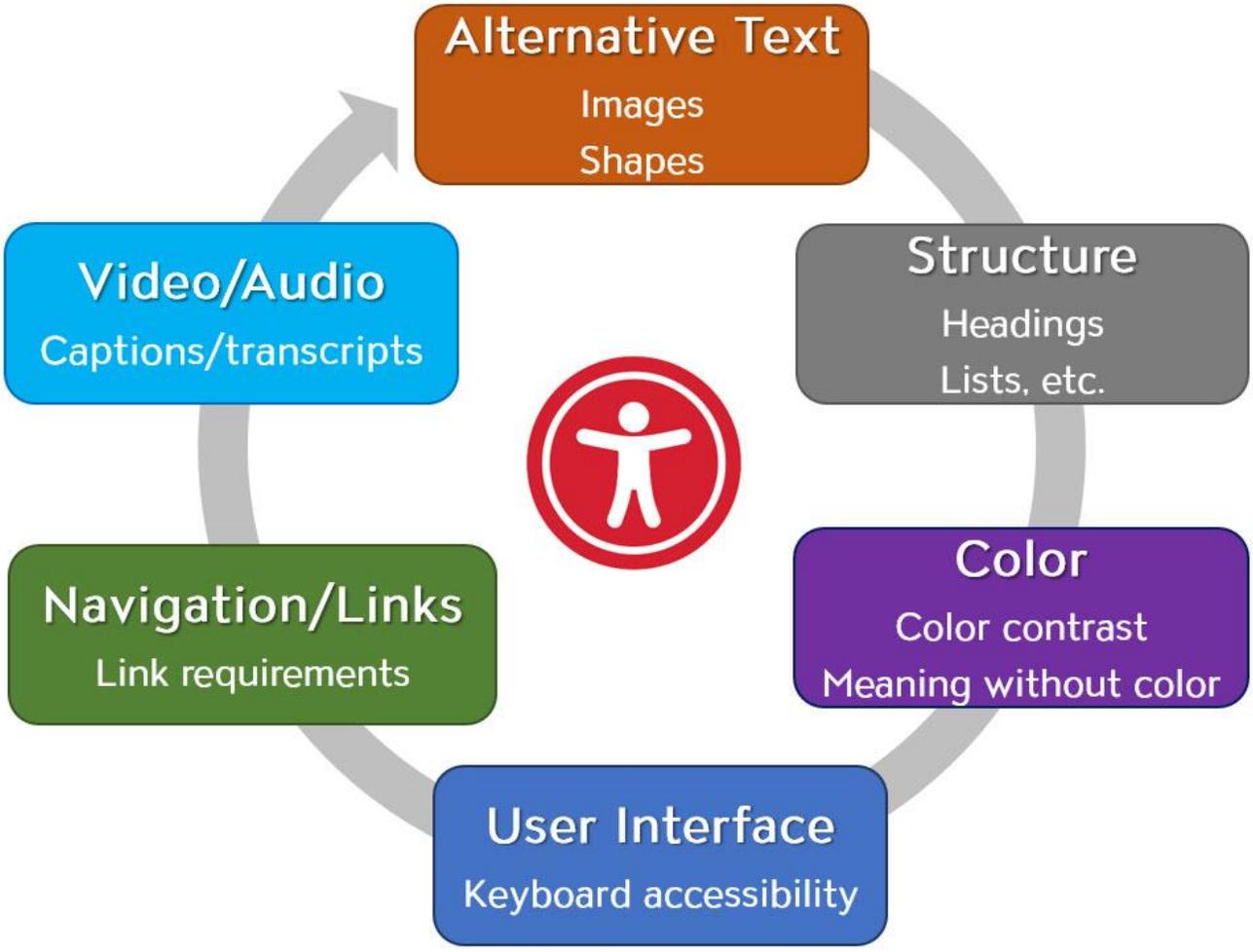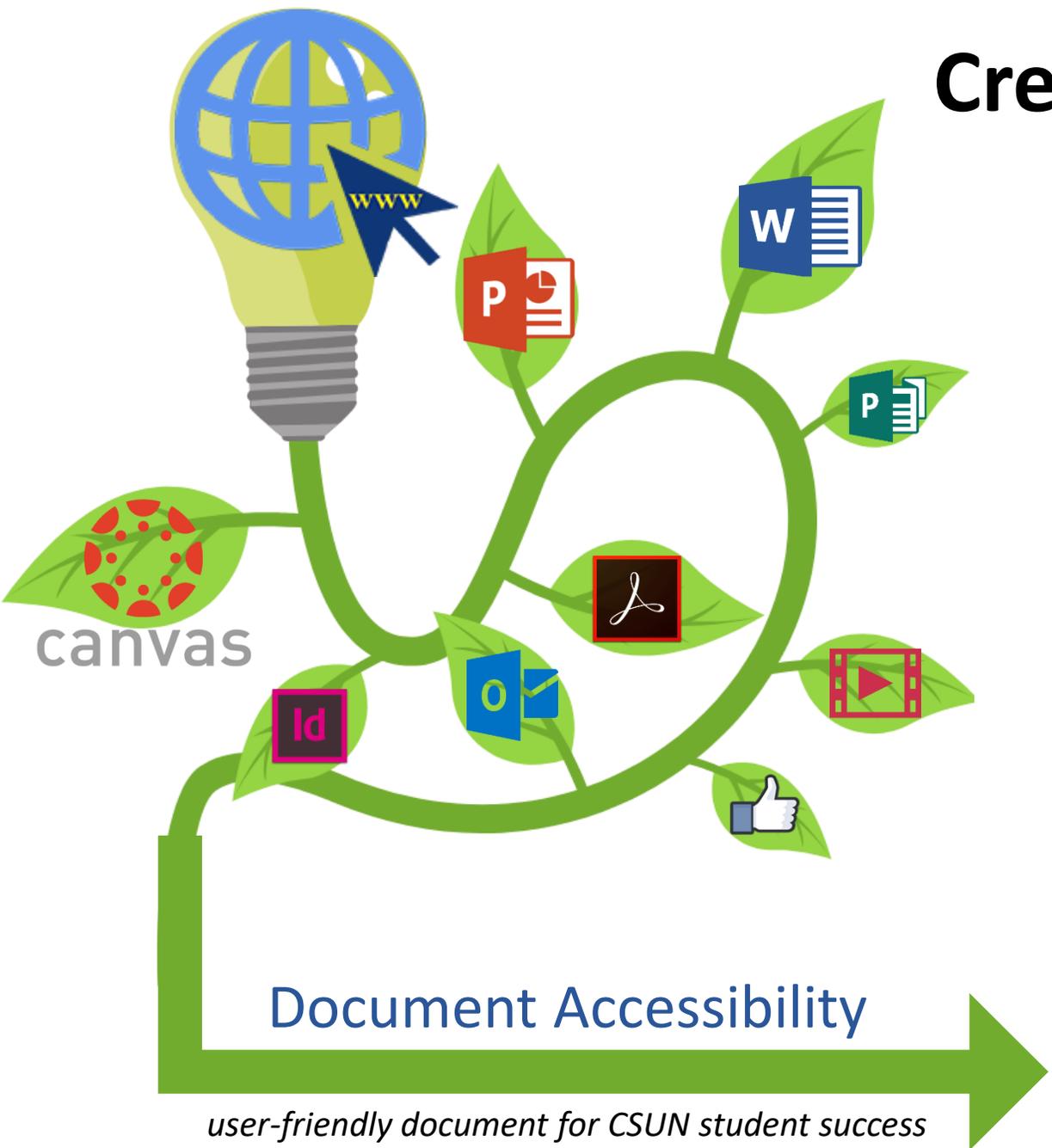
How can we help you make a **difference**?

Make **one** design that fits everyone

Documents

Website

Media with captioning

Universal Design *means design for* ***everyone***

Online & Self-Paced
Accessibility Modules in **canvas**

Universal Design Center Offers
- Online, self-paced training
- In-person training each semester
- Consultations
- Tools and Services