OCAD University 2012 IT Services and Library Accessibility Review: WCAG 2.0 (General)

Canvas LMS
Location: https://canvas.ocadu.ca/
Date: August 22, 2012
Reviewer: Greg Gay

AODA Reference:
http://www.e-laws.gov.on.ca/html/source/regs/english/2011/elaws_src_regs_r11191_e.htm#BK9

WCAG 2.0 Reference
http://www.w3.org/TR/WCAG20/

Tools Used During This Review:
Internet Explorer 8
Firefox 14 + Firebug
JAWS 13
AChecker 1.2
Luminosity Colour Contrast Ration Analyser
http://juicystudio.com/services/luminositycontrastratio.php

General Comments

This evaluation looks at the accessibility and usability of the Student facing components of the Canvas LMS. It is not an exhaustive review of all features, but rather more general coverage of the accessibility and usability of the student features as a whole.

A number of significant barriers were identified that would effectively make parts of Canvas unusable by some Assistive Technology (AT) users.

Many features were identified that would not operate by keyboard. The Inbox for example, keyboard users could not select a user to send to, could not archive or delete messages, and could not display a thread of messages, all of which require a mouse click to operate. These problems can often be resolved by ensuring event handlers are device independent, rather than using those that rely on mouse input.

In other cases content could not be read by AT. The context sensitive help that opens in a modal dialog box is unreadable by AT. These problems can often be resolved by sending focus to the beginning of a dialog box when it opens, and when closed redirecting focus back to the position where the dialog was opened.

The dynamically presented feedback messages, either next to a form input incorrectly entered, or dropped down from the top of the screen, are not readable by AT. Using WAI-ARIA Live Regions may be a way to maintain dynamic messaging, having messages announce when they are injected into a

page.

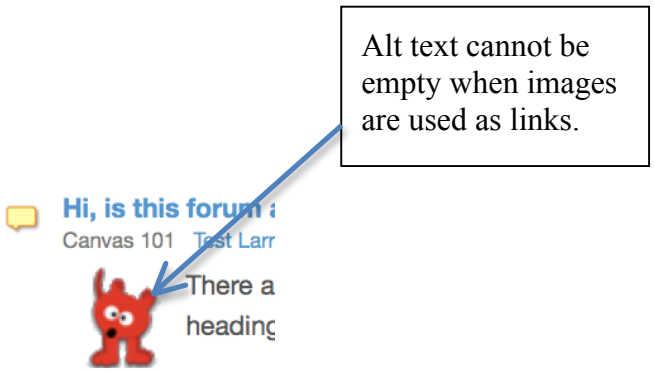
In places a control is used to open a feature in another area of the screen without notifying the user. For example, when a person clicks the “How do I…” link in the right column of the Calendar, an area opens at the bottom of the screen without warning. When clicking “write a reply…” in a discussion post, an “Insert Content…” area opens off to the right without warning. These features are likely to go unnoticed by many AT users. Ideally controls open features immediately following the control, though strategically sending focus to a remotely opened feature may also help make such features more accessible. In some cases, live regions could also be used to announce features injected into a remote area of a page.

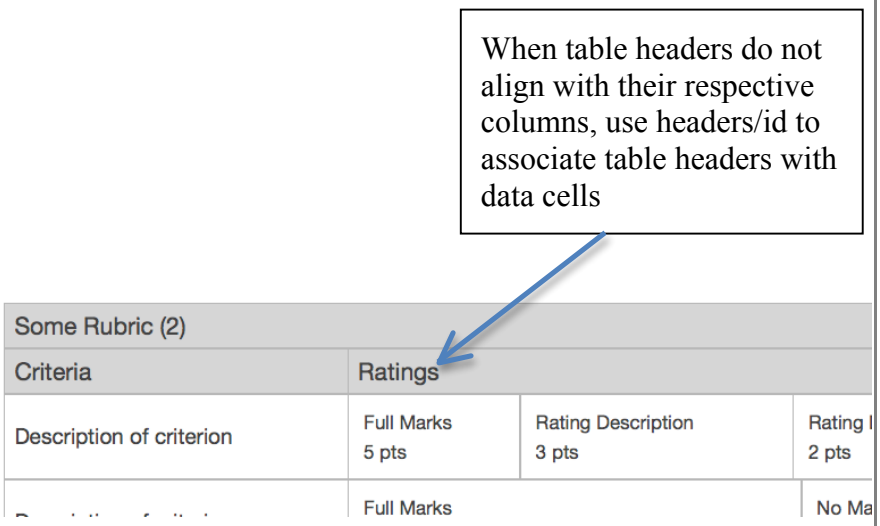
Another significant usability issue is the positioning of keyboard focus when a feature is opened or closed, often sent back to the start of the page. When a Recent Activity thread is opened on the Dash Board, after an event is added to the calendar, or when opening a folder in the Files manager, among others, keyboard focus returns to the start of the page, requiring much effort to return to where one left off. These problems can often be resolved by scripting focus to redirect back to the position where an action was initiated.

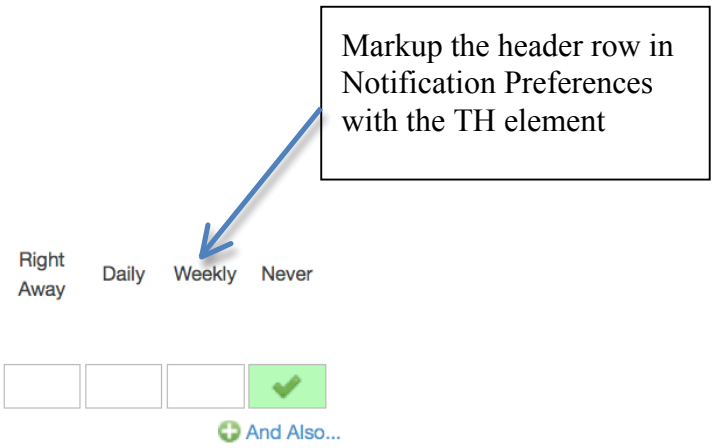
In places throughout the review, “Fail?” or “Pass?” have been used where a fail or pass is questionable. “Pass?” is used in places where a single instance of a barrier has been identified, perhaps an oversight, or where it could be argued that an item might fail or pass, typically a minor issue, leaning toward a Pass. “Fail?” is used in cases where an item could be argued as a fail or pass, leaning toward a fail. In all cases, developers should consider the recommendations made to remove any potential argument.

The issues described above, and others, are presented in greater detail in the WCAG 2 Review that follows:

WCAG 2 Review

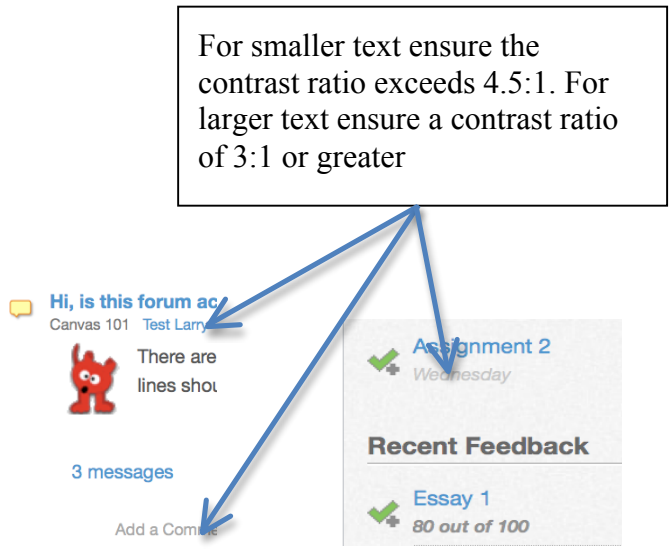
Success Criterion	Level	Evaluation	Comments
1.1.1: Non-text Content	A	Fail	On the User Dashboard screen the thumbnail images that act as a link to what appears to be a user profile ("Unauthorized" message appears when attempting to access a profile), is missing Alt text. In each case the Alt text for these images should include the person's name and an explanation of the destination of the link (e.g "Test Larry Profile"). All linked images must include meaningful Alt text.  When the Files manager is viewed in IE8, the Add Files link appears white, and is announced as "button 0," a typical name given to Flash based buttons that have no readable text label. While viewing the discussions page, the linked thumbnail images of the person who started a thread, are listed by a filename. Like the thumbnail image described above on the Dashboard, they cannot have an empty alt attribute. For test questions with LaTeX generated formulas, no Alt text is provided. The title text currently supplied with formulas could be used as Alt text as well, however, the title text is cryptic and may not be easily understood when listening with AT. Alt text including full wording would be preferred, rather than the LaTeX codes.
1.2.1: Audio-only and Video-only (Prerecorded)	A	NA	
1.2.2: Captions (Prerecorded)	A	Pass	Canvas video help includes captions.
1.2.3: Audio	A	NA	

Success Criterion	Level	Evaluation	Comments
Description or Full Text Alternative			
1.2.4: Captions (Live)	AA	NA	
1.2.5: Audio Description	AA	NA	
1.3.1: Info and Relationships	A	Fail?	In the table on the Assignment 3 page in the Sandbox – IT Help course used to display a Rubric, though the header row is marked up with TH, the headers are not announced when navigating through the table with a screen reader. This may be due to the variable table data cells that appear below, the screen reader unable to determine which header refers to which data cells. It may be necessary in this case to use headers/id to make direct associations between header and data cells in order to have them announce correctly when accessed by a screen reader.  In the main calendar view, the days of the week that appear in the top row should be marked up with table headers (th). Currently when navigating the data cells for each day, AT users hear only the number, with no indication of the day of the week. The "scope='col'" attribute could also be used in each header cell to help ensure day of the week is announced with each number. On the Notification Preferences screen the header cells that represent the notification frequencies in the top row of the layout table should be formatted with table headers rather than data cell markup. This would make it possible to announce the frequency

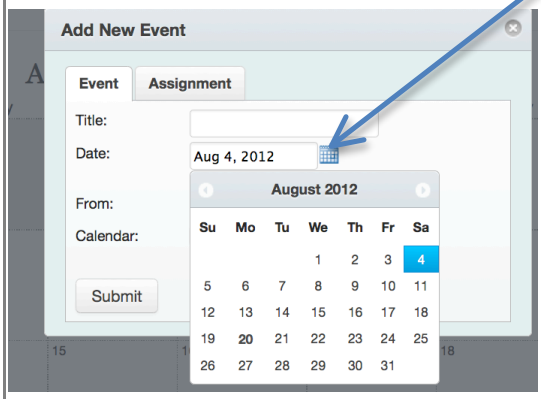
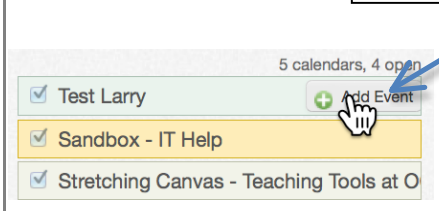
Success Criterion	Level	Evaluation	Comments
			while navigating through the table cells of each column. Also see Guideline 4.1.2.  No meaningful structure is present in the message display area of the Inbox, making it difficult to understand the content displayed there. Typically a subject line is included with each message, and they are enclose in heading markup, making it possible for AT users to list the heading to gather a list of topics, then selecting a topic to jump directly to the message. Since subject lines are not included, perhaps the sender's name could be enclosed in a heading. A landmark might also be located at the start of the message display area, or a heading inserted there that gives AT users a target element with which to navigate to the start of the message display. When listening to test questions with AT while taking a test, only the answers are announced. The questions are difficult to find on the screen. Questions might be added to a title attribute in a div surrounding each question, or preferably they would be presented as a Legend for a Fieldset surrounding each question.
1.3.2: Meaningful Sequence	A	Fail	When a user clicks on a link in the Recent Activities that opens a list of items (e.g. Grade Notifications) the list opens below, but the cursor is repositioned back to the top of the screen (when using IE8), disrupting the navigation path. When such a link to pressed, continuing to navigate by keyboard should immediately send the person to the first link in the list opened below. Also, pressing the link once again should close the list that was opened. Currently there is no way to retract the list once opened, apart from reloading the page. When a user opens the dialog associated with a day of the week in

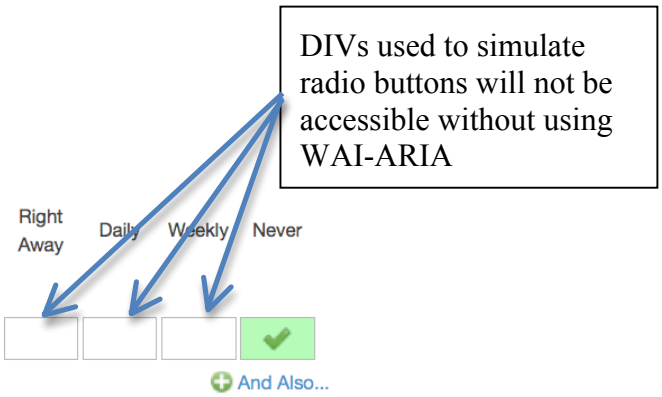
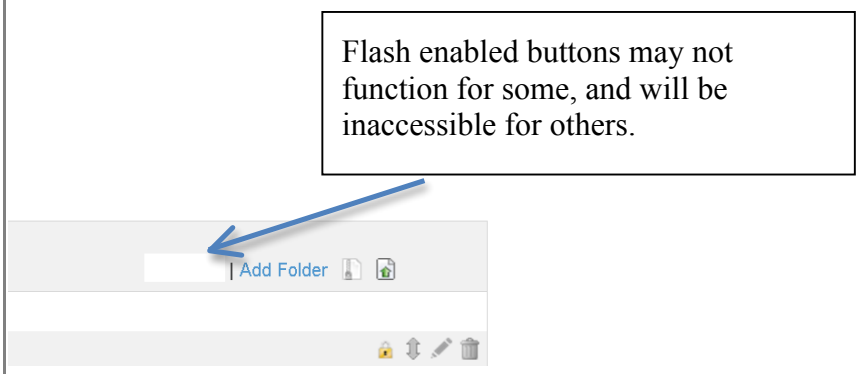
Success Criterion	Level	Evaluation	Comments
			the main calendar view, when the dialog is closed, focus returns to the start of the page at the top left, rather than continuing on to the next day in the calendar. Similarly, when a user enters an event in the Add New Event dialog, when the submit button is pressed the cursor's focus is returned to the start of the page at the top left, with no feedback to confirm that the event was successfully added. Users must navigate back to the calendar and find their way to the day of the month the event was added to to make that confirmation. To reduce this effort, when the Add New Event dialog closes, the cursor could be returned to the position from which the dialog was opened, immediately after which the added event would appear and could be easily confirmed as successfully added. If a user opens a folder in the Files manager in the right column (the left column is not accessible) the page reloads with focus sent back to the start of the Files panel, users having to navigate back through the options in top area to return to the list of files in that folder. Also, there was no easy way to navigate back to the parent folder once a folder had been opened, with the folder list to the left being inaccessible. Providing a breadcrumb string at the top of the Files panel would help AT users find their way back up through a hierarchy of folders in the Files manager. When the Inbox is opened, the focus is sent to the "To:" field in the New Message area. Using the Tab key to move to the next field (using IE8), redirects back to the "Courses" tab in the main navigation links above, rather than the name selector to the right or the Message textarea that follows. While in a course if a user presses the "more…" links in the Common Pages or Recent Changes areas to the right (using IE8), the page reloads and the cursor returns to the start of the page, top left, requiring the user to navigate back to the position where the "more …" link (now absent) was pressed. AT users will have difficulty with these links. Also see Guideline 2.4.9 regarding meaningful link text. When navigating through the elements of the course UI, the cursor passes from the last item in the tool menu to the left of the content area, to the first link in the Common Pages area on the right, with no indication that the context has changed. A title attribute might

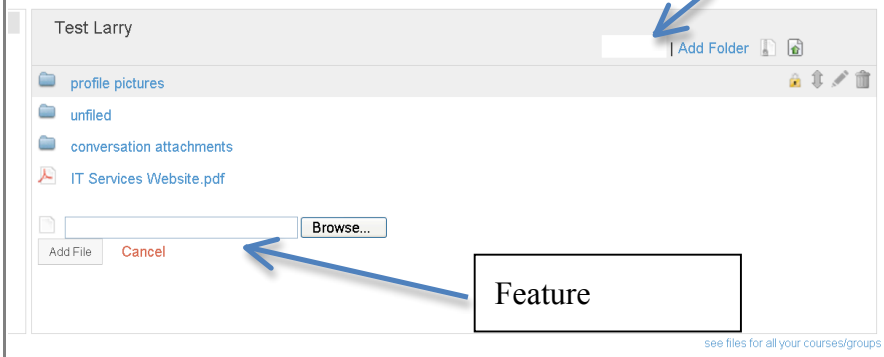
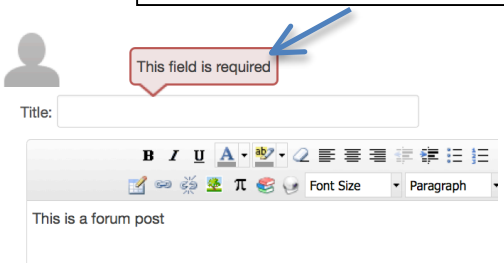
Success Criterion	Level	Evaluation	Comments
			be added to the div surrounding these links with a value “Common Pages” so this text is announced when the div receives focus. The div might also be give a role of “complimentary” so users are able to navigate to the list through a landmark. The same is true for the “Recent Changes” list that appears below the Common Pages area, to group these and other link lists in a meaningful way.
1.3.3: Sensory Characteristics	A	NA	
1.4.1: Use of Color	A	Fail?	In the main calendar view and the smaller calendar grid to the right, the current day is highlighted in yellow. Though for most the contrast produced by the colour will indicate the active day, for those who can not see colour it may be difficult to distinguish between the greyed days at the beginning or end of the month, and an active day that appears next to them. Though minor, this potential usability issue could be avoided by adding some other feature than colour alone to indicate the active day. Perhaps a bold underlined day number could be used in addition to colour for the current day. Beside correct and incorrect answers in the results displayed for a test, the green and red background images use colour alone to signify correctness. These images may not be distinguishable for some people with colour blindness. Different icons might be used to distinguish between correct and incorrect, such as a green checkmark for correct and a red X for incorrect. Though title text has been included within the Div element surrounding each correct and incorrect item, AT users must set their verbosity settings to read this text, typically turned off by default, thus for some it may go unnoticed. Including another indicator in addition to colour and div title text, would help ensure AT users clearly understand test results.
1.4.2: Audio Control	A	NA	
1.4.3: Contrast (Minimum)	AA	Fail	In the Recent Feedback area at the right of the User Dashboard, the colour of the marks and date displayed for an assignment (#808080/ #BCBCBC) provide insufficient contrast with the grey background (app #BCBCBC) with a contrast ratio of 2.08:1. The background colour might be made slightly lighter, or the text slightly darker to increase contrast. Similarly, the light grey text (#888888) and smaller blue text (#4183C4) on a white background (#ffffff) may provide insufficient

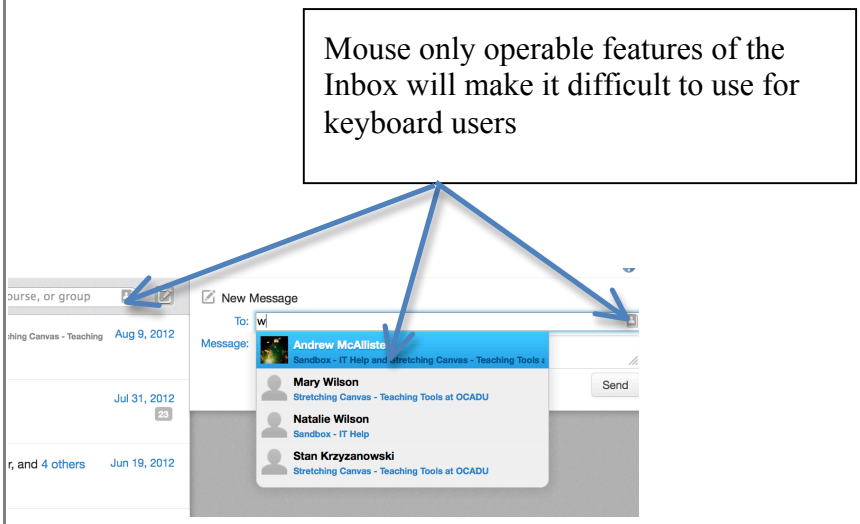
Success Criterion	Level	Evaluation	Comments
			contrast (3.54:1) for the links that appear with each item listed in Recent Activity. Consider making these colours slightly darker. Minimum contrast ratio should be 4.5:1 for smaller text, and 3:1 for larger text. 
1.4.4: Resize text	AA	Pass	Text sizes and their containers are defined with relative measures (em) and resize effectively.
1.4.5: Images of Text	AA	Pass	No images of text apart from logos.
1.4.6: Contrast (Enhanced)	AAA	Fail	See Guideline 1.4.3. At this level a minimum contrast ratio of 7:1 is required for smaller text, 4.5:1 for larger text.
1.4.7: Low or no Background Audio	AAA	NA	
1.4.8: Visual Presentation	AAA	Pass	Users are able to manipulate the visual presentation.
1.4.9: Images of Text (No Exception)	AAA	Pass	No images of text apart from logos.
2.1.1: Keyboard	A	Fail	In the Courses dropdown menu opened in the main navigation, the “Customize” link is not keyboard accessible. Though it is possible to

Success Criterion	Level	Evaluation	Comments
			find this link by listing headings, once selected the courses menu closes rather than opening the customize options to the right (using IE8). In FireFox the customize link is non-functional. Many AT users would not have access to the Courses menu customize features. Once the customize feature is opened with a mouse click (using IE8), the close X link is not keyboard accessible. This is less critical, given the menu will close by continuing to use the Tab key to navigate to the end of the menu. On the right side of the User Dashboard, in the “Coming Up” and “Recent Feedback” areas, when items receive focus or become active, a dynamically generated information box opens to the left of an item. The content of the box will not be accessible to most AT users, though this information is presented in an accessible alternate form on the screen that opens if the link is followed. While this is an acceptable alternative, making the box accessible would be preferred so AT users are not required to view the destination page to find the information. When navigating through the main calendar view it is not possible to open a date to view or edit events for that date when navigating by keyboard while using FireFox. A mouse click is required. Adjust the event handler(s) associated with the calendar view/edit dialogs to accommodate keyboard access for FireFox users. In the Add New Event dialog the dynamically inserted Calendar widget is not keyboard accessible to open, or to navigate once opened.

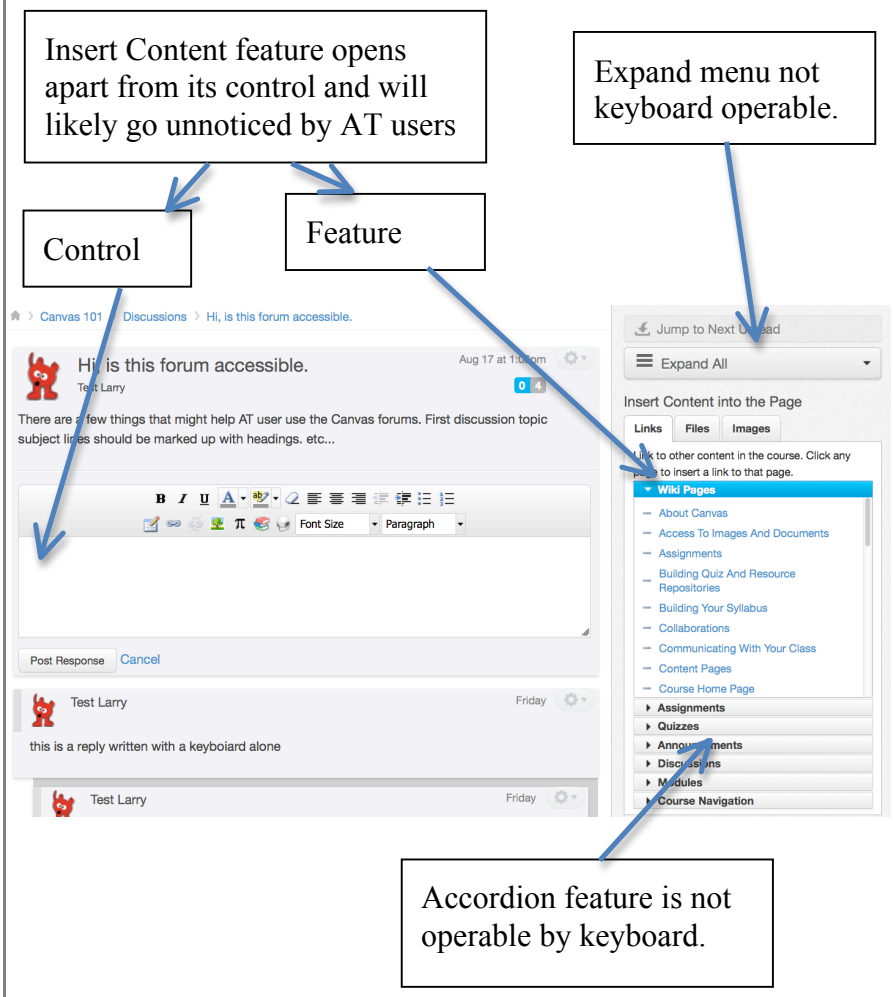
Success Criterion	Level	Evaluation	Comments
			Be sure dynamically inserted widgets can be opened and navigated using a keyboard alone.  In the right column of the calendar in the area below the small calendar grid, holding a mouse pointer over a listed calendar reveals an “Add Event” button. This button will not be accessible to keyboard users. Ideally the button would always appear, and fit into the tab sequence after the checkbox for each calendar when accessed. It may also be possible to display the button by using device independent event handlers, so when a calendar listing receives focus the button appears. Dynamically inserted Add Event button is not keyboard accessible.  The boxes associated with the Notification Preferences are not keyboard accessible. Standard radio buttons might be used instead, or scripting and WAI ARIA might be used to add functionality to the divs currently used as simulated radio buttons.

Success Criterion	Level	Evaluation	Comments
			 The folder listing in the left column of the Files manager is not keyboard accessible. In this case any links that might be followed in the folder list, can be found in the right column display, though it takes several more steps to access files when accessed through the right column. Ideally, the left column of the Files manager should be keyboard accessible. The Flash based “Add File” button in the Files manager is not keyboard accessible. Though there is an equivalent text link that follows, that text link opens a Browser form element in the footer area of the Files manager, which will likely go unnoticed by AT users who cannot see the screen. If the “Add Files” link is clicked, focus could be scripted to reposition in the file input field, similar to the way focus is set when “Add Folder” is used. Or the file input field could be opened immediately following the link so it appears next in the sequence of element if the user were to continue navigating by keyboard. 

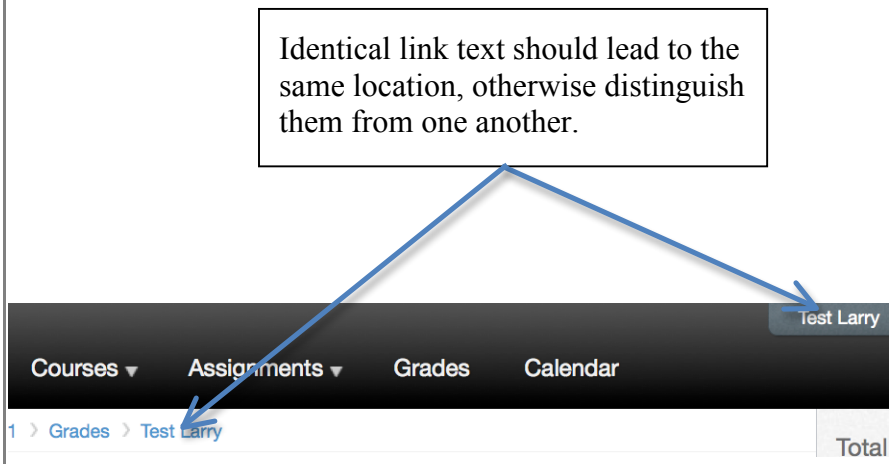
Success Criterion	Level	Evaluation	Comments
			Features that open in a different area than their controls often go unnoticed by AT users.  When a floating error message is displayed next to a form field that has incorrect or missing input, it can only be removed by clicking. It otherwise remains visible and obscures part of the screen for keyboard users. Scripting might be used to associate the Escape key, that when pressed removes the message. Floating error messages remain open until a mouse click. Script the escape key to close them for keyboard users.  The select user icon at the right of the “To:” field in the New Message area of the inbox is not keyboard accessible. Nor is the auto completion feature that displays a list of names based on the initial letters typed into the To: field. If a user is able to make a selection from the dropdown auto completion list, the name that gets inserted into the To: field cannot be accessed by keyboard to

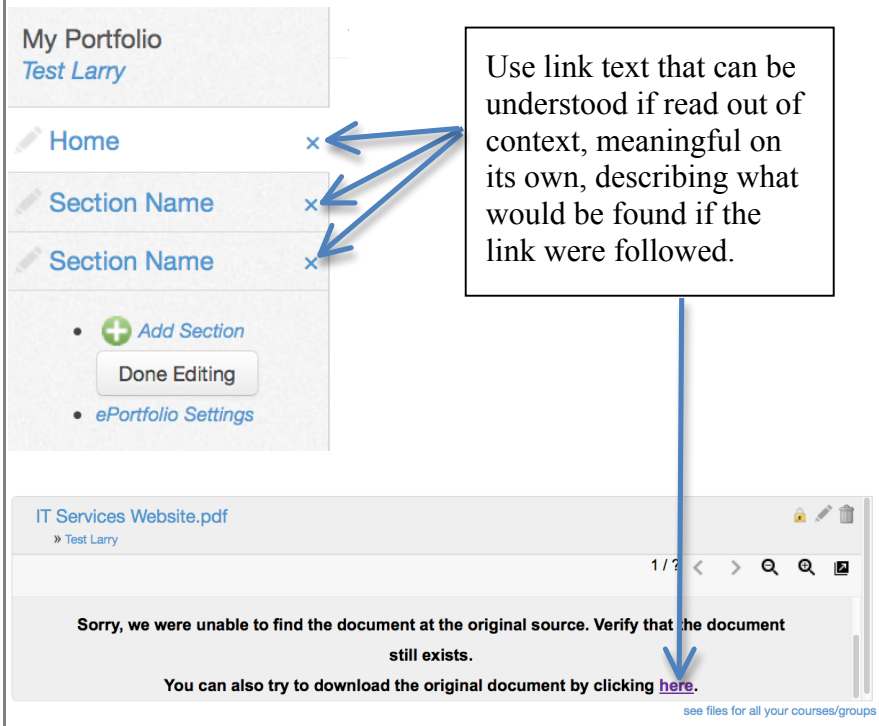
Success Criterion	Level	Evaluation	Comments
			edit or remove, and cannot be read by AT. AT user may not be aware that the name was inserted. The same is true of the Filter field at the top of the message area of the Inbox.  The VIEW menu at the left of the Message display of the inbox, opens when it receives focus, and is keyboard accessible, however it does not close if a user navigates beyond the last item in that menu. When focus exits the menu, it should close so content that appears underneath the menu does not remain obscured when focus moves into the message display area below. The escape button might also be scripted as an alternate means of closing the Inbox menu. Currently only a mouse click or a page reload will close the Inbox menu. The Action menu associated with each message in the Message area of the Inbox, though operable using a keyboard, its menu items are not keyboard operable. The “Mark as Read” and “Star” functions are available in an alternate form at the left side of each message, though being prior to the menu in the Tab sequence its not clear which message these functions affect. The Archive and Delete functions of the Action menu do not have alternatives thus would not be available for keyboard only user. Similar to the Inbox menu, the action menu can only be closed with a mouse click or page reload. In each message displayed in the Message area of the Inbox, clicking anywhere within an item opens the new message area to the right and below that a list of replies. No equivalent feature is

Success Criterion	Level	Evaluation	Comments
			available for keyboard user. Sender names could be presented as links, so when accessed by keyboard and pressed, they might produce the same functionality as clicking an item. In a discussion thread while in a course the “Manage” icon appears to the right with the options to Edit or Delete a post. Though the icon is accessible and opens the menu when pressed, and the items in the menu are read when navigating through the menu with a keyboard, like these equivalent menus in the inbox the menu items are not operable by keyboard. In the “Insert Content…” area that opens to the right when a user clicks into the “Write a reply” area in the discussions, the “Expand All” menu is not keyboard accessible beyond the first item, only accessible with a mouse click. In the Links area of Insert Content, only the links in the first expanded accordion area can be access by keyboard. The accordion cannot otherwise be operated by keyboard. After reaching the last item in a list of link in the opened accordion area, focus is returned to the top of the content area at the first link in the breadcrumb string, rather than moving to the next accordion area. Similarly, when one of the other tabs in the “Insert Content” area (i.e. Files, Images) is accessed, pressing enter reloads the page and sends the cursor’s focus back to the start of the page at the top left. When these tabs are pressed, users should be able to continue navigating from the just opened tab.

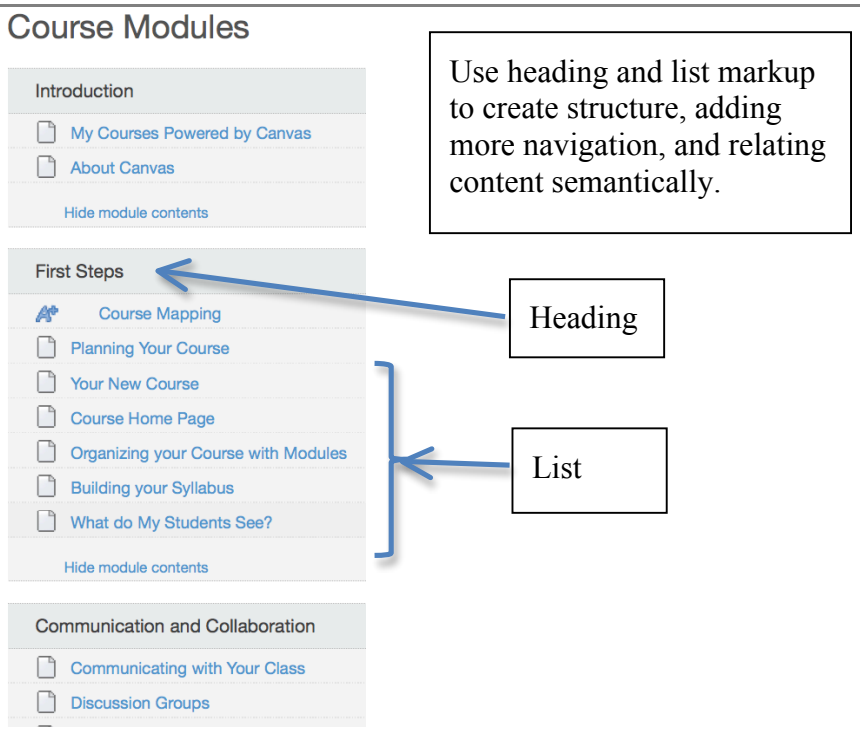
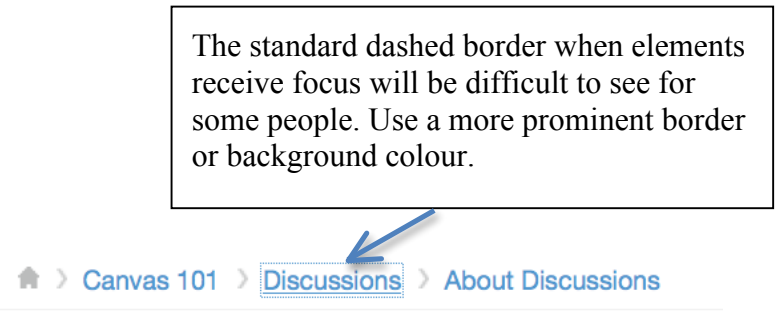
Success Criterion	Level	Evaluation	Comments
			 The “Find images on Flickr…” feature found under the Images tab of the “Insert Content…” area, though the search input and submit buttons are accessible, the search results are not. If a user uses the Tab key to move beyond the Search button, the cursor’s focus returns to the browser’s location bar. The modal dialog box used for the Flickr search then renders the rest of the screen inaccessible. A user must reload the page in order to return to Canvas. When navigating through a test with a screen reader, only the form input elements were readable, unable to use the typical up/down arrow to search through surrounding text to find the questions. It was not clear why this was the case. These keys were controlling scrolling. As a result it was not possible to read the question associated with each test items using a screen reader.

Success Criterion	Level	Evaluation	Comments
2.1.2: No Keyboard Trap	A	NA	
2.1.3 Keyboard (No Exception)	AAA	Fail	See Guideline 2.1.1
2.2.1: Timing Adjustable	A	Fail?	For timed tests it may be necessary to allow specific users to take longer to complete a test. AT users and others with print related disabilities will take longer to complete a test than typical users. At minimum instructors creating timed tests should be informed of this. Ideally a test would allow specific users different time limits.
2.2.2: Pause, Stop, Hide	A	NA	
2.2.3: No Timing	AAA	Fail?	See Guideline 2.2.1
2.2.4: Interruptions	AAA	NA	
2.2.5: Re-authenticating	AAA	Pass	Users remain logged in indefinitely, thus no re-authentication is ever required. This may, however, present a security issue if for example a student logged in from a public workstation were to leave a session open and walk away. Ideally sessions would time out after a relatively short period of inactivity (e.g. 15 minutes), with a warning shortly before that (e.g. 5 minutes) to allow users to reset the session.
2.3.1: Three Flashes or Below Threshold	A	NA	
2.3.2: Three Flashes	AAA	NA	
2.4.1: Bypass Blocks	A	Pass	Bypass links and landmarks are provided. An accesskey could be added to the bypass link so it could be accessed from anywhere in a page to help AT users reorient back to the top of the content area.
2.4.2: Page Titled	A	Pass	Page titles are unique and meaningful.
2.4.3: Focus Order	A	Pass?	The cursor's focus passes across the top, down the left, down the right, then into the content area in the center. In some cases this order may be difficult to comprehend, particularly for new users accessing Canvas with AT. Landmarks will be helpful, though additional in-page links and anchors might be placed in strategic

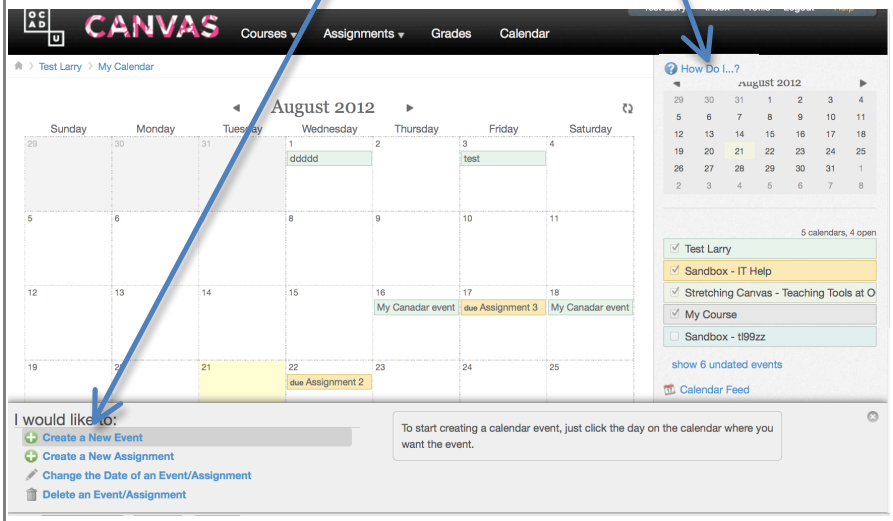
Success Criterion	Level	Evaluation	Comments
			locations to help describe features and relationships, and provide more in-page navigation elements. For example, a link at the top of the right column of the Calendar, might describe the tools and the Main Calendar to the left, something like “skip calendar tools and jump to calendar.” Similarly, while on a course page, a link at the top of the right column might lead to the same anchor as the “skip to content” link with text like “skip content tools and jump to the content” to describe the features on the page and provide a means of skipping over the potentially long lists at the right.
2.4.4: Link Purpose (In Context)	A	Fail	When viewing a user’s grades, the breadcrumb links list the user name as the last link in the breadcrumb string. Clicking the link leads back to the grades (see Guideline 3.2.3 re: Breadcrumb links). At the top of the screen the same username leads to the profile page. Some distinction should be made between these two links, perhaps using Test Larry Grades for the grades link. Otherwise, links with the same link text should always point to the same location. And, links to the same location should always use the same link text. See Guideline 3.2.4 regarding consistent identification.  In the Files Manager, as the Test Larry user, clicking on the IT ServicesWebsite.pdf file in the left column, open a message in the right column, indicating the file cannot be found. The “here” link that appears in the message will not be meaningful when encountered with AT. Instead more meaningful text like “download the original document” could be used. Note that accessing the file through the left column indicates the file no longer exists, though clicking on it in the right column, the file downloads. Possible bug.

Success Criterion	Level	Evaluation	Comments
			While viewing an ePortfolio the “X” links listed next to each section of the ePortfolio after “Organize Sections” is clicked, is announced a “ex.” Title text could be added to these links to make them more meaningful, such as “remove [section name]”. Similarly, the edit icons that appear before each section name might include alt text such as “edit [section name]” to help distinguish the edit links from one another.  In the Discussions area the number of replies to each topic is displayed as a number to at the right of each topic or thread. These links could be made more meaningful by including additional text such as “8 replies” etc. There is text in a preceding div element, thought that text is not read by AT when navigating through the link of a discussion page. The Edit and Delete links at the right of each discussion post could include more meaningful text. Currently these links appear in the tab sequence immediately after the name of the person who posted a message, thus when heard in the sequence, they seem to suggest edit or delete the person posting. In context these links could be placed following the discussion title to remove that potential confusion. Or better, they could include unique title text

Success Criterion	Level	Evaluation	Comments
			with the subject line of a discussion thread (e.g. “edit: About Discussions”)
2.4.5: Multiple Ways	AA	Fail?	Though there are breadcrumb link that allow a user to move back through parent topics or tools etc., more could be done to provide alternate means of navigating through courses. A sitemap can be a helpful tool to access any page from a single location, as well as providing a view of the course and the relationships between content and various components. A search tool would also be helpful to aid in finding specific information quickly. The discussion forums for example, would be more useful if users were able to search for specific words and bring up posts with specific information.
2.4.6: Headings and Labels	AA	Fail	In the Recent Activities list on the User Dashboard, heading markup might be used for each item in the list to give AT users another means of navigating through the content of the page. AT users could then generate a list of the headings on the page and potentially jump directly to an item via its heading. While in a course, opening the Modules page displays what would appear to be a number of sections each containing a list. However, there is no structure provided on the page resulting in a long list of standalone links. This page would be more usable by AT users if each section used HTML heading markup for the heading (e.g. Introduction, First Steps,…) and if the list of items in each section were formatted with HTML list markup

Success Criterion	Level	Evaluation	Comments
			 In the Discussion area no structure has been provided to help user navigate through the list of discussion topics on the opening screen. Usability could be improved by having discussion subject lines formatted with heading markup. This would allow AT users to list the headings to gather a summary of topics on a page, and then jump to specific threads though their associated heading.
2.4.7: Focus Visible	AA	Pass?	In most cases when a link or button receives focus, the standard dashed border is displayed along with an underline. Though visible to most people, the focus border may still be difficult to see for some people with poor vision. Consider using a more prominent border or a contrasting coloured background when items receive focus to make it easier to follow the cursor visually when navigating through pages with a keyboard. 

Success Criterion	Level	Evaluation	Comments
2.4.8: Location	AAA	Pass	One's location can be determined by the highlighted links in the left menu, and through the breadcrumb string across the top of the content area.
2.4.9: Link Purpose (Link Only)	AAA	Fail	While in a course, the "more…" links that appear in the Common Pages and Recent Changes areas to the right, could be made more meaningful by adding title text such as "more common pages." If read out of context, as may be the case if AT users list links on a page in alphabetical order, "more" as link text will carry no significant meaning.
2.4.10: Section Headings	AAA	Fail?	See Guideline 2.4.6. At this level section heading must be used to present sections in with semantically correct relationships (i.e. properly nested to convey parent/child relations).
3.1.1: Language of Page	A	Pass	The language of each page is defined in the lang="en" attribute in the opening HTML element.
3.1.2: Language of Parts	AA	NA	
3.1.3: Unusual Words	AAA	NA	
3.1.4: Abbreviations	AAA	Fail?	In test results a variety of short forms are used that may be difficult to understand when read aloud by AT. Some include month short forms, and "pts" to represent points. These could each include title text with their full text version, or be marked up with the "abbr" attribute, which could include the longer form. Similarly when reading through the test results with AT, the score at the bottom right of each question is read "1 slash 1" for example. In this case the slash might include a title attribute with the text "out of" to make the result more clearly indicate a score.
3.1.5: Reading Level	AAA	NA	
3.1.6: Pronunciation	AAA	NA	
3.2.1: On Focus	A	Pass	No changes in context found when elements receive focus. However, see Guideline 3.2.2.
3.2.2: On Input	A	Fail	In the Add New Event dialog that opens when a day of the month is clicked in the main calendar, after a user has entered a "From" time and uses the keyboard to navigate to the "To" time, the To input is automatically populated with the same time entered in the "From

Success Criterion	Level	Evaluation	Comments
			field, and the cursor is positioned after that value. For most people, adding an hour to the From time, or leaving the To time empty so it could be manually edited, would be more usable than having to edit the same time. AT users may also have difficulty here since the cursors is positioned after the value generated in the To field, and may not notice that value has been inserted. In this case removing the auto generated value in the To field would be better from both usability and accessibility perspectives. In the right column of the Calendar the “How do I…” link when clicked, opens the help frame at the bottom of the screen without warning. The opened frame will likely go unnoticed by some AT users. Title text might be added to this link to indicate where the frame is being opened, and scripting might be used to direct focus. to the frame so AT users are not required to navigate to it. The “I would like to…” feature opened below using the “How do I…” control above, will likely go unnoticed by AT users Feature Control 

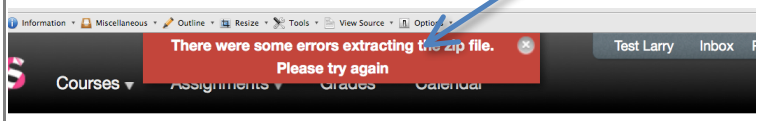
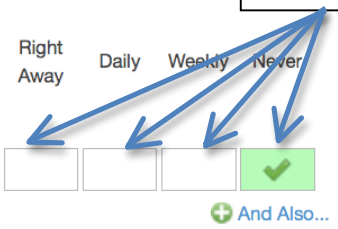
Success Criterion	Level	Evaluation	Comments
			A similar problem occurs after clicking the “Getting Started Wizard” on the ePortfolio home page, opening a frame below without informing the user. In the left column while viewing an ePortfolio, clicking the “Organize Sections” link generates another link (Add Section) and a button below. Though it is possible to access these elements, it is not clear that they resulted from clicking the organize link. Here a WAI-ARIA live region might be used to have the elements announce themselves when they appear. Or, title text might be included with the link to describe the features that will be enabled when the link is pressed. Also note that the Tab sequence is out of order when the elements are opened, first accessing the “Done Editing” button, and requiring the user to Shift-Tab to backup to the “Add Section” link. The Organize Sections link may be better positioned before the features it enables. When a user clicks the “Change Password“ checkbox on the “Edit Profile” page, an edit form is generated below and the focus is sent to the Confirm Password field. Ideally when focus is sent to the form, it would be sent to the first input field “Old Password.” Note: the purpose of the “Password For” field was unclear on the “Edit Profile” page. The password change form may be difficult to find for some people. A separate link in the left side navigation of the Profile screen would make this function more usable, making it easier to find and removing the need to dynamically inject the password change form. In the New Message area of the Inbox, clicking the Attach link opens a file input above the link without notice. Focus could be sent to the File input when it opens to inform users of its presence. Or, the file input could be opened after the Attach link so it appears as the next element in the tab order sequence. A live region might also be used to announce the addition of the file browser. When a name in a post in the Message area of the Inbox is clicked, the new message area to the right updates with the name as the recipient and the frame below opens a list of replies. AT users may not know of these changes. Using WAI-ARIA live regions would allow these areas to announce themselves when they open, without the user loosing her place in the message list (See Guideline 2.1.1 regarding keyboard equivalent to clicking an inbox

Success Criterion	Level	Evaluation	Comments
			item) In the “write a reply” area below each message in a discussion, used to author a response to a post or thread, opened with a mouse click, a secondary “Insert Content…” area opens to the right without notice. This area, or perhaps it’s heading, could be opened in a live region to make AT users aware of its presence. A means of navigating between the authoring area of the editor and the Insert Content area should be provided, similar to the keyboard command to open the editor Help and to navigate to the editor toolbar. Note that the Insert Content area does not open when an equivalent keyboard command is used to open the “Write a reply…” area. Only a mouse click will open the content tools to the right.
3.2.3: Consistent Navigation	AA	Fail	The “Course” link in the main navigation across the top of Canvas does not function consistently with other links in the main navigation. While other navigation links open a list of assignments, or list of grade, or the calendar, clicking the Courses link opens “Recent Activity” with no list of courses. AT user who cannot see that a drop down menu opens with a list of course when the Courses link receives focus, may not notice the list and may follow the link expecting to find a list of courses. Some design alteration might be needed here to produce a logical navigation structure, perhaps separating Courses and Recent Activity into two navigation links. The breadcrumb links that appear at the top of the content area include a link to the currently active page, thus when clicked, the page reloads. This link should be replaced with unlinked plain text. Breadcrumb links do not typically lead to an active page, but rather lead back through the hierarchy of parent pages. The navigation links that appear in the left column and the breadcrumb links are used inconsistently. On the profile page for example, a list of five links are displayed on the left that lead to various “Personal” items. When a user clicks on Assignments, the breadcrumb links list the User’s Profile as the parent page. For consistency then, Assignments should also appear in the left menu when viewing the Profile page. Similarly, Grades and Calendar breadcrumb links list the User’s Profile as the parent, so these should also appear with the links at the left of the Profile screen. All of these “personal” pages should have the same side menu to present a consistent, semantically related navigation structure.

Success Criterion	Level	Evaluation	Comments
3.2.4: Consistent Identification	AA	Fail?	When clicking the “How do I…” link in the right column of the calendar, the frame that opens below is described as “I would like to:.” The association between the link and the heading in the frame below would be more understandable if they matched each other. Related to the above, when a user clicks on the Home link in left menu on the user’s Profile screen, or clicks the OCADU logo, or clicks the Canvas logo, or clicks the Courses navigation link, they all lead to the Recent Activity page. These links should be consolidated for consistency, perhaps calling all links “Home,” removing the Canvas logo/link or perhaps placing it at the bottom of the screen, have the heading on the Recent Activity page listed as Home with a sub heading “Recent Activity” etc. Similarly, the user’s login name and the Profile links in the top right area could be consolidated into one link, the person’s name probably the better one.
3.2.5: Change on Request	AAA	Fail	See Guideline 3.2.2.
3.3.1: Error Identification	A	Fail	When a user enters incorrect login information in the login form, a dynamically generated error message points to the input element where the first error occurred. This feedback message is not accessible to AT. These messages could be made more accessible by defining a WAI ARIA live region, so when the live region is activated, its content is announced to AT. Another possibility is a Javascript alert, that when clicked to acknowledge an error, sends the cursor’s focus to the first input element where an error occurs. The same problem is true when a user clicks the “Add File” button next to the file input in the Files manager, the “Upload failed…” message appearing above the field, though nothing is announce by the AT. Users are not informed when they make an invalid Birth Date selection on the Edit Profile screen. See Guideline 3.3.6. If the Send button is pressed in the Inbox New Message area and information is missing or incorrect in the fields above, no error message it displayed and no action occurs. A Javascript alert might be used here to inform users of the missing information, and when acknowledged, the focus could be directed to the first field where an error has occurred.

Success Criterion	Level	Evaluation	Comments
			For timed tests, the standard dynamically generated feedback drops down from the top of the screen to warn users of the approaching time limit. This message is not accessible to AT users, thus they would be unaware of the limit approaching. See Guideline 4.1.2 regarding the dropdown feedback messages.
3.3.2: Labels or Instructions	A	Fail	The “Add New Event” dialog box that opens when a day is clicked in the main calendar does not have sufficient labels. When accessed by AT, each input element is announced as “Edit” with no indication of the expected input. Use the Label element to explicitly associate the text to the left with their respective form input fields to the right. The Birth Date fields in the Edit Profile page need labels, each currently announced to AT as “edit.” In this case labels may not fit the space available, so title text might be included instead with each birth year, month, day field. In the Notification Preferences each of the Select menus used to choose a notification method (email or text message) and to choose an email address or cell phone number, require labels. Currently when accessed by AT, there is no indication for what purpose the selections are being made. The text that appears above each pair of select menus should be used as a label for the first of the pair. This should provide enough context to understand the purpose of the second select menu, but to ensure this a title attribute could be added to the second that describes the selection to be made, for example “choose email”, or “choose cell number.” The Filter field at the top of the Message area of the inbox does not include a label, but instead includes a text link “browse.” A more descriptive label could be included with this field to describe its function more clearly, such as “filter by sender,” or something to that effect. Fill in the blank question text input elements do not include a label. These inputs might include a title attribute in place of a label with the text “fill in the blank” to indicate the nature of the input. Similarly, select menus presented in questions do not include labels. The text of the question associated with the select menu could be used in a Label element to ensure the question is understood and the nature of the selections is clear.

Success Criterion	Level	Evaluation	Comments
3.3.3: Error Suggestion	AA	Pass?	In most cases where error messages are presented, the nature of the error is relatively straight forward, and no suggested corrections are needed. There may be cases where more information could be provided in the error message to help AT user understand the format or expected input when missing or entered incorrectly.
3.3.4: Error Prevention (Legal, Financial, Data)	AA	NA	
3.3.5: Help	AAA	Fail	General help is available as a common link in the header area, and context sensitive help is available with various tools. However, the content of the help dialog panels is not readable by AT.
3.3.6: Error Prevention (All)	AAA	Fail	If a user manually enters a date in the Date field of the Add New Event dialog in the calendar, when the submit button is pressed the dialog closes, but the event is not added to the calendar. If the date format is incorrectly entered, users should be prevented from submitting the event. Otherwise the dialog closes, repositions the cursor to the start of the page at the top left, with no feedback or error message to confirm whether the event was successfully added or not. This will be a significantly accessibility and usability issue for many user, particularly because the associated date widget is not keyboard accessible, and the associated date format displayed below the date input field will likely go unnoticed. In the Edit Profile screen the Birth Date select menu should be dynamically adjusted based on the month selected to remove the possibility of selecting an invalid date. A user is able to make an incorrect day selection, which become the first or second day of the following month.
4.1.1: Parsing	A	Pass?	A variety of minor markup errors were identified on each of a sampling of Canvas screens, though none were identified as causing barriers. To ensure broken markup does not inadvertently introduce barriers, use a markup validator to validate HTML.
4.1.2: Name, Role, Value	A	Fail	In the Add New Event dialog of the Calendar, the dynamically generated messages below the date fields, like those described earlier for when login information is entered incorrectly, will not be accessible to most AT users. These messages might be presented in a WAI ARIA live region, so they are announced to AT when they are updated.

Success Criterion	Level	Evaluation	Comments
			Similarly, in the help information that dynamically opens to the right in the “I would like to:” frame at the bottom of the screen below the calendar, should be presented in a live region. Currently when one of the links in the frame is clicked, there is no indication to AT that a help box has opened to the right. In other cases when error or feedback messages are generated, and drops down from the top of the screen, then after a period hides away, AT users will not have access to those messages. Live Regions could also be used to display these messages so AT can read them. WAI-ARIA Live Regions might be use to display injected feedback messages  Assign roles to the divs used to represent the notification frequencies on the Notification Preferences screen. These divs are currently not accessible to keyboard users, nor are they read as choices when encountered by AT. The DIVs used in the notification preference settings should have a role=”radio” WAI-ARIA attribute added.