

ACCESSIBILITY **Guidelines** for NOVA ELI

1

Accessibility

2

Accessibility
Guidelines

3

Accessible
Content

4

Accessible
PowerPoint
& Google Slides

5

Accessible
Word Documents
& Google Docs

6

Accessible
PDFs

7

Accessible
Video & Audio

8

Accessible
Complex Images

9

Accessible
Math & Science

10

Accessible
3rd Party Tools

11

Accessibility
Checkers

12

Who is
Responsible
for Accessibility

Example Accessible Bb Course

To get started in reviewing this Accessibility Handbook, let's pretend we are looking at a very simple Bb course, which contains a welcome folder, a message with a header and paragraph text, an unordered list, a picture, some colored text, a hyperlink to a NOVA webpage, and a bar graph. Using available style components when building content will ensure your course is accessible to all learners. More details are provided throughout this handbook.

Bb Folder →  **Welcome**

Add descriptive Alternative (Alt) text to images

Welcome to Virtual College Exploration!

Studying online can make it challenging to identify where to find answers to questions you may have as a student. This week, we will explore college resources, policies, procedures. You will learn who to contact when you need help!



Student studying outdoors with laptop

At the end of this unit, you will be able to:

- Locate college and community resources.
- Review the College's policies and procedures.
- Distinguish between transfer and applied programs.
- Let's get started!

Format lists as proper lists w/ punctuation

Grading Scale

At the end of the course, your grade will be determined by the following point-based scale.

Paragraph

Table Column Header

Grade	Grading Scale by Points	Grading Scale by Percentages
A	202 - 225 +	90 - 100%
B	180 - 201	80 - 89%
C (or P)	157 - 179	70 - 79%
D	135 - 156	60 - 69%
F (or NP)	< 134	< 59%

Late Work & Makeup Policy

Sufficient Color Contrast

Assignments must be completed on time in order to earn full credit.
Late assignments will earn 50% credit.

Go to the online [Student Handbook](#) to review the information contained in it. Again, scan the Table of Contents. Read any sections which interest you. Pay specific attention to Student Activities, Policies and Procedures.

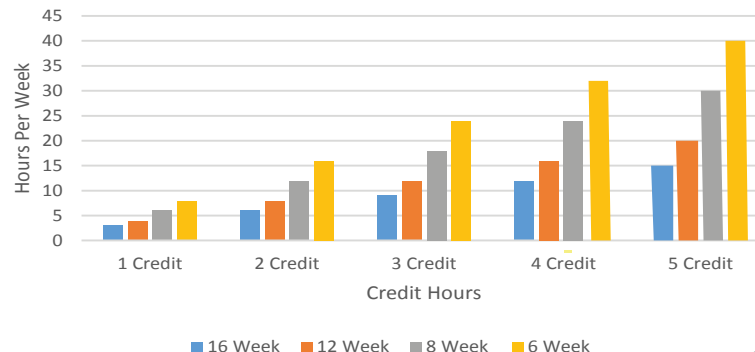
Paragraph

Weekly Study Time for Online Courses

Many courses are offered in different lengths during the semester. Use this chart to understand how many study hours may be needed depending on the credit hours and the length of the course's semester.

Paragraph

Weekly Study Time for Online Courses



This graph displays the number of study hours recommended according to the length of the course and the number of credit hours. At the low end of the study hour graph, a one credit 16 week course should need 3 hours of study per week, a 12 week needs 4 hours, the 8 week needs 6 hours, and a 6 week needs 8 hours. Study hours recommended increase from 1 to 5 credit hours. At the top end of the graph, a 5 credit 16 week course needs 15 hours, a 12 week needs 20 hours, the 8 week needs 30 hours, and the 6 week needs 40 hours.

When using complex images, include **Alt text** as you would for any other image but also include an additional description as a caption. If more description is needed, include it in the content of the page or utilize a long description.



Accessibility

www.nvcc.edu/disability-services
elife.nvcc.edu/idesign/accessibility

Adhering to accessibility guidelines while developing your online course will benefit all students, including those with visual, hearing, mobility and learning disabilities.

Accessibility Guidelines

The NOVA ELI Accessibility Guidelines for your on-line and campus Course Content are based on the internationally accepted Web Content Accessibility Guidelines AA standards (WCAG 2.0).*

This handbook is a reference guide for ELI faculty, but is applicable to any NOVA course using on-line course content, media, applications or electronic files shared with students.

* *Web Content Accessibility Guidelines 2.0, W3C World Wide Web Consortium Recommendation 12 Month Year* (<http://www.w3.org/TR/2008/REC-WCAG20-20081211/>), Latest version at <http://www.w3.org/TR/WCAG20/>

"Requiring use of an emerging technology in a classroom environment when the technology is inaccessible to an entire population of individuals with disabilities... is discrimination prohibited by the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973 (Section 504) unless those individuals are provided accommodations or modifications that permit them to receive all the educational benefits provided by the technology in an equally effective and equally integrated manner."

Source: 6/29/2010

Dear Colleague letter sent to every college and university president

<http://www2.ed.gov/about/offices/list/ocr/letters/colleague-20100629.html>

1

Why? Required by law and the right thing to do.










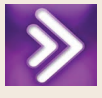


Accessibility Guidelines

For more information

www.nvcc.edu/disability-services

elife.nvcc.edu/ideign/accessibility

Component	Guideline	Why Is This Important?
 Headings	Use properly formatted headings to structure a page.	Headings help to organize content, making it easier for everyone to read. Headings are also a primary way for people using screen reading software to navigate a page of text.
 Lists	Format lists as proper lists.	Formatting is conveyed to assistive technologies and mobile devices so they can present information as it is meant to be presented. Properly formatted documents are more understandable and accessible using provided bullets and numbers.
 Links	Write meaningful link text.	Links embedded in text should describe the link's destination. This helps all users navigate more efficiently, especially screen reader users. Avoid generic "click here" or a full url unless the url is included in a handout or pdf the students may print.
 Tables	Create tables with column and/or row headers, and ensure a proper reading order.	<p>Why Column Headers in a Data Table are Important. Using table headers is important to conveying tabular data accurately.</p> <p>Why the Reading Order in a Table is Important . Screen readers read tables from left to right, top to bottom, one cell at a time. If cells are split or merged, it could throw the reading order off which may make the table difficult to comprehend by users who are blind and using a screen reader to navigate.</p>
 Color	<ul style="list-style-type: none"> Use sufficient color contrast. Don't use color alone to convey meaning. 	Without sufficient color contrast between font and background, people who are color blind and low vision will not benefit from the information. Using color alone to convey meaning will leave those who are color blind or blind unable to interpret the meaning.
 Keyboard	Any action that uses a mouse should also be able to be completed using only the keyboard.	Mobility and visual disabilities often make using a mouse impossible or ineffective. If content is not keyboard accessible, it will limit who can learn from the content.
 Images	Provide brief alternative (Alt) text descriptions for images. Enter "null" for decorative images.	Alt text is read by a screen reader. It should briefly describe what is being displayed. This allows screen reader users to benefit from the information being conveyed by the image. Long descriptions are covered in Section 8. If the image is decorative, use "null".
 Online Meetings	Any students requiring an interpreter can be accommodated.	Interpreters are available to provide accessible translation of on-line meetings in Bb Collaborate or Bb Ultra. Contact the Disability Support Services office in advance. Once a student has requested accommodations, you must arrange for interpreters for any on-line or synchronous meeting: https://www.nvcc.edu/disability-services/services.html .

Follow these component guidelines to improve accessibility.











Accessibility Guidelines

For more information

www.nvcc.edu/disability-services

elife.nvcc.edu/idesign/accessibility

Component	Guideline	Why Is This Important?
 Navigation	Design clear and consistent navigation.	Clear and consistent navigation in your course will allow students to focus on your content rather than on how to find it. ELI courses should follow the Bb ELI Master Template.
 Interactive Modules	Ensure all student actions can be completed without a mouse.	Mobility and visual disabilities often make using a mouse impossible or ineffective. Students with disabilities will use a variety of input devices to complete coursework. Eliminate barriers to ensure all learners can complete assignments and learning activities.
 Blinking	Avoid blinking / flashing content.	Blinking content is distracting, and it can induce seizures in people with a photosensitive disorder.
 Video & Audio	Use only audio/video that provide accurate transcripts or captions. Keep a list of videos and audio that are not captioned, subtitled, or transcribed. If you create your own media, please ask for assistance.	Video captions benefit many viewers. They are essential for those who are deaf and hard of hearing, but they also aid in comprehension for non-native English speakers, those who are unfamiliar with vocabulary, and viewers with some learning disabilities or in a noisy environment. Audio transcripts benefit many students. They are essential for those who are deaf or hard of hearing, but they also assist anyone who would like to read or search the transcript.
 Software	Try to select only accessible software & applications.	Inaccessible software and applications are barriers for students with disabilities. Look for accessibility statements or VPAT from vendors. Contact ELI to have your interactive applications and software accessibility tested.
 Math & Science	Provide accessible math and science equations.	Use an equation editor that outputs MathML. For MS Word and PPT documents, use the MathType plugin. Do not use scanned images of equations as these are only jpgs and cannot be read by screen readers unless you provide alt text.

Follow these component guidelines to improve accessibility.

To Front Cover

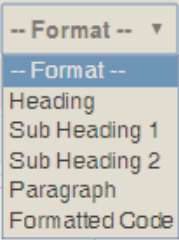





How to Make Accessible Bb Content

For more information

www.nvcc.edu/disability-services

elife.nvcc.edu/ideign/accessibility

Component	Guideline	How to Make it Accessible
Headings and text	<p>Properly format headings and text. Hint: use Heading, Sub Heading 1 or paragraph as needed.</p>	<ol style="list-style-type: none"> 1. Highlight the text and select Paragraph style for the text. Most content can be left as paragraph. 2. Multiple Headings can be used. DO NOT skip heading levels. 3. Do not rely on font size to convey meaning. 4. When pasting in text from an editor such as Word, unnecessary and inaccessible formatting may be included with text. Use the cleanup eraser tool to strip extra formatting in the Bb editor. 
Images	<ul style="list-style-type: none"> ▪ Use alternative (Alt) text for meaningful images. ▪ Use the word “Null” for strictly decorative images. 	<ol style="list-style-type: none"> 1. Place the cursor where you want to insert a new image, and click the Insert image icon from the toolbar. The Insert/Add image window will open. 2. Browse to the image location and select the image file. Click Open button. 3. Describe the purpose of the image in the Title field. Click Insert. 4. To edit an image, right click on the image. The Insert/Edit image window will open. Describe the purpose of the image in the Title field. For a meaningful image, describe the purpose of the image in the Title field. For a decorative image, enter Null in the Title field. Click Insert. 
Lists/ Bullets	<p>Format a text as a list using Ordered or Unordered lists from the Content Editor toolbar menu.</p> <p>Include punctuation at the end of each list item.</p>	<ol style="list-style-type: none"> 1. Select the content you want to make into a list. 2. From the toolbar, click the Unordered/Bulleted list icon (left) if the order does not matter. Click Ordered List from the drop-down menu (right) if the order does matter. 3. Use any of the list styles for unordered or ordered. Do not make your own text-based lists with your own graphic images in place of bullets as screen readers will not interpret these as lists. 
Links	<p>Write meaningful link text that indicates the link’s destination. Include (opens in a new window) at the end but within the url tag and select the option to open in a new window. Bb no longer opens and displays external content within Bb.</p>	<ol style="list-style-type: none"> 1. Highlight meaningful text for the link, NOVA ELI (opens in a new window). 2. From the toolbar, click on the Insert/Edit Link icon. The Insert/Edit window opens. 3. In the Insert/Edit Link window: <ol style="list-style-type: none"> a. Type in the URL http://eli.nvcc.edu/ in the Link path. b. Select Open in a new Window (_blank) in the Target section. 4. Click the Insert button. <p>Bad link examples: Click here which provides no information or http://eli.nvcc.edu/ which lists the full url.</p> 



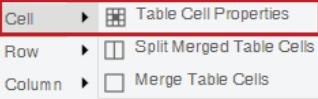
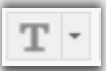



How to Make Accessible Bb Content

For more information

www.nvcc.edu/disability-services

elife.nvcc.edu/idesign/accessibility

Component	Best Practices	How to Make it Accessible
Tables	Indicate column (or row) headers in data tables.	<ol style="list-style-type: none"> 1. Select the cells to be marked up as a row or column header. 2. Right click on the highlighted cells and select Cell from the menu. 3. Choose Cell Properties. The Table cell properties window will open. 4. In the Cell Type field, click on the drop-down list and select Header. 5. Click Update button. 
	Add table caption.	<ol style="list-style-type: none"> 1. Select the table and click on the drop down menu next to the Table icon. 2. Select Table Properties, and check Include Caption. 3. Click Update when done.
	Check the reading order.	<ul style="list-style-type: none"> ■ A screen reader reads tables from left to right, and top to bottom, never repeating a cell. ■ Avoid merged, nested, and split cells as they alter the reading order of a table. ■ Make sure you construct your tables in a way that accommodates a good reading order. ■ Fill empty cells with N/A. See webaim.org/techniques/tables for more information.
Color	Use sufficient color contrast.	<ol style="list-style-type: none"> 1. Select the text that you want to change to another color. 2. Click drop-down menu next to the Text Color icon in the toolbar. 3. Select the color and click Submit. 
	Do not use color alone to convey meaning.	Do not use color alone to make a distinction, a comparison or to set something apart from the rest of the content. If you categorize something by color alone, those who are color blind or blind will not benefit from the color distinction. See webaim.org/contrastchecker for more information.
Math & Science	Write math and science equations using the equation editor.	Use the Blackboard Learn equation editor. For more information, see Section 9: Accessible Math & Science in this handbook. 
Graphics	Use graphic images sparingly. Avoid blinking/flashing content. Remember to create alt text for all images and graphics.	

Follow these component guidelines to improve accessibility.







How to Make Accessible PowerPoint & Google Slides

For more information

www.nvcc.edu/disability-services

elife.nvcc.edu/design/accessibility

Component	Powerpoint (preferred) 2010, 2013, 2016	Google Slides
<p>Outline View</p> <p>Check the outline view.</p>	<ol style="list-style-type: none"> 1. Click on View tab (Mac: View > Outline View icon - <i>PPT 2016.</i>) 2. In the Presentation Views group, click on Outline View. 3. In the Outline panel, make sure all text from the slides appears in the Outline View. 	<p>There is no Outline View in Google Slides.</p>
<p>Slide Layout</p> <p>Use the PPT provided slide layouts when building slides to help your slide's reading order remain intact.</p>	<p>From Home tab, choose the New Slide drop down menu and select a slide template.</p>  <p>HINT: Do not use the Blank slide template to create your own slide format.</p>	<ol style="list-style-type: none"> 1. Create a new slide (Slide > New Slide). 2. Go to Slide menu, click on Apply Layout and choose one of the slide templates. Do not use the Blank one.
<p>Reading Order</p> <p>Ensure the tab order = the reading order.</p>	<ol style="list-style-type: none"> 1. On the Home tab, click on Arrange and choose Selection Pane (Reorder Objects for Mac - PPT 2010 & 2016.) 2. To see the reading order of the slide, tab through the slide and the corresponding element will be highlighted. 3. To re-arrange the reading order, click arrow up/down button on the Selection Pane (Mac: drag layers. Highest number is read first.) 4. Test reading order with the Tab key again. 	<ol style="list-style-type: none"> 1. Tab through the slide and the corresponding element will highlight. 2. In the slide area, click on the element that you want to change. 3. To change the reading order, click on Arrange menu > Order. Send backward will raise the element to a higher reading order. Bring forward will make the element lower in the reading order. 4. Test reading order with the Tab key again.
<p>Images</p> <p>Add alternative (Alt) text to images and shapes or Null for strictly decorative images.</p>	<ol style="list-style-type: none"> 1. Right click on the image and select Format Picture. 2. Click the  icon to open Alt Text field. 3. Enter appropriate alt text in the Description field (not the Title field.) 	<ol style="list-style-type: none"> 1. To insert an image, choose Image from the Insert menu and follow the instructions. 2. To add Alt text, click on the image. Then in the format menu, select Alt text (at the very bottom of the menu). 3. Enter alt text in the Description field (not the Title field).
<p>Lists</p> <p>Format a list as a list.</p>	<ol style="list-style-type: none"> 1. Select the text to make into a list and click on the Home tab. 2. In the Paragraph group, select the Numbering or Bullets icon. <ol style="list-style-type: none"> a. Use Numbering lists if a sequential order is important to the list. b. Use Bullets lists if all items are of equal value. 3. Include punctuation at the end of each list item. 	<p>Go to Format menu > Lists and select one of list styles.</p> <ul style="list-style-type: none"> ■ Use Numbered lists if a sequential order is important to the list. ■ Use Bulleted lists if all items are of equal value. ■ Include punctuation at the end of each list item.

4A

Save your original files. You may need them if you have a student who needs alternative formats.





How to Make Accessible PowerPoint & Google Slides

For more information

www.nvcc.edu/disability-services
elife.nvcc.edu/idesign/accessibility



Component	Powerpoint (preferred) 2010, 2013, 2016	Google Slides
<p>Links Write meaningful link text that indicates the link's destination and (opens in a new window) at the end of the link description.</p>	<ol style="list-style-type: none"> Type/highlight meaningful text: NOVA ELI (opens in a new window). Select the text, right click and choose Hyperlink... from the menu. The Insert Hyperlink window will open. Enter a URL address in the Address field, http://eli.nvcc.edu/. (Mac - PPT 2010: Link to field.) Click the OK button to save the link. <p>Bad link examples: Click here which provides no information or http://eli.nvcc.edu/ which lists the full url.</p>	<ol style="list-style-type: none"> Type out text that describes the destination of the link. Select the text, right click and choose Link from the menu. Paste or type in a hyperlink. Click Apply button to save the link.
<p>Tables</p> <ul style="list-style-type: none"> Reading order must be logical for screen readers. Indicate column/row headers for data tables. 	<ul style="list-style-type: none"> A screen reader reads a table from left to right and top to bottom without repeating headings. Merged, nested, and split cells may change the reading order of a table, so avoid merging, splitting or nesting cells. Construct your table in a way that accommodates a good reading order. Inserting and rearranging columns or rows can cause issues. Utilize long descriptions or alt text to explain the data in tables. <ol style="list-style-type: none"> Place the cursor in the top row of your data table. Click the Design tab under Table Tools (Mac - PPT 2010/2016: Tables tab) In the Table Style Options group (Mac - PPT 2010 - Table Options > Options / Mac PPT 2016 - Table Design tab), select the Header row check box. The cells in the top row of your table make up the column headers. <p>Note: You cannot create table column/row headers in Google Slides.</p>	
<p>Color</p> <ul style="list-style-type: none"> Use sufficient color contrast. Don't use color alone to convey meaning. 	<ul style="list-style-type: none"> Use enough color contrast between the text (i.e. black color) and the background color (i.e. white color). Without sufficient color contrast, people who are low-vision and color blind will not benefit from the information. A color page printed in gray scale needs enough contrast to be understandable. For more information visit webaim.org/contrastchecker. <p>Do not use color alone to make a distinction. Always include written directions or meaning after color. As an example, in an announcement about assignments, do not list certain assignments colored in red, and write Assignments in red are due Tuesday. Instead, follow any assignments marked in red with the directions due Tuesday.</p>	
<p>Math & Science Use Math Type to write Math equations.</p>	<p>You can use the MathType plugin http://www.dessci.com/en/ for MS Powerpoint to create math and science equations, formulas and notations. DO NOT use MS equation editor.</p>	<p>Math and Science equations and formulas cannot be written to be accessible in Google Slides.</p>
<p>Video & Audio</p>	<p>If you embed video and audio, also include a direct link for students to open media outside their Bb session so that the accessibility features are available.</p>	





How to Make Accessible Word Documents & Google Docs

For more information
www.nvcc.edu/disability-services
elife.nvcc.edu/idesign/accessibility

Check	Word Doc (preferred) 2010, 2013, 2016	Google Docs
Headings Properly format headings.	<ol style="list-style-type: none"> 1. Select the text that you want to make into a heading. 2. Go to the Home tab. 3. Choose the appropriate heading level from the Styles group. 	<ol style="list-style-type: none"> 1. Select the text that you want to make into a heading. 2. Go to the Styles menu (or "Normal text") and choose the appropriate heading level from the Normal text drop down list.
Use headings in the correct order.	Use headings wisely and in the order provided. DO NOT skip heading levels! Skipping headings will cause confusion for students.	
Images Add alternative (Alt) text to meaningful images or Null for strictly decorative images.	<ol style="list-style-type: none"> 1. Right click on the image, and select Format Picture... 2. The Format Picture window will open. 3. Select the  icon and click on the ALT TEXT to open Alt text field. 4. Enter image description in the Description field (Not the Title field.) <p>Note: Some images may require use of a long description. See Complex Images in Section 8 for more information.</p>	<ol style="list-style-type: none"> 1. Select the image. 2. From the Format menu choose Alt text. 3. Type in description text in the Description field. (NOT in the Title field.) 4. Click the OK button when done.
Lists Use provided list tool features, not your own text and images.	<ol style="list-style-type: none"> 1. Select the text that you want to make into a list. 2. On the Home tab, in the Paragraph group, select the Bullets or Numbering list  	<ol style="list-style-type: none"> 1. Select the text that you want to make into a list, and do one of these: <ol style="list-style-type: none"> a. On the Format menu, choose Lists & select Numbered or Bulleted list b. Go to the icon toolbar, and choose the Numbered or Bulleted list icon.
Links Create a link that describes its destination.	<ol style="list-style-type: none"> 1. Type out text that describes the destination of the link. (i.e. NVCC). 2. Select the text, right click and choose Hyperlink... from the menu. 3. The Insert Hyperlink window will open. Enter a URL address in the Address field (<i>Mac - Word 2011 Link to field.</i>) 4. Click the OK button to save the link. 	<ol style="list-style-type: none"> 1. Type out text that describes the destination of the link (i.e. NVCC) in the link field. 2. Select the Insert link icon (Ctrl/Cmd + K). 3. The Link window will open. Type the URL of the webpage in the (i.e. "http://www.nvcc.edu") 4. Then click the Apply button to save the link.
Math & Science	Use the MathType plugin http://www.dessci.com/en/ for MS Word to create math and science equations, formulas and notations. DO NOT use Microsoft's equation editor.	Math and Science equations and formulas cannot be written accessibly in Google Docs.

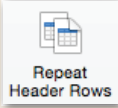
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How to Make Accessible Word Documents & Google Docs

For more information
www.nvcc.edu/disability-services
elife.nvcc.edu/ideign/accessibility

Check	Word Doc (preferred) 2010, 2013, 2016	Google Docs
Tables Indicate column headers for data tables.	<ol style="list-style-type: none"> Place the cursor in the top row of your data table. Click on the Design tab under Table Tools (Table tab on Mac - <i>Word 2010</i>/Table Design tab - <i>Word 2016</i>). In the Table Style Options group, select the Header Row check box. Under Table Tools, click the Layout tab (Table Layout tab - <i>Word 2010</i>) In the Data group (<i>Word 2016</i> - Table Design > Layout tab), click the Repeat Header Row button. This will indicate the top row as the table's header. 	Google Docs doesn't allow you to designate column or row headers, so keep your tables small so they are understandable without headers.
Check the reading order.	<ul style="list-style-type: none"> A screen reader reads a table from left to right and top to bottom, without repeating headings. Do not use merged, nested, or split cells as they may change the reading order of a table. Construct your table in a way that accommodates a good reading order. Inserting columns/rows later may disrupt reading order. To test the reading order, place your cursor in the first cell of the table. On the keyboard, press the Tab key repeatedly to navigate through the table. This will be the reading order that assistive technologies will use. 	
Color Use sufficient color contrast.	<ul style="list-style-type: none"> Use enough color contrast between the text (i.e. black color) and the background color (i.e. white color). Without sufficient color contrast, people who are low-vision and color blind will not benefit from the information. A color page printed in gray scale needs enough contrast to be understandable. For more information visit: webaim.org/contrastchecker. 	
Do not use color alone to convey meaning.	Do not use color alone to make a distinction. Always include written directions or meaning after color. As an example, in a list of upcoming assignments, do not list certain assignments colored in red , and write Assignments in red are due Tuesday. Instead, follow any assignments marked in red with the directions due Tuesday .	
Elements to Avoid These document elements can cause reading issues.	<ul style="list-style-type: none"> Do not include extra spaces, tabs and empty paragraphs, which may be perceived as blanks by screen readers. Instead use proper formatting, indenting and styles to create whitespace. Objects that are not in line with text may be inaccessible to users with vision impairment. Set text-wrapping around objects to Top and Bottom or In Line with Text. Images used as watermarks may not be understood. Avoid justified text as it is more challenging to read with unpredictable spacing within words. Use left text alignment whenever possible. Avoid unnecessary font changes or tiny fonts. 	

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How to Make Accessible PDFs

For more information

www.nvcc.edu/disability-services

elife.nvcc.edu/idesign/accessibility

Method	Software	How to Make it Accessible
Convert original MS Office document to PDF file.	Microsoft Office Word, Excel and Powerpoint (MS Windows based only).	<ol style="list-style-type: none"> 1. Start with a well-structured document, presentation or spreadsheet. 2. Check the document before creating a PDF. Click the File tab and select Info. Click on Check for Issues>Check Accessibility. The checker will progress through your document and provide errors and warnings. 3. Make necessary corrections to your original file where issues are indicated. 4. To create the accessible PDF, click the File tab and select Save as. In the Save as type field, select PDF (*.pdf). Enter a file name in the File name field. 5. Click on the Options button and make sure the Document structure tags for accessibility and Create bookmarks using Headings checkboxes are selected. 6. Click OK and Save. This will tag all of the text formatting, so page headings and lists are correctly interpreted by a screen reader.
Run Adobe Acrobat Pro Accessibility Checker on PDF files.	Adobe Acrobat Professional (Version X or XI Pro) Visit the link below for NOVA faculty access to Adobe software: https://www.nvcc.edu/ithd/faculty/software.html .	<ol style="list-style-type: none"> 1. Click the Tools tab to open the Accessibility panel on the right hand side. If you do not see it, click the View menu and select Tools > Accessibility. 2. Under Accessibility, select the Full Check button. 3. The Accessibility Checker window will open. <ol style="list-style-type: none"> a. Under the Report Options, check on the Create Accessibility Report. b. Under the Checking Options section: Category: Document and check all the items. 4. Click the Start Checking button. 5. The Accessibility Checker Report will display on the left pane. 6. Make corrections as indicated in the report and save the updated file. Note: Read more about automated Accessibility Checkers in Section 11.
Run Optical Character Recognition (OCR) of scanned documents when original digital source files are not available.	Adobe Acrobat Professional (Version X or XI Pro)	<ol style="list-style-type: none"> 1. Open the scanned PDF file. 2. Open the Tools panel (click Tools in top right) and click Text Recognition. 3. Click In This File and the Recognize Text window will open. 4. Click the Edit button to adjust OCR settings. Select English (US) for Primary OCR Language, Searchable Image for PDF Output Style, and 600 dpi for Downsample To. 5. Click OK when done.

6

Save your original files.

You may need them if you have a student who needs alternative formats. Microsoft for Macs cannot produce a fully accessible PDF. See: <http://www.pcc.edu/resources/instructional-support/access/pdfs-from-mac.html> for options on possible solutions.




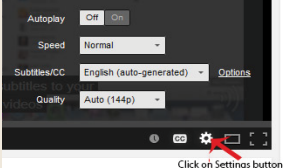


How to Make Accessible Video & Audio

For more information

www.nvcc.edu/disability-services

elife.nvcc.edu/design/accessibility

Component	Best Practices	How to Make it Accessible
<p>Media Player</p> <p>The buttons need to be properly labeled so a screen reader user can operate the player.</p>	<p>Keyboard Navigation</p> <p>It is important to accessibility that students can access and operate a media player with the keyboard alone (not using a mouse).</p> <p>Screen Reader Accessibility</p>	<p>To test for keyboard accessibility, press the Tab key to navigate to the player, and use the Tab, Arrow keys, Enter and spacebar to interace with the media player buttons. Depending on the control, the player should operate using the Enter key, space bar and arrow keys. Check the following to determine keyboard accessibility:</p> <ul style="list-style-type: none"> ▪ The Enter key or space bar activates the Play/Pause control. ▪ The arrow keys, usually up and down arrow keys, manipulate the Volume control. ▪ The arrow keys, usually left and right keys, manipulate the Forward and Rewind controls. ▪ Depending on their design, other controls like Captions and Full Screen are activated by the keyboard. <p>For screen reader accessibility, the characteristics of each media player control must be stated by the screen reader. These characteristics are:</p> <ul style="list-style-type: none"> ▪ Name ("Play", "Fast Forward"). ▪ State ("selected", "expanded"). ▪ Role ("button", "list"). ▪ Value ("75%" for volume).
<p>Captioned Media</p> <p>We recommend you first search for captioned media, but you are not limited to only captioned media. Use the best media for your lesson. Uncaptioned media will be accommodated at the time of need.</p>	<ul style="list-style-type: none"> ▪ Search for captioned media. ▪ Avoid auto-generated media. <p>The NOVA Library has a wide selection of captioned media. Check with your campus or ELI librarian.</p> <p>Avoid any YouTube video with captioning that was auto-generated.</p>	<ul style="list-style-type: none"> ▪ How do I find human transcribed captioned videos on YouTube? (Search from YouTube site) <ol style="list-style-type: none"> 1. Type your search keyword(s) in the YouTube Search field 2. Before you press Enter or click the magnifying glass icon, add , CC at the end of your search.  ▪ How do I know what type of captioning is available for a YouTube video? Click the Settings button and check the Subtitles field. Avoid auto-generated subtitles and the Translate feature which are not usually accurate.  ▪ How do I find captioned videos from Google? <ol style="list-style-type: none"> 1. Fill out the Advanced Video Search fields (http://www.google.com/advanced_video_search) that you need. 2. Choose the "Subtitles: Closed captioned only" option. 3. Press Enter or click the Advanced Search button. The results may or may not be human transcribed. Results will be listed from all across the internet, not just YouTube.

Keep track of your uncaptioned media. You may need this list if a student has an accommodation need.





How to Make Accessible Complex Images

For more information
www.nvcc.edu/disability-services
elife.nvcc.edu/idesign/accessibility

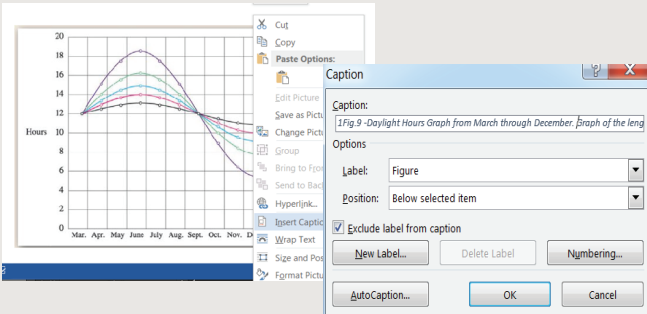
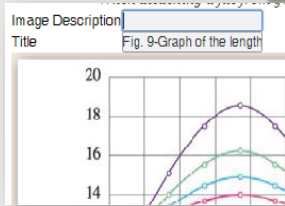
Complex Images include graphs, charts, diagrams, maps, and illustrations. Below are 3 ways to provide alternative (alt) text-based description for complex images, when a simple alt text attribute is insufficient. Choose the best Alt text method for your image types.

A Use a Caption/Title

For Bb content: Your caption must be associated with the image. Make sure to include a properly added caption in the **Title** field. Select the image, click the **Bb image editor**, and type your caption into the **Title** field. Save your changes with **Submit**.

Note: Do not use the Bb image description field.

For MS Word and PowerPoint: Right click on the image and select **Insert Caption**:



Type the **graph title** and **caption** into the **Caption** field:
Fig.9 -Daylight Hours Graph from March through December. Graph of the length of daylight from March through December at various latitudes. For example, at 40 degree latitude there are 12 hours of daylight in March. In October, there are 10.8 hours of daylight at 40 degrees.

B Describe in surrounding text

If the image is adequately described in surrounding text (including text-based data tables), so that the image is just reinforcing the text, no further description is needed.

Example:

Modeling amount of daylight as a function of time of year, Figure 9 and the table following show the number of hours of daylight as functions of the time of the year at several latitudes, from March through December.

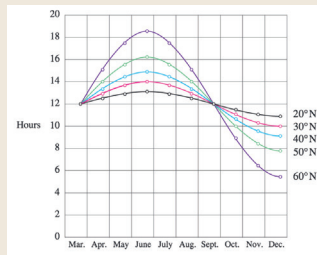


Fig.9

Note: Since the images are adequately described in surrounding text, make sure to add "Null" in the **Bb title** or **MS Office caption** field.

Month/ Degree	20°	30°	40°	50°	60°
Mar.	12	12	12	12	12
Apr.	12.3	13.2	13.5	14	17.5
May	12.9	13.7	14.3	15.5	17.7
Jun.	13	14	14.9	16.1	18.2
Jul.	12.8	13.8	14.2	15.7	17.8
Aug.	12.5	12.8	13.2	14	15
Sep.	12	12	12	12	12
Oct.	11.6	11.2	10.8	10	9
Nov.	11	10.2	9.7	8.3	6.5
Dec.	10.9	10	9.1	7.9	5.7

Example of Data Table for Figure 9

C Link out to a web page with a longer description

If the image cannot be described using methods A or B, use the 'longdesc' attribute. This requires creating an associated long description file accessible via weblink. Select the image, click the **Bb image editor**, select **Advanced**, type the url in the **long description** field. Save your changes with **Submit**.

To create a text file describing an image in detail, contact ELI for further assistance. We will create and save a long description file for your image and build a full hyperlink to be used in your course.

`longdesc="fig9-longdesc.html"`

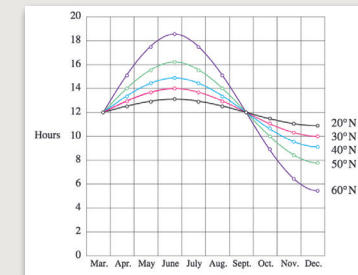
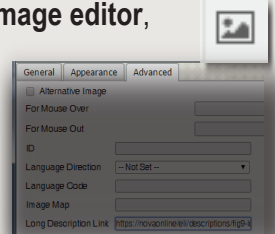


Fig. 9



```
<html>
<p>Modeling amount of
daylight as a function of
time of year Figure 9 shows
graphs of the number of
hours of daylight...</p>
</html>
```

fig9-longdesc.html



Resources for Accessible Complex Images and Tactile Models

elife.nvcc.edu/ideign/accessibility

Resources for Image Description

- **Guidelines for Describing STEM (Science Technology Engineering and Math) images**
<http://tinyurl.com/j4hao5e>.
- **How Do We Access Meaning in Art? (Describing art images in alt text)**
<http://tinyurl.com/hgtyx2s>.
- **Effective Practices for Description of Science Content**
<http://tinyurl.com/yl34kl3>.
- **Open University's Guidelines for describing visual teaching materials**
<http://tinyurl.com/jataz34>.
- **UKAAF (UK Association for Accessible Formats) Guidance**
<http://www.ukaaf.org/braille/>.
- **Diagram Center's Accessible Image Sample Book**
<http://goo.gl/jQ32HW>.

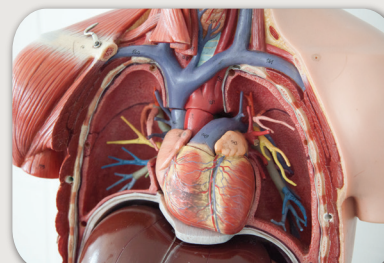
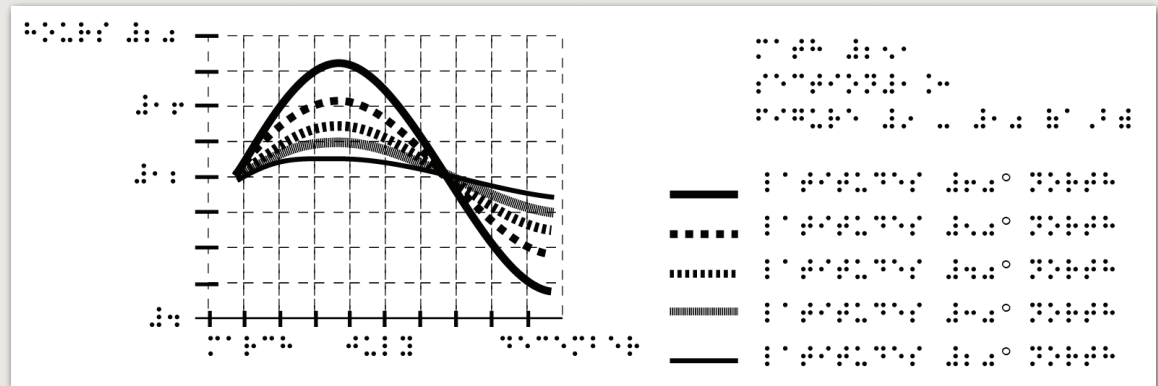
Tactile Representations

Sometimes touching a model or a tactile graphic is the best way to describe something.

Tactile graphics

Tactile graphics have different sized raised dots to show variation in graphs, charts and maps. Disability Services can create tactile graphics for your courses as needed.

Example:



A 3D model of chest anatomy is available in Disability Services.

Indicate if a model is available

If you know where a 3D model of the image is available, indicate that in your image caption or on the same page as the image. Three dimensional image printing assistance may be available from DSS. If a student requires a 3D model and one is not available on your campus, contact Disability Support Services.





How to Make Accessible Math & Science

For more information

www.nvcc.edu/disability-services
elife.nvcc.edu/design/accessibility

Component	Math Tools	Best Practices
Math & Science equations, formulas and scientific notations.	<ul style="list-style-type: none"> ▪ MathML 	MathML stands for 'Math Markup Language' which is the web standard for accessible online math and science notation/equations/formulas. Typically, a user does not create MathML, but instead uses a conversion process to output MathML.
	<ul style="list-style-type: none"> ▪ Bb Equation Editor 	We recommend that as much of the online class as possible be conducted within Bb. All output from Bb's equation editor is stored as MathML, which is screen reader-accessible.
	<ul style="list-style-type: none"> ▪ Word documents 	MathType is an equation editor created by Design Science that is compatible with MS Word for Windows and Mac. Together, MS Word with MathType can be exported as MathML or it can be converted to braille. (Save your original files.) DO NOT use Microsoft's equation editor.
	<ul style="list-style-type: none"> ▪ PDFs 	Math IS NOT accessible in PDF. Save the original file with the original MathType or LaTeX equations. Disability Support Services will ask for your original files when there is an accommodation need.
	<ul style="list-style-type: none"> ▪ PowerPoint 	For MS PowerPoint, use the Math Type 6.9 plugin or later to create math and science equations, formulas and notations. DO NOT use Microsoft's equation editor. If you convert to a PDF or upload to Bb, save your original MS PowerPoint files which Disability Support Services may request.
	<ul style="list-style-type: none"> ▪ Graphs 	To make graphs accessible, do your best to describe them using alternative text, long descriptions, or captions. Disability Support Services can supplement with tactile graphics if necessary.





Linking to 3rd Party Online Materials

For more information

www.nvcc.edu/disability-services
elife.nvcc.edu/ideign/accessibility

Ask about

Questions and Considerations

How accessible are their digital materials?

- **Are the videos captioned and audio recordings transcribed?**
There should be transcripts for audio recordings and captions or subtitles for video. If they aren't available, ask the publishing representative when they plan to have them. If they have no plans, ask them to give NOVA written permission to transcribe or caption the media.
- **Are images described in alternative text?**
There should be alt text for images. PowerPoint slides from publishers often have images without any alt text. If alt text is not available, ask the publisher representative when they plan to have them. If they have no plans, ask them to give NOVA written permission to edit.
- **Can all of the text that is displayed on the screen be read aloud by text-to-speech software?**
Screen readers (assistive technology used by people who are blind or low vision) read typed or tagged text. Screen readers cannot read scanned documents and images or text embedded in Flash animations/movies/simulations. Alt text or transcripts need to be provided.
- **How accessible are the E-books or PDF materials?**
Ebooks and PDFs should be accessible. If they are in pdf form, they must be searchable, accessible, images described, and appropriately tagged. Are the images described? Are embedded objects like videos keyboard accessible and captioned? Is the e-reader keyboard and screen reader accessible?
- **Can all interactivity (media players, quizzes, flashcards, etc.) function using only the keyboard (no mouse)?**
People who are blind or have upper mobility disabilities cannot use a mouse. They use the keyboard to navigate/interact with ELI courses. It is required that any interactive elements on a publisher's website (or on a DVD included with the book) be operable by keyboard alone if they are used in your course.
- **Is there any documentation available (VPAT, White Paper or accessibility statement) that confirms accessibility or usability testing results?**
This type of documentation is used by many organizations to report the level of accessibility of software products and materials.
- **Is the course multimedia viewable on mobile devices?**
Content created in Adobe Flash or Oracle's Java can be inaccessible and may not run on mobile devices and tablets.
- **What are the computer requirements for using their materials? Will the materials work on mobile devices?**
ELI students refer to the NOVA ELI computer and system resources page, <http://eli.nvcc.edu/it/checkup.htm>. If 3rd party materials requirements are different, list these requirements in the course syllabus.

Open Educational Resources (OER)

- **OERs** have the same accessibility requirements as all other digital materials including video, audio, images and any interactive component. If they are not accessible, they can possibly be retrofitted to be accessible if the materials are available for editing.

CONTACT ELI for 3rd party online materials accessibility reviews.

To Front Cover

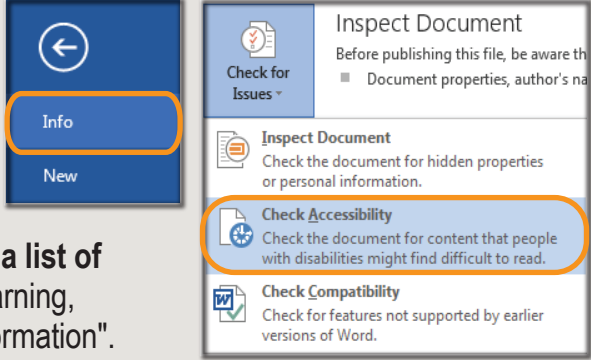
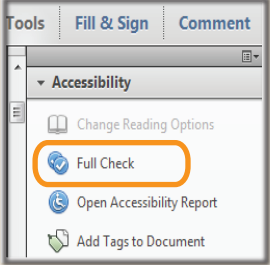





Automated Accessibility Checkers

For more information

www.nvcc.edu/disability-services

elife.nvcc.edu/ideign/accessibility

Software	Tools	How to Check
<p>MS Office Windows - Word, Excel, PowerPoint.</p>	<p>A built-in accessibility checker.</p>	<ol style="list-style-type: none"> 1. Go to the File tab. 2. Select Info from the sidebar menu. 3. Click on the Check for Issues button. 4. Select Check Accessibility from the drop-down list. <p>The Accessibility Checker panel will open to the right of the document. The accessibility checker provides you with a list of errors, warnings & tips. When you click on an error or warning, instructions on how to fix it appear below in "Additional Information".</p> 
<p>PDF - Adobe Acrobat XI Professional.</p>	<p>A built-in accessibility checker (View > Tools > Accessibility).</p>	<ol style="list-style-type: none"> 1. Click the Tools tab to open the Accessibility Tool panel on the right. (If you don't see it, click the View menu and select Tools > Accessibility). 2. Select the Full Check button & the Accessibility Checker Options will open. <ul style="list-style-type: none"> ▪ On the Report Options section, check on Create Accessibility Report. ▪ On the Checking Options section: select Document under Category field, and check all items. 3. Click on the Start Checking button and the Accessibility Report will display. Acrobat X Pro Accessibility Checker instructions are also available: http://tinyurl.com/jpd7uv6. 
<p>WAVE Web Accessibility Evaluation Tool.</p>	<p>A browser-based checker, WebAIM's WAVE accessibility extension to Google's Chrome browser.</p>	<ol style="list-style-type: none"> 1. Download & install the WAVE extension from http://wave.webaim.org/extension/. 2. Activate WAVE by selecting the Wave icon in the Chrome window from any area of your Bb course, including Assignments, Syllabus, Welcome, etc.  3. On the Styles tab, review the errors, alerts, features, etc., listed in the Summary. 4. Review the details by selecting the red flag icon.  5. Error icons in green, red, yellow and blue will appear on the page. If you hover over an error icon, more information on the error will appear. You can also review color contrast issues on the Contrast tab. 6. Disregard any Bb NOVA menu/banner issues. Use the Bb content editor to fix the issues indicated by WAVE. Turn off WAVE by selecting the icon again when finished. 

Use built-in Accessibility Checkers to show missing elements you can fix in your content.





Who is Responsible for Accessibility?

Faculty, Extended Learning Institute (ELI) and Disability Support Services (DSS)

- ▶ **Test** the accessibility of courses, materials and software.
- ▶ **Develop** accessibility plans when barriers are identified.
- ▶ **Work** together to identify and implement appropriate accommodations when barriers are encountered.

Faculty

RESPONSIBILITIES



As the subject matter expert and the course developer, a faculty member:

Designs clear and consistent navigation.

Writes alternative text descriptions for images.

Creates documents using accessibility guidelines.

Retains original files (PowerPoint, Word, etc.)

Uses captioned media.

Writes math and science equations and formulas using MathML (Bb equation editor), LaTeX or MathType.

Checks accessibility of required software & online course materials.

Supplies ELI and DSS with course materials when requested.

Assists with implementing accessibility plans as necessary.

ELI

RESPONSIBILITIES



As the online course development facilitator and faculty resource, ELI:

Provides media captioning for ELI courses.

Assists DSS with retrofitting online course materials.

Offers training & assistance.

Develops training materials (Accessibility Guidelines Handbook), tutorials, job aides and handouts including the NOVA ELI Checklist with QM Alignment: <http://tinyurl.com/zr8wn43>.

Reviews courses for accessibility & provides feedback & support to faculty.

Supports accessibility plan development to address course barriers.

Maintains *IDesign* website and supports communication with faculty and DSS.

DSS

RESPONSIBILITIES



As a student & faculty resource, with expertise in alt formats and assistive technologies, DSS:

Reviews documentation and determines student eligibility for accommodation.

Leads efforts to ensure students are appropriately accommodated:

▶ **Supplies** students with an accessible format of the course materials and media.

▶ **Provides** alternative format of PDFs, math/science and publisher PPTs.

▶ **Facilitates and Distributes** needs for accommodation services when assistive technology is required.

Increases awareness of the disability experience & works with staff & faculty to proactively reduce barriers by:

▶ **Hosting** open events,

▶ **Offering** individual consultations.



ACCESSIBILITY Guidelines for NOVA ELI

Additional Support/Resources

elife.nvcc.edu/idesign

- Check the ELI IDesign website for the latest news on ELI accessibility, department news, and the instructional design team.
- Email: eliidhelp@nvcc.edu.

Accessible version of this document

An accessible version of this A11Y Guidelines Handbook is available for any user with limited vision. This was developed using Equidox and following the principles outlined for accessibility at NOVA ELI: <http://novaonline.nvcc.edu/a11yguidelines/index.htm>.

- www.nvcc.edu/disability-services.
- elife.nvcc.edu/idesign/accessibility.
- **Bb Browser Checker:**

https://en-us.help.blackboard.com/Learn/9.1_2014_04/Administrator/020_Browser_Support/Browser_Checker.

Testing Tools

- **Chrome: WAVE Tool extension**
<http://wave.webaim.org/extension/>.
- **Firefox & IE: Favelets**
<http://jimthatcher.com/favelets/>.
- **MS Office Word, Excel & PPT:**
PC Built-in.
- **PDF: Built-in Adobe Acrobat Pro.**
- **Colour Contrast Analyser:**
<http://www.paciellogroup.com/resources/contrastAnalyser>.

Websites

- **ELI Accessibility**
elife.nvcc.edu/idesign/accessibility.
- **Accessibility Policy**
www.nvcc.edu/policies/accessibility.
- **Extended Learning** eli.nvcc.edu.
- **Disability Services**
www.nvcc.edu/disability-services.