Creating Accessible PDFs

Content adapted with permission from the [University of Washington's Accessible Technology](#) webpages, January 2018.

Sometimes it is necessary to scan a document for an instructional need. When documents are in an electronic format, they are easier to distribute and can be more accessible than print documents for students with disabilities. However, in order to be fully accessible, certain steps must be followed to be sure the scanned document is of high quality.

Contents:

- Scanning a document to create a PDF.
- Creating an accessible PDF from an accessible Word document (see Creating Accessible Documents in Microsoft Word to make a Word doc accessible).
- Fixing a PDF that isn't accessible.

Evaluate Need

Before scanning a document, first evaluate if this particular document is needed and cannot be substituted. If it is necessary, search for the article using the [Hedberg Library catalog](#) to see if an electronic version already exists. This can save time and energy and allow for a cleaner copy for students to access. For help in finding electronic texts in the library or adding them to your Schoology course, please email help@carthage.edu.
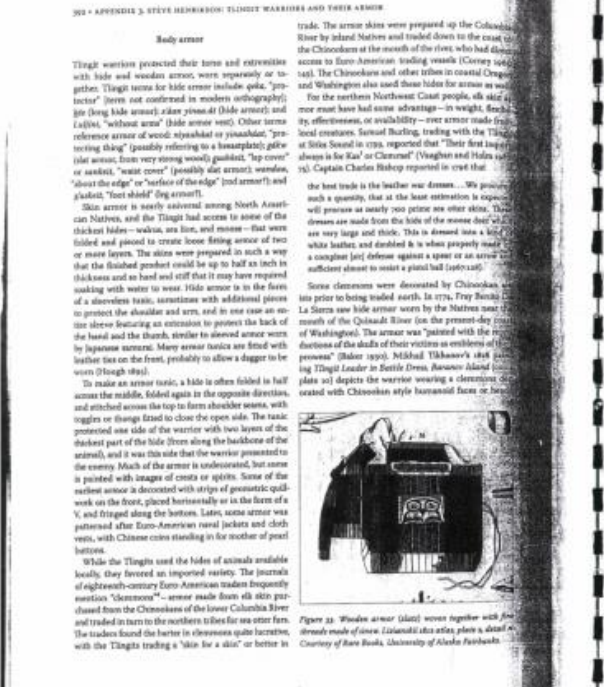
Keep copyright laws and guidelines in mind when scanning documents. [Consult this webpage](#) for further information. Please email help@carthage.edu if you have questions about copyright.

What Does a High Quality Scan Look Like?

A high quality scan is one that is easy for everyone to read, including individuals with low vision or who use assistive technologies to read text electronically. High quality scans should be free from:

- Text that is cut off
- Crooked pages
- Dark gutters (the margins where shadows occur from curvature in the book's spine)
- Poor contrast
- Pages that are rotated 90 or 180 degrees
- Handwriting, highlighting, or underlining
- Watermarks/coffee stains
- Blurry

Be sure to consider these issues when (a) choosing an original source and (b) producing the scanned version.

Example A. Scanned page with unreadable text in the margin

Example C. Page scanned with original not aligned well on scanner; page is tilted, text is blurry, and some text disappears into the margin

Example B. Scanned page with underlined text and stray markings

Example D. A scanned page with good alignment, clear text, and no stray markings.

While Scanning

During the scanning process, please be aware of the following:

- Scanning books with a spine – A book with a spine will not naturally lie flat on a scanner which means text on the edges of the page will be distorted. Please push the spine of the book down while scanning to insure that all the text is copied in a clear manner.
- Don't combine pages – Limit each print page to one electronic page will improve reading on mobile platforms. Check the DPI (dots per inch) are set between 300 and 400. Documents scanned at a low resolution will not be recognized by conversion software.
- Scan the document in black/white or 24-bit color depending on (a) whether the color of the original is important, and (b) whether your choice of color will have an effect on contrast.
- Check if the scanner has built-in Optical Character Recognition (OCR) capabilities. OCR turns images of text into text that is searchable and readable. Often, this option is identified as saving a document as a Searchable PDF.

Name Documents Consistently

A consistent, logical naming scheme will help users identify and locate documents. Choose a naming scheme that would be clear to someone outside of the class/environment.

- Avoid strings of numbers
- Include more than one identifier in the title. An identifier can include the course name, author, name of document, date, organization, year published, etc.

Managing the Electronic Copy in Adobe Acrobat Pro

Once you have a clean scan of your document, it's time to adjust that PDF using Adobe Acrobat Pro. Adobe Acrobat Pro is part of the standard issue of software on all Carthage-owned faculty and staff computers. If you are faculty or staff and do not have access to this software, please email help@carthage.edu.

It is always best if possible to start with an accessible source document (e.g., in Microsoft Word) and export to an accessible PDF. This way, if the document is edited later, the document's accessibility features will still be intact and when the document is exported again to PDF the accessibility features will again be passed to the PDF.

However, if the original source document is not available, accessibility features can be added to the PDF using Adobe Acrobat Pro. Before uploading your PDF to Schoology, perform the following functions in Adobe Acrobat Pro. Make sure to save your PDF after every stage.

For PDF Copies of Scholarly Articles

For PDF copies of scholarly articles, typically only a couple steps will be necessary. Run the "Recognize text" function to convert the PDF image to OCR text and add the title and author. Save the new document and upload to Schoology. These steps will allow users' screen readers to read uploaded articles.

1. Recognize Text

Convert to text using View > Tools > Recognize Text > In This File. This function will physically straighten the scanned pages and convert the PDF image to text to make it searchable and readable by screen readers.
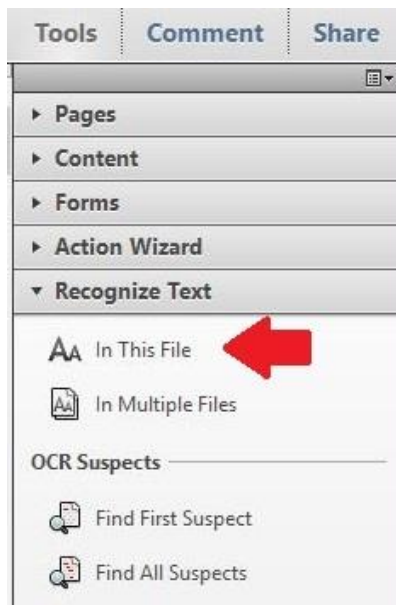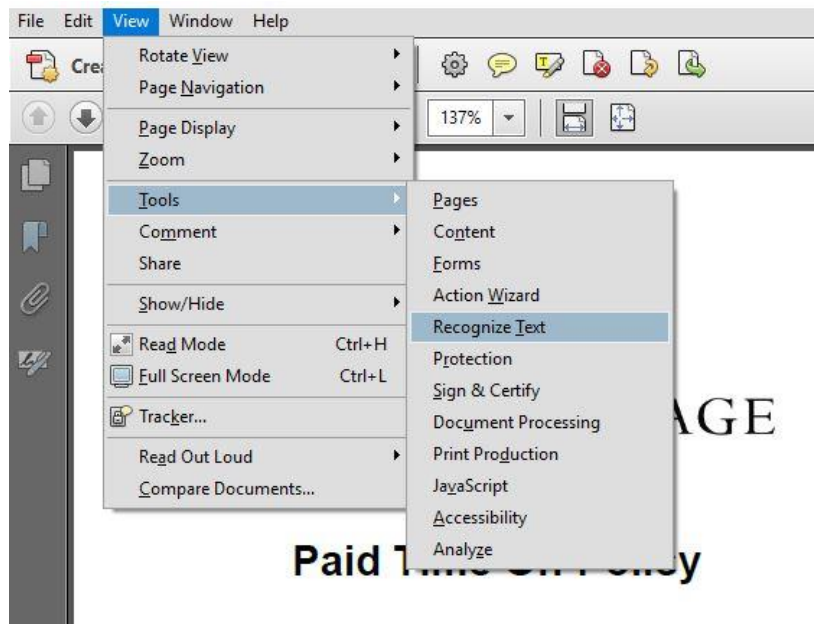
2. Add Title and Author to Your Document

Go to File > Properties.

In the Document Properties dialog box, add a descriptive title (Ex. Title of the article) and Author (Ex. Author of the article).
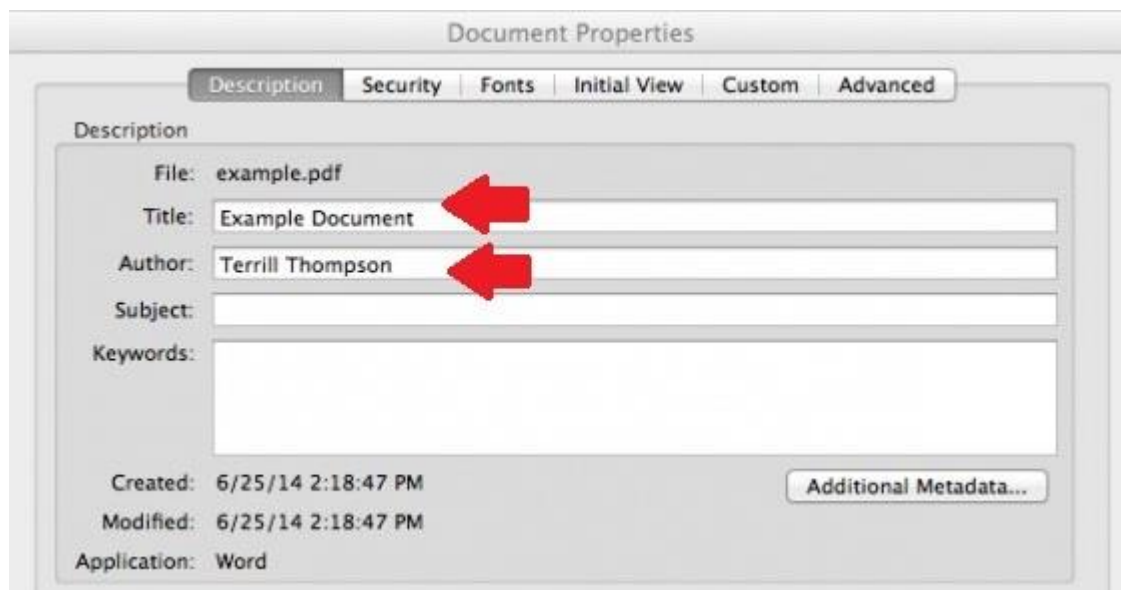
3. Press OK and Save your changes.

Creating a PDF from an Accessible Word Document

The first step in creating an accessible PDF from Microsoft Word is ensure that the original Word doc is accessible. See Creating Accessible Documents in Microsoft Word for instructions on how to do that.

The goal in exporting to PDF from Word is to preserve the accessibility features of the Word document, including heading structure, alternate text for images, and markup that explicitly identifies lists, tables, document language, and other content that is important for accessibility.

Do not create a PDF by using "Print to PDF" from your Print menu. This will not preserve accessibility features.

For Windows

Go to File > Save As and select "PDF" from the file type choices.
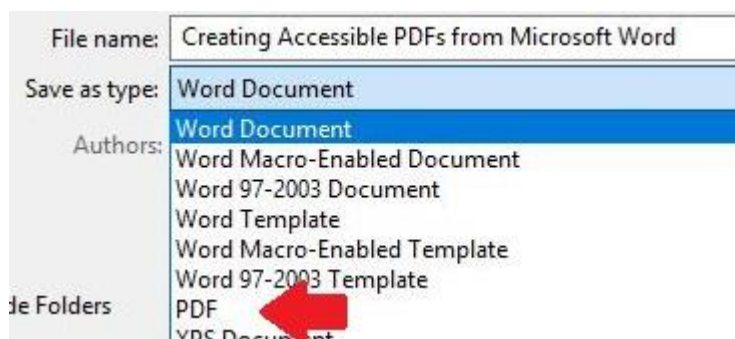
In that same dialog box, click the "Options" button. The Options menu will open. Make sure the box nex to "Document structure tags for accessibility" is checked. Click "OK," then "Save."
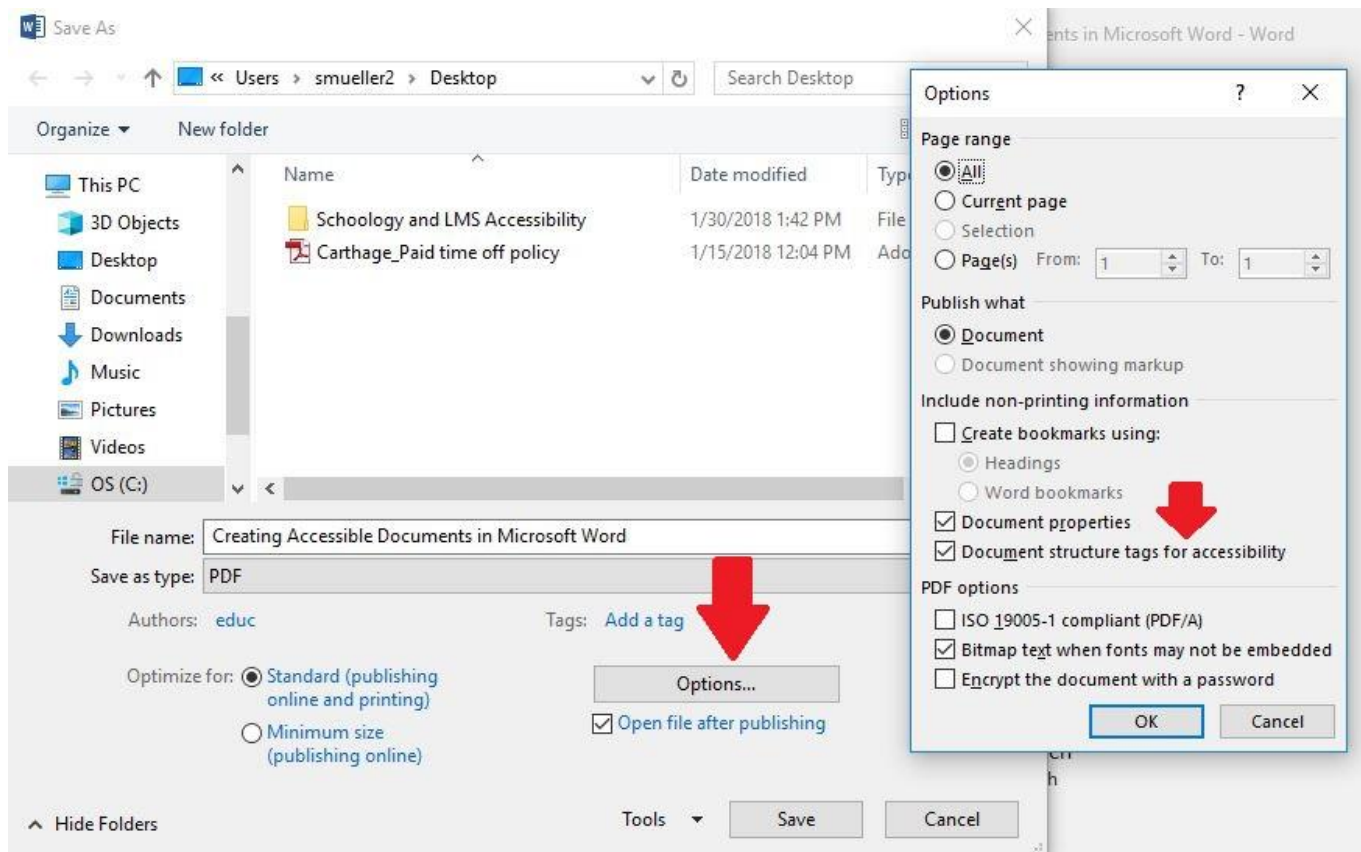
Go to File > Save As and select "PDF" from the file type choices. When saving, be sure the box labeled "Best for electronic distribution and accessibility" is checked.

Saving an already accessible Word doc to a PDF in this way should mean that you won't have to complete the recognize text function in Adobe Acrobat Pro, but it couldn't hurt to run the check anyway. (See Creating High Quality PDFs for more information.)

For PDFs You've Created

1. Recognize Text

Convert to text using View > Tools > Recognize Text > In This File. This function will physically straighten the scanned pages and convert the PDF image to text to make it searchable and readable by screen readers.
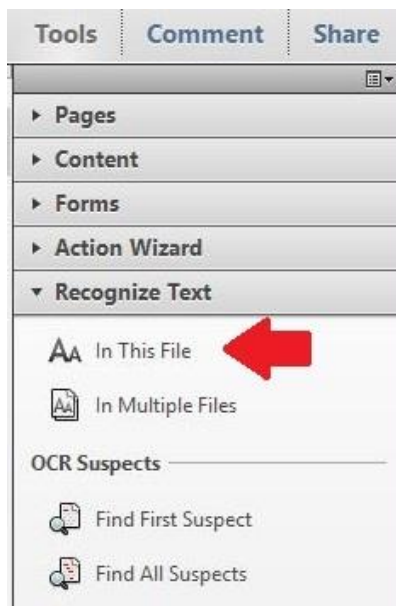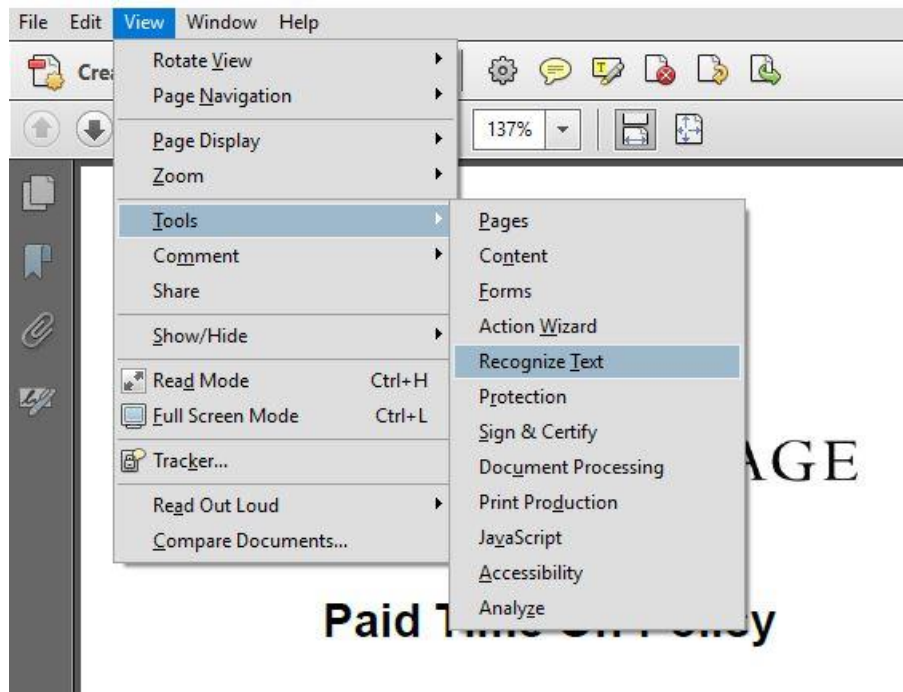
2. Add Title and Author to Your Document
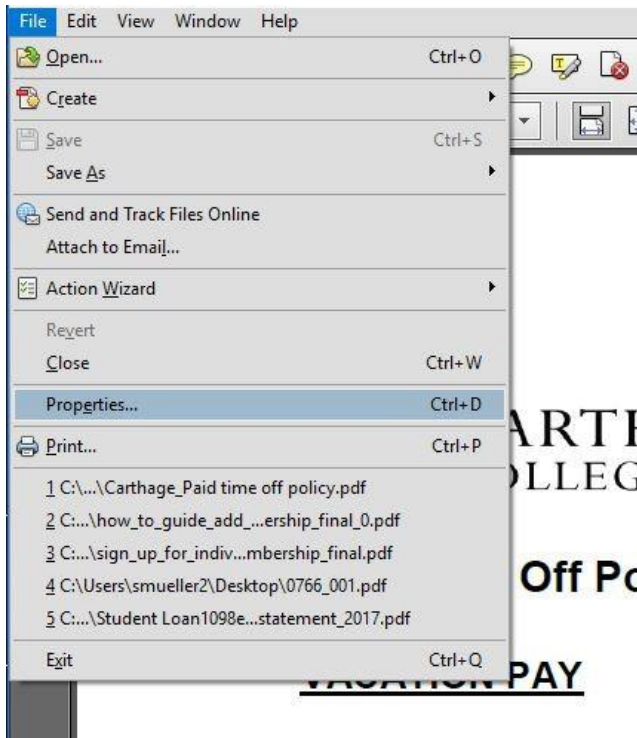
Go to File > Properties.
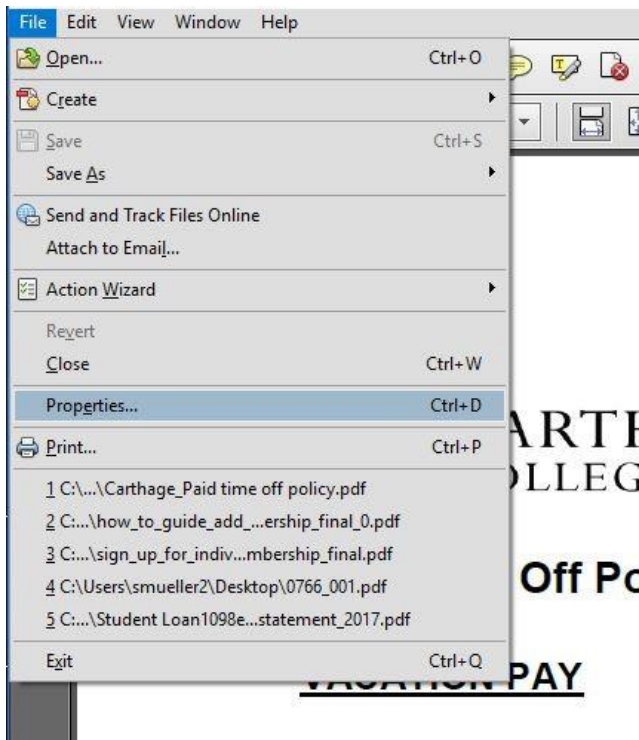
In the Document Properties dialog box, add a descriptive title (Ex. Title of the article) and Author (Ex. Author of the article).
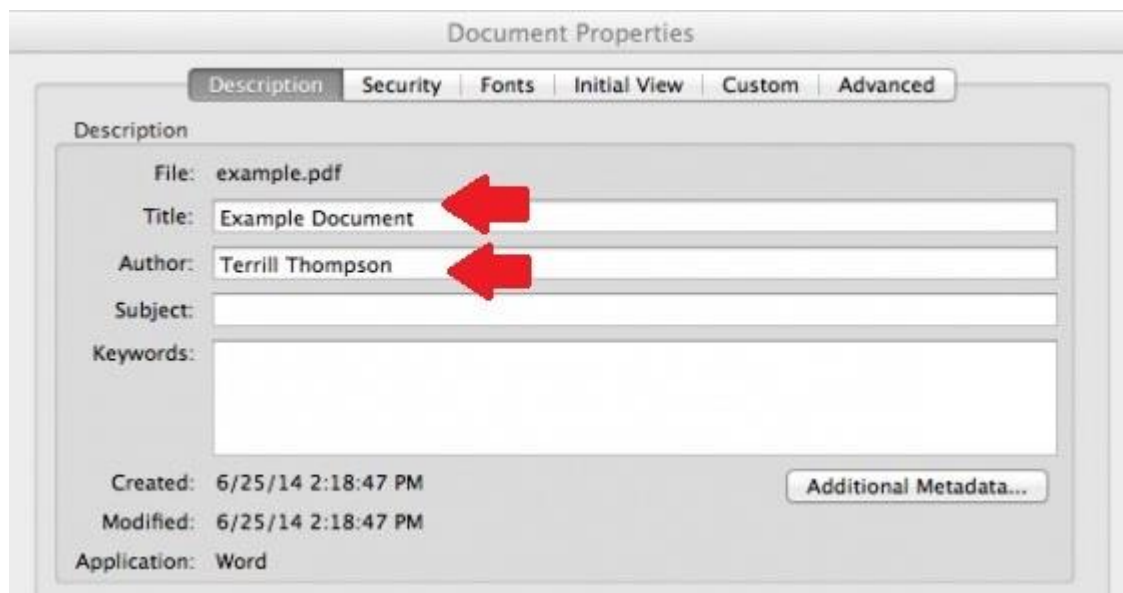
3. Headings, Lists, Alternate Text, and Tags

When creating new documents and saving them to PDF,TagTo view existing tags, select View > Show/Hide > Navigation Panes > Tags. Click the plus sign next to each tag.

If No, this document needs to be tagged. Tags provide the structure on which accessibility is built. Add tags by selecting View > Tools > Accessibility > Add Tags To Document.

File Edit View Window Help

Rotate View
Page Navigation
Page Display
Zoom
Tools
Comment
Share
Show/Hide
Read Mode   Ctrl+H
Full Screen Mode   Ctrl+L
Tracker…
Read Out Loud
Compare Documents…

Pages
Content
Forms
Action Wizard
Recognize Text
Protection
Sign & Certify
Document Processing
Print Production
JavaScript
Accessibility
Analyze

137%

AGE

Paid Time Off Policy

▸ Pages
▸ Content
▸ Forms
▸ Action Wizard
▸ Recognize Text
▸ Protection
▸ Sign & Certify
▾ Accessibility

Change Reading Options
Quick Check
Full Check
Open Accessibility Report
Add Tags to Document
Run Form Field Recognition
Add Form Fields to Tags
TouchUp Reading Order
Setup Assistant

Are headings marked up as headings at appropriate levels?

How to test: Study the document visually to determine what the heading structure should be. Keep in mind that headings should form an outline of the page. Next, open the Tags Panel by selecting View > Show/Hide > Navigation Panes > Tags. The Tags Panel shows a tree of tags that is very similar to HTML.
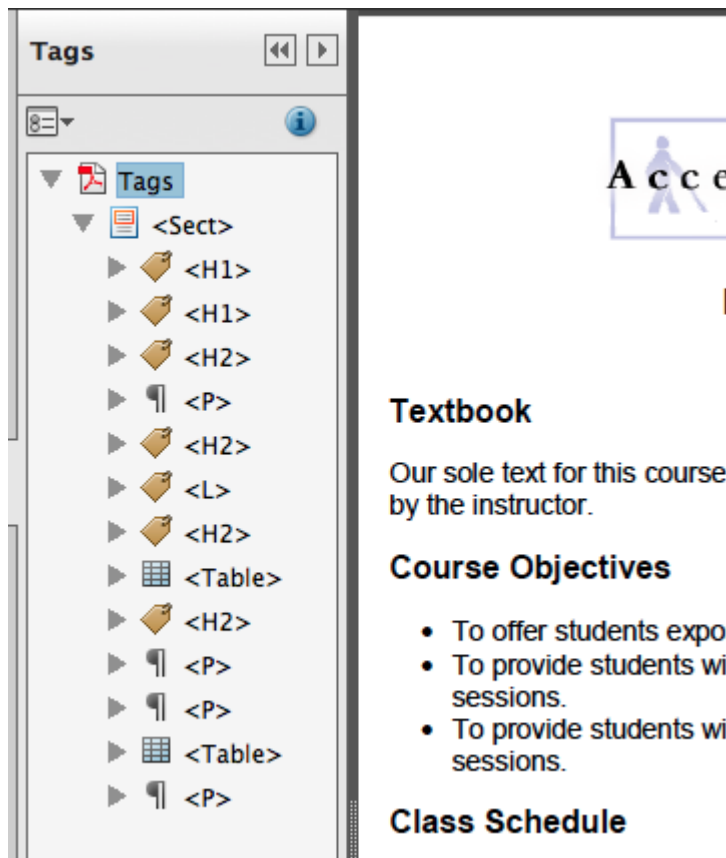
There are a variety of ways to explore the tag tree. For example, use Acrobat's text selector tool to highlight text in the document (for example, a heading) then click the menu icon at the top of the Tags pane and choose "Find tag from selection". This will expand the tag tree if needed and highlight the selected tag.

Alternatively, click the menu icon at the top of the Tags pane and be sure "Highlight Content" is checked. Then click on any tag to see the content associated with that tag highlighted in the document.

Headings should be marked up with tags that are equivalent to HTML headings tags (i.e., <H1> for the main heading, <H2> for subheadings, then <H3>, <H4>, etc. Some authoring tools may create tags that have heading-like names (e.g., "<Heading_Level_1>"). However, these are not recognized by screen readers and will need to be changed.

To change a tag, right click on the tag, select Properties, then choose an appropriate tag from the list. If you know the what the correct name should be for a particular tag, you can also double-click the tag and type in the correct name.

Step 6. Check for any lingering errors.

How to test: Run the accessibility checker that is built in to Acrobat Pro. Select Tools > Accessibility > Full Check, then read the report and follow the prompts.
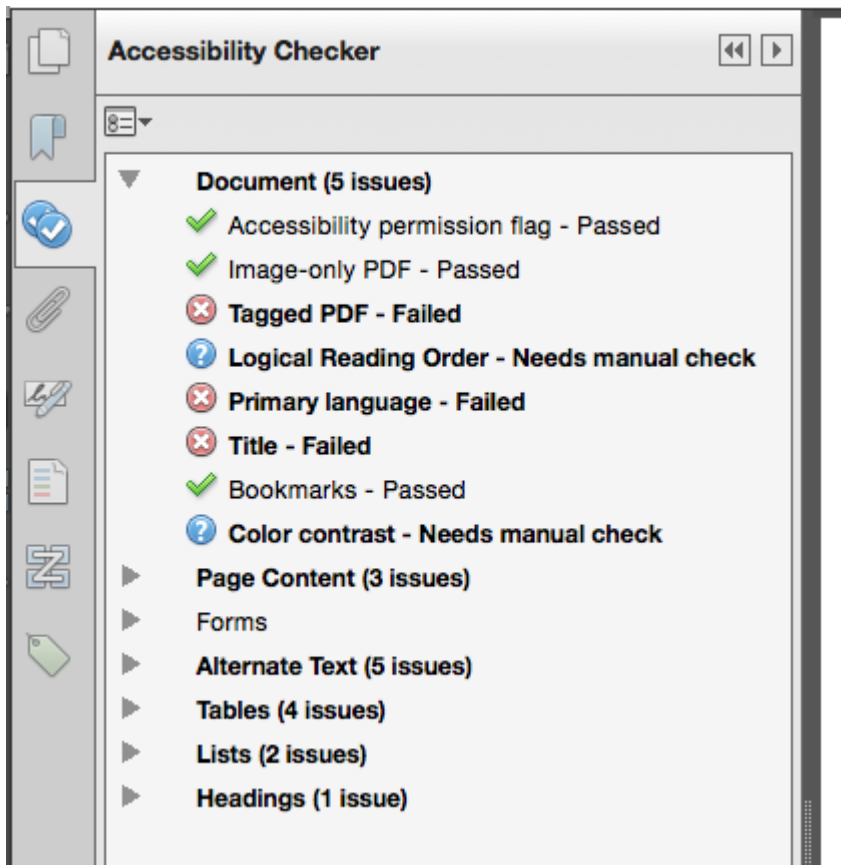
The report lists items in various categories such as Document, Page Content, etc. Each item is preceded by an icon indicating that the item either passes, fails, or requires manual inspection. Right click on any item to see a list of options for fixing the problem or learning more about it.