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What is Web Accessibility?

Web accessibility is intended to ensure the web works for the widest possible audience. This means that any item, tool, or web element can be accessed by everyone, including those with differing abilities that may require additional elements to ensure access.

Perspective through numbers

A significant portion of the United States population has some form of a disability.

Prevalence of d		om the American C ate, 2011-2015	ommunity Survey 5-
Age Group	Estimated Total Number	Estimated with Disability	Estimated Percent with Disability
All Ages	311,516,332	38,601,898	12.4%
Under 5 years	53,637,150	159,879	0.8%
5 to 17 years	72,307,218	2,853,439	5.3%
18 to 35 years	122,348,530	4,218,974	5.8%
35 to 64 years	24,857,845	15,766,614	12.9%
65 to 74 years	18,455,769	6,330,993	25.5%
75 years and over	53,637,150	9,271,999	50.2%

Among community colleges, approximately 12% of students indicate some form of disability through the National Postsecondary Student Aid Study (2007-2008 & 2011-2012) from the US Department of Education. (Source: AACU Datapoints, Diverse disabilities, October 2015)

Students will not always identify

It is important to note that not all students with a disability make use of the Center for Disability Services. As a direct result, it is likely that an instructor will have a student with different abilities in their class but will not be given any awareness of it through official processes.

Additionally, in regards to online learning, many institutions and students believe that online courses should be built so that a student would not need to identify with a disability. In fact, many students with a disability will take an online course as they believe it will let them be seen for their educational abilities rather than for their personal disabilities. As stated in a Northwestern University School of Professional Studies page, Why is web accessibility important?,

"They provide greater flexibility, allowing students to do their work when they have the most ability, rather than when the class is scheduled.

They are easier to access for students with mobility issues. And they allow students to maintain their privacy if they do not want to report their

Headers in Canvas: As Easy as 1, 2 & 3

We Know What Headers Are...

Headers are those large font short descriptive lines above a document or paragraph(s) that let you know what that document or paragraph is about. 'Heading 1' is often called a page title. In Canvas, Heading 1 is reserved for the Page Title.

If you use headers properly in Microsoft Word you can have Word automatically create and maintain a table of contents of your document. In websites and web applications like Canvas, proper headers can let systems and screen readers better manage and display your content, much in the same way as Word can create a table of content. It will help your readers find what they need to find more quickly in your content.

Headers are Hierarchical

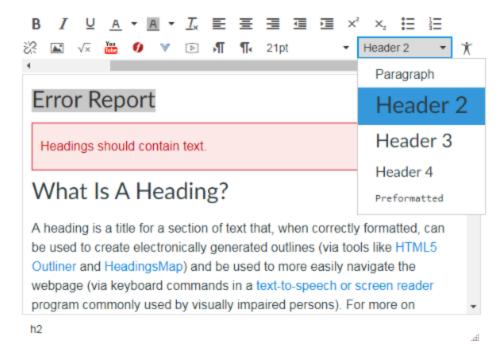
Much like an outline, headers are numbered in both Word and on the web. So 'Heading 1' is above headings 2, 3, 4, 5 etc. Heading 2 can contain headings 3, 4 but a 'Heading 2' would never contain a 'Heading 1'.

- Heading 1 Page title
 - Heading 2
 - Heading 3
 - Heading 3
 - Heading 4
 - Heading 2
 - Heading 3
 - Heading 4

In the above example this outline represents how you may nest headers within headers to better structure your document. Of course the crazy indenting of the headers outline above is for demonstration. You are not required to indent your headers, just be sure to number them appropriately to reveal your content's hierarchy. In fact the 'look' of the headers of your content is up to you, just make sure to label your headers as a header first

Headers in Canvas

To create a header in Canvas you highlight your header text then from the toolbar of the rich content editor then select which header to use from the drop down. The selector for choosing headers is located to the right of the font size drop down selector.



As you may have noticed Header 1 is not an option in the rich content editor and that is because the page title is heading 1.

Header Tags Should Not Be Empty

Header tags in html consist of an opening and closing header tag with the closing tag denoted with a /. If the text of the header is deleted and the html header tags are left invisible in your document that can cause serious confusion for screen readers and other automated systems assisting your readers to access your content.

For example, a properly formatted HTML Heading 2 tag looks like this:

<h2>Your Header 2 Text</h2>

If the text of your header is deleted by you, but the html header codes remain, this would be invisible to you in the rich content editor:

<h2></h2>

Luckily UDOIT is in your course and can easily locate these hidden empty header tags and give you one button to fix it.



Training Opportunities

Check out our upcoming calendar of accessibility workshops!

Creating Descriptive Links in Canvas

Links created in Canvas should be descriptive to students. A descriptive link allows a person to know what they are clicking on, and have an idea of where it will take them. It also helps ensure users with screen reader technology are not having an entire address read out to them without any context of its purpose.

Improper practices for linking

There are several improper practices when linking, including (but not limited to):

- "Click here" This type of link does not give a viewer information about what the link is or where it will take them.
- Filenames as links (ex: C101SYLF.docx) Filenames as links are often not descriptive enough to know what the file is or what it contains.
- http://your.website.address/here/with_a/long/link_that_may?include=numbers&ot her?characters - Links without a description do not give a viewer information about its purpose.

Better practices for linking

When creating links in Canvas, it's better to use descriptive information as the link itself. This allows the user to know about the contents of the link and where it will take them. This has the added benefit of helping users with screen readers, as it will instead read out the title of the link rather than its full web address.

Canvas has multiple ways of creating links with descriptive text or images, depending on the scenario:

- · If uploading a file
 - Type a descriptive name of the file (ex: Fall 2018 Syllabus for College 101). Highlight the text that was typed, then go to the **Insert Content** pane on the far right of the screen. Click the **Files** tab, and select the desired file (or upload a new file). The text will quickly flash in yellow, but will then turn blue. The text is now a link to the file.
 - More information on this process is available in the Canvas Guide, "How do I create a file link in a page in a course?". While the instructions specifically mention a Canvas page, the same instructions work anywhere in the course where text can be entered and edited.
- If adding a link
 - Type a descriptive name of the link (ex: Online Course Development Information). Highlight the text that was typed, then go to the connected chain link on the toolbar. Click the **chain link**, then enter the desired website address into the box that appears. Complete the process by clicking **Update Link**. The text will quickly flash in yellow, but will then turn blue. The text is now a link to the external website.
 - More information on this process is available in the Canvas Guide, "How do I create a hyperlink in the Rich Content Editor as an instructor?".

- If wanting to make an image into a link of any type
 - Add the image to the text area, then select the image much like how text is highlighted. Follow the same steps as listed above for uploading a file or adding a link. The image will instead become the link. Don't forget to give the image an alt tag!

Questions? We can help!

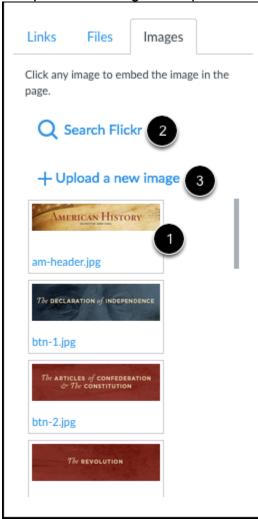
Check out our upcoming calendar of <u>Canvas</u> and <u>accessibility</u> workshops! Want to know more about accessibility? <u>Contact us.</u>

Images via "Insert Content" Area

Adding Images

Canvas supports adding images via the content pane on the right side of any visual text box editor.

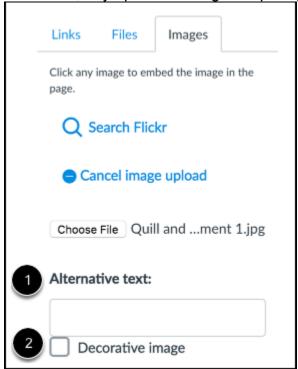
To select an existing image, click on the Image tab. Any existing images within the course will be displayed. New images can be found via the Search Flickr function or can be uploaded through the Upload a new image link.



Alt Text for Every Image

When an image is uploaded to Canvas, it's necessary to add alternative text (alt tag) for those individuals who need it. This enables anyone with a screen reader device or software to "read" an image they may not be able to see.

In Canvas, any uploaded image will prompt for alternative text to be added.



Alternative text for an image must describe it within the context of the content. In essence, if the image is to illustrate a concept within the course, its alternative text should reflect the image's purpose.

For example, an image of a heart showing its valves in a nursing course should have an alternative text that reflects its purpose.

Any image that is intended to be decorative in nature can be described as decorative or can be marked as decorative via the Decorative Image check box.

Additional Information

Canvas Community - <u>How do I insert course images into the Rich Content Editor using the Content Selector?</u>

Adding tags to images in your Canvas course

After you add an image to a course you are not done yet.

You can add an image to your course then you need to edit the 'Alt Text' tag so it is done right. The Alt Text should describe the image and the importance of the image in context to how it is used in your course.

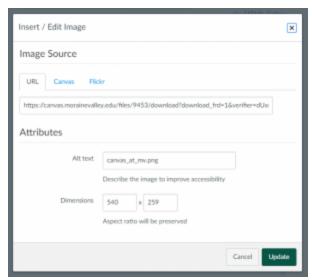
So a banner image could simply say "Banner image Canvas at Moraine Valley." When an image is used in an assessment the alt text needs to give enough detail so that the student using a screen reader or other aid has the same chance to get an A on the assessment as a student who can see the image.

The Alt Text should not be just the file name of the image. And the Alt Text should not be longer than 100 characters long.

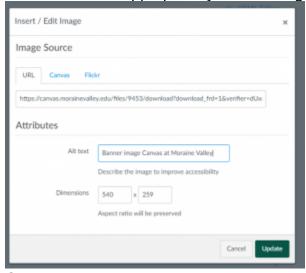
Here is how you verify and update the alt text tag of an image in your course. Highlight the image then click the embed image tool.



The embed image dialogue will open with the Alt Text reveals in the Attributes section in the middle bottom of the dialogue.



Edit the Alt Text appropriately for the image in context to how it is used in your course.



Click the green 'Update' button to apply the changes.

As you see it is easy to do and you can do it when you add images. Keeping up with Alt Text as you create your content will save you from having to correct so many images alt text tags at a later date.

Complex Images and Accessibility

Alt text is critical for accessibility, as individuals using screen reader devices would not know what the image is about without a good description in the alt text. Some images, like infographics, are too complex to describe in detail within alt text. If an image is complex, how then do you maintain accessibility while giving the detail needed?

Length of Alt Text

Alt text has no official limit in length, however <u>best practices</u> encourage alt text of no more than 125 characters in length.

If an image cannot be described (within the context of the content) in 125 characters or less, it's best to describe the image in other ways

Describing Complex Images

If your image is complex and requires a lengthy description it would also benefit your sighted students to view the description. There are several suggested actions for describing a complex image.

- If the content displayed in the image is already described in the text content of the page, it's best to give the image an alt text containing an overview of the image plus a note about it being described in the content.
 - For example, if a page contains an infographic about <u>Gagne's Nine Events</u> <u>of Instruction</u>, but the non-graphical text of the page also details Gagne's Nine Events of Instruction, then a good alt text for the infographic would be "Gagne's Nine Events of Instruction, described in the content of this page".
- If the content displayed in the image is not described in the text content of the page, it's best to give the image an alt text containing an overview of the image plus a note about where a longer description is contained.
 - A longer description can be contained in a separate location. There must be a link to the separate location to accompany the alt text. In this scenario, placing a link to a description directly below the image and titling it as "Description of image" would be effective. For example, an image can be described in a text document attached to the link.
 - Consider having a textual description of the image available for everyone to read. Some complex images are tough to view for any person, and thus providing a description would be effective for everyone. Additionally, consider the necessity of the image if it is overly complex and difficult to read.
 - A complex image that is purely decorative and imparts no added value or content can be described as decorative in its alt text.

- If the image is an image of words only, it is advisable to remove the image fully and replace it with standard textual words. If this is not done, the image must be handled like any other complex image and must have a corresponding description.
- If the image is of a mathematical or scientific notation, the image must be described. In many instances, consider utilizing tools that support MathML to create math and science notation that is fully accessible for all students.

Questions? We can help!

Check out our upcoming calendar of <u>accessibility</u> workshops! Want to know more about accessibility? <u>Contact us.</u>

Bullet and Numbered Lists in Canvas

Lists in Canvas

Using lists in a document help to give it structure. Numbered, or ordered, lists are typically used for processes like steps of a task, a series of assignments to complete, or anything that follows a sequence. Bulleted lists, or unordered, are used for items without a sequence.

Bulleted and Numbered Functions

Bulleted List = Unordered List



The bulleted list function is indicated by the red callout.

Numbered List = Ordered List



The numbered list function is indicated by the red callout.

Articles from Canvas on Using Lists

Please review the Canvas articles are for numbered and bullet lists, presented here in a bullet list:

- How do I add and modify text in the Rich Content Editor?
 - o Create Bulleted or Numbered List, about 1/2 way down on the page
- Making Lists Accessible in Canvas

Accessible Tables in Canvas

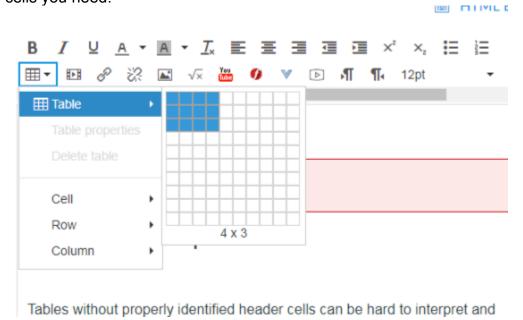
Tables are an important and a powerful way to display tabular data. Tables should never be used for page layouts to make it 'pretty'.

On the web or Canvas (which is a web tool) it's important to remember that once you create your table you must make your table accessible. You must change the HTML for the table header rows from <TD> (or Tabular Data) to <TH> to designate they are Table Headers. It's easy.

Special Note: This article discusses proper use of tables to display tabular data in an accessible way. Tables should never be used to display your non-tabular data in a pretty or organized way. Tables should not be used for page layout purposes. It is best in Canvas to allow your content to free flow so it will display properly on any screen and any device. Contact the CTL for ways to dress up your Canvas courses.

Easy Tables in Canvas

In Canvas it's very easy to create a table. You place the cursor in your document where you want your table and then, using the table tool, you draw out how many columns and cells you need.



You can quickly create a table such as this with High and Low temperatures.

Temps	Sun	Mon	Tues
High	70	82	79
Low	55	65	72

Header Rows and Columns are Important

The table above makes a lot more sense because of the header information then the table below without header information.

{ }	:	
#70	82	#79
11.0	1102	
11	·	
55	65	72

Without the header rows and columns the meaning of the data is lost. This is why identifying the header rows is important for your tabular data and table headers to display properly. Your students need to know the table headers to understand your table data. This is especially true if they are using a screen reader.

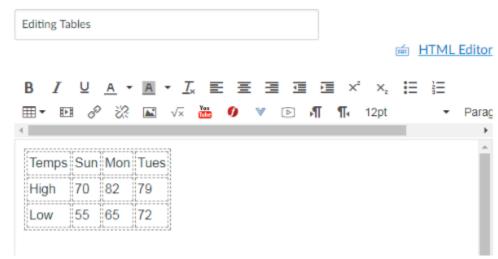
Short Video on Accessible HTML Tables

Watch this video for a better understanding on how you design your tables can affect a student using a screen reader.

Accessible HTML Tables and Compare NVDA vs Window Eyes Screen Reader Tutorial

Easy HTML Table Editing

In Canvas, when you are in the editor, there is no obvious way to label header rows or columns. You can instead do it through the HTML Editor, located in the upper right hand corner above the text editor box.



Canvas edit screen with HTML Editor Option

Selecting the HTML Editor

Your table in HTML is a series of or table rows filled with table data in cells. The opening and closing act as bookends with your table cell data inside. You just need to identify which are your table headers and change the and closing to and closing .

So in this case you find the with your Temps, Sun, Mon, Tues and the High & Low and change the 'td' to 'th':

```
Temps
Sun
Mon
Tues
High
70
82
79
Low
55
Temps
```

Image: Table HTML code without table header or TH tags

Sun Mon Tues High 70 82 79 Low 55

Image: Table HTML with Table Headers

Correcting Multiple Tables in Existing Content



In your course shells you have a new button in your navigation labeled "UDOIT". This tool you can quickly identify which tables are missing header labels and quickly fix the tables using UDOIT's 'U Fix It!' button. U Fix It! lets you correct your table headers with simple drop down menus.



Image: UDOIT's UFIXIT option

Click 'U FIX IT' and you get a simple pull down menu to correct the issue:



Image: Screen to quickly fix missing table header row identifiers.

As you see our table with both the first row and column can be properly labeled by selecting the last option and submitting.

UDOIT will quickly help you identify all the tables in your course that need header rows and columns. You can fix it as easily as selecting if the header information is in:

- The first row
- The first column
- Both the first row and column

Then click submit to complete the fix.

Table Headers in the Canvas Interface

Tables are an important and a powerful way to display tabular data. Tables should never be used for page layouts to make it 'pretty'.

On the web or Canvas (which is a web tool) it's important to remember that once you create your table you must make your table accessible. You must change the HTML for the table header rows from (or Tabular Data) to to designate they are Table Headers. You used to have to do this through HTML but now there are tools in Canvas to assist you.

Tables Via Canvas Interface

Please refer to the Canvas Community article about the <u>features to add header rows</u> <u>through the Canvas Interface</u>.

Correcting Multiple Tables in Existing Content



In your course shells, you have a button in your navigation labeled "UDOIT". This tool you can quickly identify which tables are missing header labels and quickly fix the tables using UDOIT's 'U Fix It!' button. U Fix It! lets you correct your table headers with simple drop-down menus.



Image: UDOIT's UFIXIT option

Click 'U FIX IT' and you get a simple pull down menu to correct the issue:

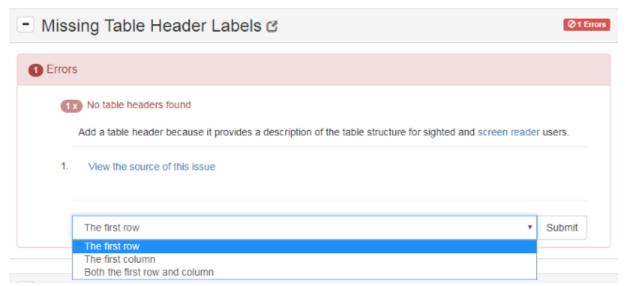


Image: Screen to quickly fix missing table header row identifiers.

As you see our table with both the first row and column can be properly labeled by selecting the last option and submitting.

UDOIT will quickly help you identify all the tables in your course that need header rows and columns. You can fix it as easily as selecting if the header information is in:

- The first row
- · The first column
- Both the first row and column

Then click submit to complete the fix.

Proper Use of Tables

This article discusses proper use of tables to display tabular data in an accessible way. Tables should never be used to display your non-tabular data in a pretty or organized way. Tables should not be used for page layout purposes. It is best in Canvas to allow your content to free flow so it will display properly on any screen and any device. Contact the CTL for ways to dress up your Canvas courses.

Color Contrast in Canvas

Color selection should be considered when creating a document. When text is hard to read, individuals often bypass sections of a document or simply become unable to understand the document.

A general rule of thumb: If it's hard to read for the person writing it, then it's hard to read for the person reading it.

Color Contrast Standards

Under the Web Content Accessibility Guidelines 2.0, Level AA, which apply to the web documents, there are two color ratios to know:

- A ratio of 4.5 to 1 for normal sized text, sized at less than 14 points. This rule also is applicable to text that is less than 18 points and has no bold style applied.
- A ratio of 3 to 1 for large-sized text, sized at 18 points for more. Text that is 14
 points and bolded is also considered to be large sized with the 3:1 ratio being
 applicable.

For example, text that is red on blue has a contrast ratio of 1.5:1, and would not be viewable to many people. Adjusting it to yellow on blue instead holds a ratio of 5.8:1 and is viewable to most people.

Color Contrast Within Canvas

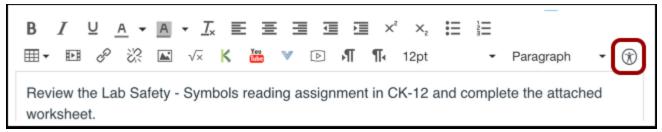
Checking for color contrast or as Canvas calls it text contrast within Canvas can be done within Canvas either using the Accessibility Checker in the rich content editor or by using UDOIT.

Canvas Accessibility Checker

For text contrast, the <u>Accessibility Checker</u> verifies color using the same calculations as the WebAIM tool and verifies against Theme Editor templates without High Contrast Styles. However, High Contrast Styles must be enabled for verification if a link color is overwritten manually in the Rich Content Editor.

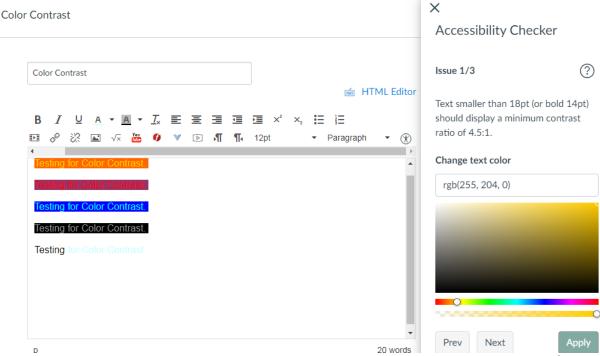
Using the Accessibility Checker in canvas may prompt you to correct color contrast. It will present you with two sliders so you may select new higher contrast colors for your text.

Open Accessibility Checker



At any visual text box editor in Canvas, click the **Accessibility Checker** icon. **Note**: Depending on the width of your browser window, you may have to scroll the menu bar horizontally to view the icon.

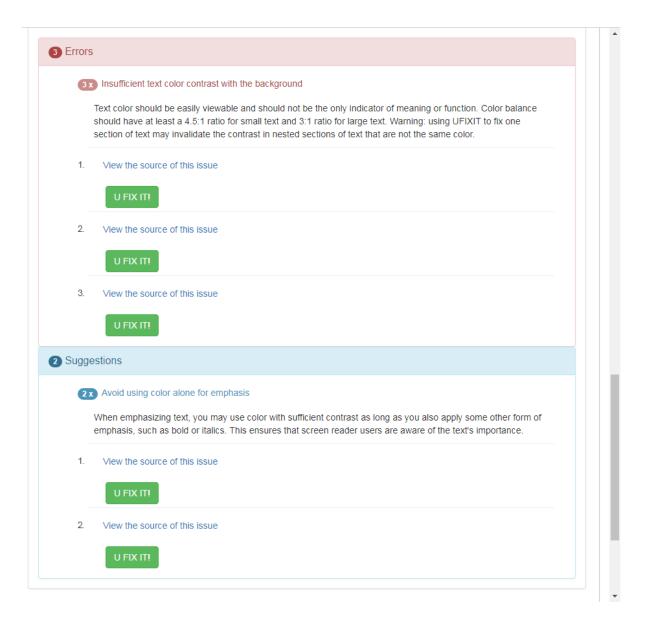
Accessibility Checker



Text smaller than 18pt (or bold 14pt) should display a minimum contrast ratio of 4.5:1.

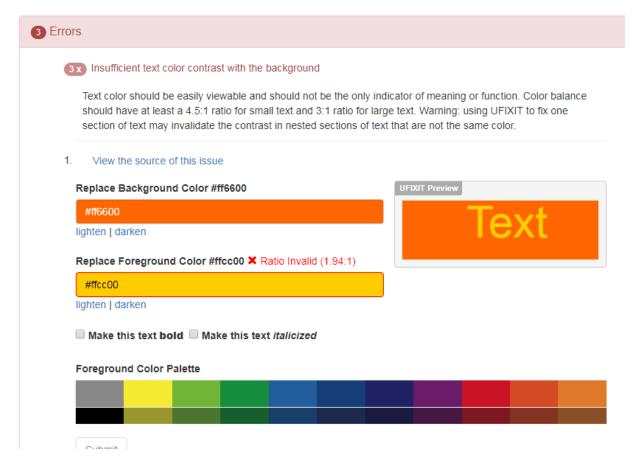
UDOIT Accessibility Check within Canvas Course

Where the above Accessibility Check is built into the Rich Content Editor and is an easy way to correct accessibility issues for a single page, UDOIT will check your entire course site. Using UDOIT you can locate and correct accessibility issues anywhere within your course, including color contrast. UDoit will then provide you with a 'U Fix It!' button for each issue.



UDOIT's Color Contrast 'U Fix It' Tool

The tool to correct color contrast within UDOIT presents options to lighten or darken both the background and foreground colors until the 4.5:1 ratio is achieved. At that point, a submit button will become available to click and save the new settings.



When the correct ratio is achieved and you are happy with your new colors, click the submit button now available. The submit button will not be available until the text color contrast is corrected.

Questions? We can help!

Check out our upcoming calendar of <u>accessibility</u> workshops! Want to know more about accessibility? Contact us.

(Optional) Accessible Math in Canvas

Mathematical Markup Languages

Math in a web environment typically uses different entry formats. LaTeX is the most common math markup language, allowing individual to insert mathematical and scientific notations for the web. LaTeX on its own is not compliant with accessibility guidelines. MathML, a different markup language, is compatible with accessibility guidelines.

Math and Science in Canvas

There is a math equation editor in the rich content editor (RCE) within Canvas. For accessibility, the equations generated with the math editor will create both the LaTeX and MathML descriptions for the equation. Both the LaTeX and MathML descriptions will be added to the alt tag for the equation image and screen readers will read your math formulas correctly.



The Math editor can be located on the RCE toolbar in the middle of the bottom row. The icon appears to be the square root of x.

Additional Information

How do I use the Math Editor in the Rich Content Editor? - Canvas Community

Questions? We can help!

Check out our upcoming calendar of accessibility workshops!

Want to know more about accessibility? Contact us.

UDOIT and the Accessibility Checker

Two Options Within Canvas to Correct Accessibility Issues

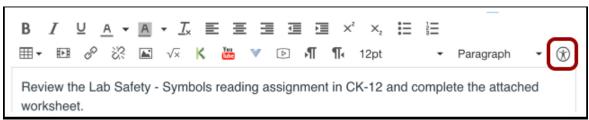
Checking for accessibility issues within Canvas can be done within Canvas either using the Accessibility Checker in the rich content editor or by using UDOIT.

Canvas Accessibility Checker

The Rich Content Editor includes an <u>accessibility tool</u> that checks common accessibility errors within the editor. This tool can help you design course content while considering accessibility attributes and is on the Rich Content Editor menu bar.

This tool only verifies content created within the Rich Content Editor. This checks a single page in your course.

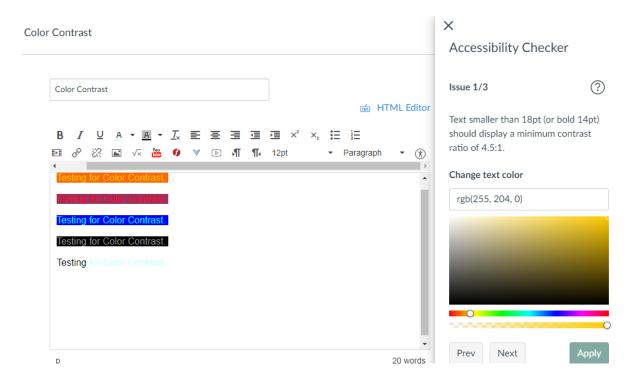
Open Accessibility Checker



Click the **Accessibility Checker** icon.

Note: Depending on the width of your browser window, you may have to scroll the menu bar horizontally to view the icon.

Accessibility Checker



How to Use Accessibility Checker - For specific information, please review the <u>Canvas</u> <u>Guide on how to use the Accessibility Checker</u> in the Rich Content Editor within Canvas.

UDOIT Accessibility Check within Canvas Course

Where the above Accessibility Check is built into the Rich Content Editor and is an easy way to correct accessibility issues for a single page, UDOIT will check your entire course site. Using UDOIT you can find and quickly correct accessibility issues anywhere within your course. UDOIT will then offer you a 'U Fix It!' button for each issue.



The hardest part of using UDOIT is bringing yourself to click and run the report for the first time. Do not let the size of your first UDOIT report overwhelm you. Most issues will offer a one-button 'U Fix It' option to correct the issue. Each option presents the issue in a straightforward way along with information to correct the issue.

Overall Accessibility within Canvas

Ensuring an accessible and pleasant experience for all users is a key focus of Canvas. The Canvas platform was built using the most modern HTML and CSS technologies and is committed to W3C's Web Accessibility Initiative and Section 508 guidelines.

General accessibility design guidelines can be found in the <u>General Design Guidelines</u> <u>for Accessibility</u> guide on the Canvas Community.

Questions? We can help!

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