

Script for Canvas RCE Accessibility - Contrast and Color Cues

Screen:

Title slide with background showing the Pylons.

Text reads as follows:

Canvas Accessibility

Contrast and Color Cues

Rob Fentress

Sr. Web Accessibility Solutions Designer

Information Technology

Technology-Enhanced Learning

and Online Strategies

Virginia Tech

Narrator: One easy thing you can do in your courses that will affect a large number of folks is to make sure the foreground and background colors you choose for your text provide sufficient contrast for all users.

Screen: *Narrator shows picture of screen in bright sunlight: <https://robentress.github.io/a11y-tips/#/4>*

Narrator: Failure to do so can affect people with certain kinds of color blindness and low vision, but it can also affect people without disabilities who are trying to access your materials from their phone in bright sunlight, for instance.

Screen: *Narrator shows the [Understanding Success Criterion 1.4.3: Contrast \(Minimum\) page](#) from the Web Content Accessibility Guidelines.*

Narrator: So how do you know if your content has sufficient contrast? Well, there is actually a standard specifying how much contrast is enough. This is basically that regular text has to have a 4.5:1 contrast ratio, and larger or bolded text must have a contrast ratio of at least 3:1.

Screen: *Narrator navigates to <https://medium.muz.li/the-science-of-color-contrast-an-expert-designers-guide-33e84c41d156#553f> in the Brave browser.*

Narrator: There is even a formula for determining what the ratio is for your content if you know the color of the text and color of the background.

Fortunately, you don't have to deal with all that if you are using Canvas's rich content editor. Let me demonstrate.

Screen: Narrator navigates to <https://canvas.vt.edu/courses/69527/pages/contrast-non-example> in the Brave browser.

Narrator: Here we have a page that demonstrates a number of issues related to color and contrast. Scanning it visually, I might wonder whether certain color choices I have made will provide sufficient contrast. How would I know? In Canvas, I don't have to guess. If I click the **Edit button** to bring up Canvas's rich content editor,

Screen: Narrator clicks the **Edit button**.

Narrator: I can just click the **Check Accessibility button** in editor's toolbar, and it will show me a list of problematic content on the page.

Screen: Narrator clicks the **Check Accessibility button**

Narrator: The Check Accessibility drawer slides in from the side, which shows the issues on the page and provides tools for fixing them. Because it is a little more complicated, I'm going to skip the first error by clicking the **Next button**,

Screen: Narrator clicks the **Next button**.

Narrator: but if we go to the second one, it highlights the red text, "List of group members," in the editor.

Screen: Narrator hovers over the highlighted text.

Narrator: In the **Accessibility Checker drawer**, it tells us that we have an accessibility problem:

Screen: Narrator selects the text of the error.

Narrator: Text of this size should have a contrast ratio of at least 4.5:1 and this text doesn't.

Let's examine what else is in the drawer related to this error. Under **Change text color**, there is a field that displays the RGB value for the color,

Screen: Narrator selects the text in the field.

Narrator: followed by a **luminosity picker**,

Screen: Narrator hovers over the **luminosity picker**.

Narrator: a **hue slider**,

Screen: Narrator hovers over the **hue slider**.

Narrator: and an **opacity slider**.

Screen: Narrator hovers over the **opacity slider**.

Narrator: Note that the **Apply button** is currently disabled.

Screen: Narrator hovers over the **Apply button**.

Narrator: This is because the color currently being used doesn't have sufficient contrast. However, we can modify the color using any of these controls and when the contrast ratio meets or exceeds the standard, the **Apply button** will become enabled and we can apply this new color to our text.

For instance, in the **luminosity picker**, we can see that there is a small semi-circle in the upper right-hand corner.

Screen: Narrator hovers over the **semi-circle**.

Narrator: If we click on this and drag down, the color will become darker until the contrast ratio is sufficient,

Screen: Narrator clicks on **semi-circle** and **drags down**.

Narrator: at which point the **Apply button** will become enabled,

Screen: Narrator hovers over the **Apply button**.

Narrator: and we can click on it to apply the new color.

Screen: Narrator clicks on the **Apply button**.

Narrator: So this solves one of our problems, but there are other color issues on this page beyond contrast.

To get a sense of those, let's leave the editor by clicking the Cancel button and choosing OK in the dialog that appears.

Screen: Narrator clicks the **Cancel button** below the rich content editor and chooses **OK** in the dialog that appears.

Narrator: That will allow us to take a look at this page using the **Web Disability Simulator**.

Screen: Narrator hovers over the **Web Disability Simulator icon button**.

Narrator: This browser extension let's us simulate what the page might look like to someone who cannot distinguish between any colors. To use this extension, we click the **Web Disability Simulator icon button** in our browser

Screen: Narrator clicks the **Web Disability Simulator icon button**.

Narrator: and in the dialog that appears, select the simulation, **Total Color Blindness**, under the **Sight button menu**.

Screen: Narrator selects the simulation, **Total Color Blindness**, under the **Sight button menu**

Narrator: Now let's scroll down to the bottom of the page

Screen: Narrator scrolls down to bottom of page

Narrator: where we see some instructions that say, "Everything in red is due tomorrow."

Screen: Narrator selects the text, "Everything in red is due tomorrow."

Narrator: Obviously, people with this kind of color blindness would have trouble with these instructions. But, so would people who are blind and using screen reading software.

If we scroll up, we notice similar issues with the line graph and pie chart.

Screen: Narrator scrolls up hovering over the line and pie charts as he does so.

Narrator: Many of the colors in these graphics appear the same to me when I'm using the Total Color Blindness simulator.

How might we fix these problems? Let's find out by taking a look at the corrected version of this page by clicking the **Next button**.

Screen: Narrator scrolls down and clicks the **Next button** at the bottom of the page.

Narrator: If we apply the **Total Color Blindness Simulator** to this page, we can see the difference.

Screen: Narrator clicks the **Web Disability Simulator icon button** and selects the simulation, **Total Color Blindness**, under the **Sight button menu**. Then he scrolls down to the pie chart.

Narrator: For the pie chart, we see there is now a white border separating each slice;

Screen: Narrator hovers over the white border separating each slice.

Narrator: there is also a line pointing to each slice indicating which letter grade is associated with it;

Screen: Narrator hovers over a line pointing to the letter grade.

Narrator: and we can easily see the number of people who got a particular grade, because that number is displayed right in the slice itself.

Screen: Narrator hovers over a number in a pie slice.

Narrator: For those who are blind, there is also a table containing the data used to generate the chart.

Screen: Narrator selects text in the table by the pie chart and then deselects it. Then he scrolls down to the line graph.

Narrator: For the line graph, we use different strokes for each line, rather than relying solely on color,

Screen: Narrator hovers over different lines in the line chart.

Narrator: and, again, we make a table available, which contains the data used to generate the graph.

Screen: Narrator scrolls down to where the assignments are listed and selects the parenthetical text "due tomorrow" after the first assignment.

Narrator: Below this, we see that, where color had been used exclusively to indicate which assignments were due tomorrow, now that fact is communicated by adding the text "due tomorrow" in parentheses beside all the relevant assignments.

Screen: Narrator selects text in the table by the line chart and then deselects it.

Narrator: I hope this video gave you some sense of the barriers folks might encounter because of content that relies on the use of color cues or that has insufficient contrast and that you now have a better sense of what *you* can do to ensure your learning materials are accessible.

Screen: Narrator navigates to <https://www.assist.vt.edu/calm/check-contrast.html> in the Chrome browser.

Narrator: You can learn more about how to ensure sufficient contrast in different kinds of documents, such Word, PPT, and HTML, by visiting the Check Contrast page we created for

our Keep C.A.L.M. campaign. Remember: Keep C.A.L.M -- Choose Accessible Learning Materials.

Screen: *Graphic of an eye with a color wheel as the iris with text reading Keep C.A.L.M.*
assist.vt.edu/calm/check-contrast