

**General Details:**

<b>Program:</b>	Accessibility Training
<b>Location:</b>	<a href="http://uxlearning.mit.edu">http://uxlearning.mit.edu</a>
<b>Platform:</b>	Drupal Cloud
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<b>Intended Audience:</b>	Members of the MIT community who create electronic documents like websites, presentations, spreadsheets, etc.
<b>Module Title:</b>	Module 1: Color Accessibility
<b>Draft:</b>	Version 5 – Saved by ID on 10/15/2014

**Prerequisite Skills:**

General knowledge of how to modify colors in the documents that they create, e.g., html & css, Microsoft office, etc.

**Module Goal(s):**

The goal is for learners to be able to select appropriate colors for a website or document that satisfy the MIT standard for accessibility.



## Lessons and Learning Objectives:

### Lesson 1: A Primer on Color Contrast

After completing this lesson, the learner will be able to:

- Describe how colorblindness affects color perception
- Determine when it is acceptable to use low or high color contrast
- Identify acceptable color contrast ratios
- Select appropriate font sizes depending on color selection
- List tools that can help when selecting foreground and background colors

### Lesson 2: The Paciello Color Contrast Analyzer

After completing this lesson, the learner will be able to:

- Install the Color Contrast Analyzer on Windows or Mac
- Use the eyedropper to select foreground and background colors on a website
- Display color values as Hex or RGB
- Adjust colors using the color sliders
- Determine if a selected color combination passes standardized criteria

## Learning Strategy:

### General Strategy:

Voiceover presentations with checks for understanding built in. Captivate 8 will be used to produce the lessons. The lessons and accompanying resources will be built in the Accessibility Drupal Cloud website.

The presentations will be scenario-based.

### Specific Strategies:

Lesson 1: A Primer on Color Contrast

Objective:	Describe how colorblindness affects color perception
Strategy:	Absorb activity – Telling a story Present Scenario of a pie-chart created by a co-worker with normal vision and show how it appears differently to a co-worker with colorblindness. Show how increasing the contrast of the colors in the pie chart makes it more accessible to the co-worker with color blindness.

Objectives:	Identify acceptable color contrast ratios Select appropriate font sizes depending on color selection
Strategy:	Hands-on Activity Briefly present that we determine acceptable colors using contrast ratios. Present three graphics with the same background color and different color text. Have one with an acceptable contrast ratio for large and small text, one with an acceptable ratio for large text but not small text, and one that does not have an acceptable ratio for large or small text. Learner will click on a picture to answer the question: Which of the following graphics has an acceptable color contrast ratio?

Objectives:	Determine when it is acceptable to use low or high color contrast
Strategy:	Hands-on Activity Present learners with a graphic that has strong contrast with text but has low contrast with background graphics. Ask: Does this graphic have an acceptable color contrast ratio? Learner clicks yes or no. The answer is yes, because the background graphics are merely decorative and do not convey meaning.

Objectives:	List tools that can help when selecting foreground and background colors
Strategy:	Absorb Activity Present screenshots of the tools and learners will click to read a description of each one. [Links to each will be included in the Drupal website.]

Lesson 2: The Paciello Color Contrast Analyzer

Objectives:	Determine if a selected color combination passes standardized criteria
Strategy:	In the Introduction, review the concept of color contrasts and describe the different levels of acceptable color contrast. Describe the MIT guidelines. Later, show how to determine acceptability with each version of the tool. [Direct instruction on Drupal webpage with text and graphics.]

Objectives:	Install the Color Contrast Analyzer on Windows or Mac Use the eyedropper to select foreground and background colors on a website Display color values as Hex or RGB (PC only) Adjust colors using the color sliders (Mac only) Determine if a selected color combination passes standardized criteria
Strategy:	Narrated video and step-by-step webpage for each version.

	Use the following website as an example ( <a href="http://public.csr.nih.gov/Pages/default.aspx">http://public.csr.nih.gov/Pages/default.aspx</a> ) The nav bar does not have acceptable contrast levels.
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## Evidence of Learning:

Badge design to be determined.

## Resources:

### General Graphic Accessibility Concerns:

Presentation: Visual Usability: Bringing Graphic and UI Design Together

Link: <http://www.slideshare.net/harvardwww/schlatter-visual-usabilitysm>

### Color Accessibility Background Information:

Website: Colors on the Web

Article Title: Color Contrast

Link: <http://www.colorsontheweb.com/colorcontrasts.asp>

Website: Lighthouse International

Article Title: Effective Color Contrast

Link: <http://www.lighthouse.org/accessibility/design/accessible-print-design/effective-color-contrast>

Website: W3C

Article Title: Web Content Accessibility Guidelines:

Link: <http://www.w3.org/TR/WCAG20/>

### Colorblindness Information:

Website: Colorblind Home Page

Article Title: What is Colorblindness and the Different Types?

Link: <http://colorvisiontesting.com/color2.htm>

Website: Colour Blind Awareness

Article Title: Color Blindness

Link: <http://www.colourblindawareness.org/colour-blindness/>



Website: Colorblind Home Page

Article Title: Color Vision Fundamentals

Link: <http://colorvisiontesting.com/waggoner/rabincolourslides.pdf>

**Tools:**

Website: The Paciello Group

Tool: Colour Contrast Analyser

Link: <http://www.paciellogroup.com/resources/contrastanalyser/>

Tool: WAVE - Web Accessibility Evaluation Tool

Link: <http://wave.webaim.org/>

Tool: Tanaguru Contrast-Finder

Link: <http://contrast-finder.tanaguru.com/>