WCAG 2.1 Guidelines Level A/AA/AAA

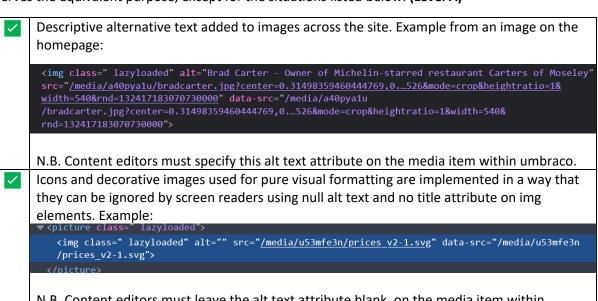
This report presents the findings of a conformance validation check of the website https://www.ucb.ac.uk in line with the WCAG 2.1 accessibility guidelines as found at https://www.w3.org/TR/WCAG21/.

For the most part the findings are taken from manual conformance checks but some automated tooling has also been used including:

- WAVE Web Accessibility Tool (http://wave.webaim.org/)
- W3C HTML Validator (https://validator.w3.org/)

Principle 1: Perceivable - Information and user interface components must be presentable to users in ways they can perceive.

1.1.1 Non-text Content: All non-text content that is presented to the user has a text alternative that serves the equivalent purpose, except for the situations listed below. **(Level A)**



N.B. Content editors must leave the alt text attribute blank, on the media item within umbraco.

- Name attributes added to controls where required.
 - Time-based media such as videos do not supply text alternatives.
- **1.2.1** Audio-only and Video-only (Prerecorded): For prerecorded audio-only and prerecorded video-only media, the following are true, except when the audio or video is a media alternative for text and is clearly labeled as such: (Level A)
 - **Prerecorded Audio-only:** An alternative for time-based media is provided that presents equivalent information for prerecorded audio-only content.
 - Prerecorded Video-only: Either an alternative for time-based media or an audio track is provided that presents equivalent information for prerecorded video-only content.

X	Audio-only media is not used on the site.
	Video-only media does not provide an alternative.
1.2.2	Captions (Prerecorded): Captions are provided for all prerecorded audio content in
synch	ronized media, except when the media is a media alternative for text and is clearly labeled as
such.	(Level A)
- \	/ideos are embedded and hosted by a 3 rd party - the 3 rd party must provide captions.
1.2.3	Audio Description or Media Alternative (Prerecorded): An alternative for time-based media or
	description of the prerecorded video content is provided for synchronized media, except when
the m	nedia is a media alternative for text and is clearly labeled as such. (Level A)
X	No alternative provided
	No alternative provided
	Captions (Live): Captions are provided for all live audio content in synchronized media. (Level
AA)	
- L	ive video is not implemented on the site.
1.2.5	Audio Description (Prerecorded): Audio description is provided for all prerecorded video
conte	ent in synchronized media. (Level AA)
X	No audio description provided
126	Sign Language (Provocorded): Sign language interpretation is provided for all provocorded
	Sign Language (Prerecorded): Sign language interpretation is provided for all prerecorded content in synchronized media. (Level AAA)
	· · · · ·
X	Not provided
	Extended Audio Description (Prerecorded): Where pauses in foreground audio are insufficient
	ow audio descriptions to convey the sense of the video, extended audio description is provided
for al	I prerecorded video content in synchronized media. (Level AAA)
X	Not provided
1.2.8	Media Alternative (Prerecorded): An alternative for time-based media is provided for all
	corded synchronized media and for all prerecorded video-only media. (Level AAA)
·	Not provided
X	Not provided
	Audio-only (Live): An alternative for time-based media that presents equivalent information
101 110	re audio-only content is provided. (Level AAA)
- N	lo live audio used on site.

1.3.1 Info and Relationships: Information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text. (Level A)

/	Semantic and valid HTML used throughout the site			
✓	TML5 structural elements utilised including header, navigation, main and footer areas			
/	Headings marked up appropriately			
✓	Labels used on web forms and associated to form fields			

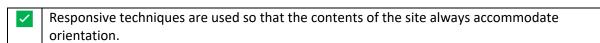
1.3.2 Meaningful Sequence: When the sequence in which content is presented affects its meaning, a correct reading sequence can be programmatically determined. (Level A)

✓	Site structured in meaningful way with header and navigation areas at the top of the page, main in the centre and footer at the end of the page			
	1 0			
✓	Headings presented in a relevant hierarchy			
✓	Lists used for navigation and other relevant purposes			

1.3.3 Sensory Characteristics: Instructions provided for understanding and operating content do not rely solely on sensory characteristics of components such as shape, size, visual location, orientation, or sound. (Level A)

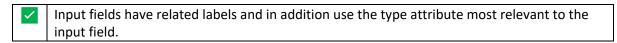
/	No reliance on a single sense for instruction

1.3.4 Orientation: Content does not restrict its view and operation to a single display orientation, such as portrait or landscape, unless a specific display orientation is essential. **(Level AA)**

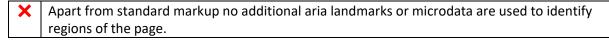


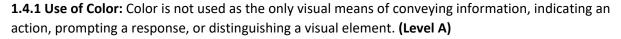
- **1.3.5 Identify Input Purpose:** The purpose of each input field collecting information about the user can be programmatically determined when:
 - The input field serves a purpose identified in the Input Purposes for User Interface Components section; and
 - The content is implemented using technologies with support for identifying the expected meaning for form input data.

(Level AA)



1.3.6 Identify Purpose: In content implemented using markup languages, the purpose of User Interface Components, icons, and regions can be programmatically determined. **(Level AAA)**





✓	Colour is not used as the only visual means of conveying information or instruction
✓	Contrast of colour has been considered throughout the design

- **1.4.2** Audio Control: If any audio on a Web page plays automatically for more than 3 seconds, either a mechanism is available to pause or stop the audio, or a mechanism is available to control audio volume independently from the overall system volume level. (Level A)
- Audio-only is not used anywhere on the website and there are no auto-play videos with audio.
- **1.4.3 Contrast (Minimum):** The visual presentation of text and images of text has a contrast ratio of at least 4.5:1, except for the following: **(Level AA)**
 - Large Text: Large-scale text and images of large-scale text have a contrast ratio of at least 3:1;
 - **Incidental:** Text or images of text that are part of an inactive user interface component, that are pure decoration, that are not visible to anyone, or that are part of a picture that contains significant other visual content, have no contrast requirement.
 - Logotypes: Text that is part of a logo or brand name has no minimum contrast requirement.
- Contrast of colour has been considered throughout the design
- **1.4.4 Resize text:** Except for captions and images of text, text can be resized without assistive technology up to 200 percent without loss of content or functionality. **(Level AA)**
- ✓ Text can be readily resized via the web browser
- **1.4.5 Images of Text:** If the technologies being used can achieve the visual presentation, text is used to convey information rather than images of text except for the following: **(Level AA)**
 - Customizable: The image of text can be visually customized to the user's requirements;
 - Essential: A particular presentation of text is essential to the information being conveyed
- ✓ Images of text are not used on the site✓ Text is formatted via CSS rather than using images
- **1.4.6 Contrast (Enhanced):** The visual presentation of text and images of text has a contrast ratio of at least 7:1, except for the following: **(Level AAA)**
 - Large Text: Large-scale text and images of large-scale text have a contrast ratio of at least 4.5:1;
 - **Incidental:** Text or images of text that are part of an inactive user interface component, that are pure decoration, that are not visible to anyone, or that are part of a picture that contains significant other visual content, have no contrast requirement.
 - Logotypes: Text that is part of a logo or brand name has no contrast requirement.

- There may be some areas of the site that don't meet this higher level of contrast ratio.
- **1.4.7 Low or No Background Audio:** For prerecorded audio-only content that (1) contains primarily speech in the foreground, (2) is not an audio CAPTCHA or audio logo, and (3) is not vocalization intended to be primarily musical expression such as singing or rapping, at least one of the following is true: **(Level AAA)**
 - No Background: The audio does not contain background sounds.
 - Turn Off: The background sounds can be turned off.
 - 20 dB: The background sounds are at least 20 decibels lower than the foreground speech
 content, with the exception of occasional sounds that last for only one or two seconds. Per
 the definition of "decibel," background sound that meets this requirement will be
 approximately four times quieter than the foreground speech content.
- No such content exists on the site.
- **1.4.8 Visual Presentation:** For the visual presentation of blocks of text, a mechanism is available to achieve the following (Level AAA):
 - 1. Foreground and background colors can be selected by the user.
 - 2. Width is no more than 80 characters or glyphs (40 if CJK).
 - 3. Text is not justified (aligned to both the left and the right margins).
 - 4. Line spacing (leading) is at least space-and-a-half within paragraphs, and paragraph spacing is at least 1.5 times larger than the line spacing.
 - 5. Text can be resized without assistive technology up to 200 percent in a way that does not require the user to scroll horizontally to read a line of text on a full-screen window.
 - X No such mechanism exists.
- **1.4.9 Images of Text (No Exception):** Images of text are only used for pure decoration or where a particular presentation of text is essential to the information being conveyed. **(Level AAA)**
- Images of text are not used.
- **1.4.10 Reflow:** Content can be presented without loss of information or functionality, and without requiring scrolling in two dimensions for: **(Level AA)**
 - Vertical scrolling content at a width equivalent to 320 CSS pixels;
 - Horizontal scrolling content at a height equivalent to 256 CSS pixels;

Except for parts of the content which require two-dimensional layout for usage or meaning.

The site is fully responsive and so meets the given requirements.

- **1.4.11 Non-text Contrast:** The visual presentation of the following have a contrast ratio of at least 3:1 against adjacent color(s): **Level AA**
 - User Interface Components: Visual information required to identify user interface
 components and states, except for inactive components or where the appearance of the
 component is determined by the user agent and not modified by the author;
 - **Graphical Objects:** Parts of graphics required to understand the content, except when a particular presentation of graphics is essential to the information being conveyed.
- **✓**

UI components are high contrast and meet or exceed the given contrast ratio.

- **1.4.12 Text Spacing:** In content implemented using markup languages that support the following text style properties, no loss of content or functionality occurs by setting all of the following and by changing no other style property: **(Level AA)**
 - Line height (line spacing) to at least 1.5 times the font size;
 - Spacing following paragraphs to at least 2 times the font size;
 - Letter spacing (tracking) to at least 0.12 times the font size;
 - Word spacing to at least 0.16 times the font size.

Exception: Human languages and scripts that do not make use of one or more of these text style properties in written text can conform using only the properties that exist for that combination of language and script.



The site is fully responsive and so meets the given requirements.

- **1.4.13 Content on Hover or Focus:** Where receiving and then removing pointer hover or keyboard focus triggers additional content to become visible and then hidden, the following are true: **(Level AA)**
 - **Dismissible:** A mechanism is available to dismiss the additional content without moving pointer hover or keyboard focus, unless the additional content communicates an input error or does not obscure or replace other content;
 - Hoverable: If pointer hover can trigger the additional content, then the pointer can be moved over the additional content without the additional content disappearing;
 - **Persistent:** The additional content remains visible until the hover or focus trigger is removed, the user dismisses it, or its information is no longer valid.

Exception: The visual presentation of the additional content is controlled by the user agent and is not modified by the author.



Main area this applies to on the site is the primary navigation which achieves all of the points above through keyboard controls and suitable aria tags.

Principle 2: Operable - User interface components and navigation must be operable.

- **2.1.1 Keyboard:** All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes, except where the underlying function requires input that depends on the path of the user's movement and not just the endpoints. **(Level A)**
- The site can be readily navigated via keyboard alone with a meaningful tab order.
- **2.1.2 No Keyboard Trap:** If keyboard focus can be moved to a component of the page using a keyboard interface, then focus can be moved away from that component using only a keyboard interface, and, if it requires more than unmodified arrow or tab keys or other standard exit methods, the user is advised of the method for moving focus away. **(Level A)**
- ✓ All elements can be navigated away from via keyboard.
- **2.1.3 Keyboard (No Exception)**: All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes. **(Level AAA)**
- Website is operable through a keyboard/tabbing.
- **2.1.4 Character Key Shortcuts:** If a keyboard shortcut is implemented in content using only letter (including upper- and lower-case letters), punctuation, number, or symbol characters, then at least one of the following is true: **(Level A)**
 - Turn off: A mechanism is available to turn the shortcut off;
 - **Remap:** A mechanism is available to remap the shortcut to include one or more non-printable keyboard keys (e.g., Ctrl, Alt);
 - Active only on focus: The keyboard shortcut for a user interface component is only active when that component has focus.
- Character key shortcuts are not used.
- **2.2.1 Timing Adjustable:** For each time limit that is set by the content, at least one of the following is true: **(Level A)**

Turn off: The user is allowed to turn off the time limit before encountering it; or

- Adjust: The user is allowed to adjust the time limit before encountering it over a wide range
 that is at least ten times the length of the default setting; or
- **Extend:** The user is warned before time expires and given at least 20 seconds to extend the time limit with a simple action (for example, "press the space bar"), and the user is allowed to extend the time limit at least ten times; or
- **Real-time Exception:** The time limit is a required part of a real-time event (for example, an auction), and no alternative to the time limit is possible; or

- Essential Exception: The time limit is essential and extending it would invalidate the activity;
 or
- 20 Hour Exception: The time limit is longer than 20 hours.
- ✓ The site does not contain any time controlled content.
- **2.2.2 Pause, Stop, Hide:** For moving, blinking, scrolling, or auto-updating information, all of the following are true: (Level A)
 - Moving, blinking, scrolling: For any moving, blinking or scrolling information that (1) starts automatically, (2) lasts more than five seconds, and (3) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it unless the movement, blinking, or scrolling is part of an activity where it is essential; and
 - **Auto-updating:** For any auto-updating information that (1) starts automatically and (2) is presented in parallel with other content, there is a mechanism for the user to pause, stop, or hide it or to control the frequency of the update unless the auto-updating is part of an activity where it is essential.
- Image sliders that start automatically will pause when focused, and will stop if a user manually changes the slide.
- **2.2.3 No Timing:** Timing is not an essential part of the event or activity presented by the content, except for non-interactive synchronized media and real-time events. **(Level AAA)**
- No such events or activities require timing.
- **2.2.4 Interruptions:** Interruptions can be postponed or suppressed by the user, except interruptions involving an emergency. **(Level AAA)**
- The site does not produce interruptions.
- **2.2.5 Re-authenticating:** When an authenticated session expires, the user can continue the activity without loss of data after re-authenticating. (Level AAA)
- Authenticated sessions are not used.
- **2.2.6 Timeouts:** Users are warned of the duration of any user inactivity that could cause data loss, unless the data is preserved for more than 20 hours when the user does not take any actions. **(Level AAA)**
- ✓ Inactivity does not cause any data loss.
- **2.3.1** Three Flashes or Below Threshold: Web pages do not contain anything that flashes more than three times in any one second period, or the flash is below the general flash and red flash thresholds. (Level A)

The site does not contain any flashing content. N.B. Any time-based media that is embedded (such as video) must also meet this criteria.
2.3.2 Three Flashes: Web pages do not contain anything that flashes more than three times in any one second period. (Level AAA)
The site does not contain any flashing content. N.B. Any time-based media that is embedded (such as video) must also meet this criteria.
2.3.3 Animation from Interactions: Motion animation triggered by interaction can be disabled, unless the animation is essential to the functionality or the information being conveyed. (Level AAA)
✓ There is no motion animation triggered by interaction.

2.4.1 Bypass Blocks: A mechanism is available to bypass blocks of content that are repeated on multiple Web pages. (Level A)

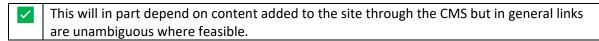
✓ A "Skip to content" link enables easy skipping of site header/navigation
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- 2.4.2 Page Titled: Web pages have titles that describe topic or purpose. (Level A)
- Appropriate page titles are used on every page.
- **2.4.3 Focus Order:** If a Web page can be navigated sequentially and the navigation sequences affect meaning or operation, focusable components receive focus in an order that preserves meaning and operability. **(Level A)**
- The focus order of the site is structured meaningfully.
- **2.4.4 Link Purpose (In Context):** The purpose of each link can be determined from the link text alone or from the link text together with its programmatically determined link context, except where the purpose of the link would be ambiguous to users in general. **(Level A)**
- The purpose of all links found on the site is clear either from the text or in cases of images from the alt text of the image.
 The footer contains some links for social media that are icons rendered via CSS. In this scenario the title of the link provides the link purpose.
- **2.4.5 Multiple Ways:** More than one way is available to locate a Web page within a set of Web pages except where the Web Page is the result of, or a step in, a process. **(Level AA)**

		A clear and consistent menu structure is in place across the site.
ĺ	✓	Pages are often linked to from within other pages or sub-pages.

2.4.6	Headings and Labels: Headings and labels describe topic or purpose. (Level AA)				
/	✓ Informative headings and sub-headings are used throughout.				
✓	Headings are structured in an appropriate hierarchy.				
✓ Labels are used alongside form fields.					
keybo	A keyboard focus indicator is visible as implemented by web browsers.				
2.4.8 AAA)	Location: Information about the user's location within a set of Web pages is available. (Level				
✓	Site breadcrumb navigation is provided in certain areas where most useful				
×	Not every page provides a breadcrumb, and there is no current page indicator in the main navigation.				

2.4.9 Link Purpose (Link Only): A mechanism is available to allow the purpose of each link to be identified from link text alone, except where the purpose of the link would be ambiguous to users in general. **(Level AAA)**



- 2.4.10 Section Headings: Section headings are used to organize the content. (Level AAA)
- All pages are structured in such as way that headings are used to organise content.
- **2.5.1 Pointer Gestures:** All functionality that uses multipoint or path-based gestures for operation can be operated with a single pointer without a path-based gesture. **(Level A)**
- Site does not make use of multipoint or path-based gestures.
- **2.5.2 Pointer Cancellation:** Appropriate handling of functionality that can be operated using a single pointer. (Level A)
- ✓ Handled appropriately in-line with guidance.
- **2.5.3 Label in Name:** For user interface components with labels that include text or images of text, the name contains the text that is presented visually. **(Level A)**
- Labels are used appropriately in web forms and contain the text shown visually (no images used for labels).

- **2.5.4 Motion in Actuation:** Functionality that can be operated by device motion or user motion can also be operated by user interface components and responding to the motion can be disabled to prevent accidental actuation. **(Level A)**
- Motion is not used to cause an action on the site.
- **2.5.5 Target Size:** The size of the target for pointer inputs is at least 44 by 44 CSS pixels where required. **(Level AAA)**
- Whilst the main navigation controls all meet this criterion there are instances where some buttons/links are smaller than 44/44 (e.g. social icons in the footer of the site).
- **2.5.6 Concurrent Input Mechanisms:** Web content does not restrict use of input modalities available on a platform except where the restriction is essential, required to ensure the security of the content, or required to respect user settings. **(Level AAA)**
- Website does not restrict type of input device used by a visitor.

Principle 3: Understandable - Information and the operation of user interface must be understandable.

3.1.1 Language	of Page: The	default human	language of	each Web	page can b	oe programi	matically
determined. (Le	evel A)						

- **3.1.2 Language of Parts:** The human language of each passage or phrase in the content can be programmatically determined except for proper names, technical terms, words of indeterminate language, and words or phrases that have become part of the vernacular of the immediately surrounding text. **(Level AA)**
 - ✓ The language of the site does not change
- **3.2.1 On Focus:** When any component receives focus, it does not initiate a change of context. **(Level A)**
- ✓ Elements of the site do not change on focus alone
- **3.2.2 On Input:** Changing the setting of any user interface component does not automatically cause a change of context unless the user has been advised of the behavior before using the component. **(Level A)**
- ✓ Elements of the site do not change when they receive input
- **3.2.3 Consistent Navigation:** Navigational mechanisms that are repeated on multiple Web pages within a set of Web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user. **(Level AA)**
- Repeated navigation mechanisms are presented in the same location and in the same way on all pages of the site
- ✓ The order of repeated navigation items are consistent throughout
- Standard site elements are presented in the same location throughout
- **3.2.4 Consistent Identification:** Components that have the same functionality within a set of Web pages are identified consistently. **(Level AA)**
- Elements such as buttons and labels are presented consistently throughoutAny icons are presented with the same markup
- **3.3.1 Error Identification:** If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text. **(Level A)**
- Form errors are presented clearly in text and next to the element in question

- If the user makes a mistake or there is an error the form is not cleared
- **3.3.2 Labels or Instructions:** Labels or instructions are provided when content requires user input. **(Level A)**
- Labels are used for all input fields
- Required fields are denoted by an asterix
- **3.3.3 Error Suggestion:** If an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user, unless it would jeopardize the security or purpose of the content. **(Level AA)**
- Forms identify input errors and presents appropriate messaging
- **3.3.4 Error Prevention (Legal, Financial, Data):** For Web pages that cause legal commitments or financial transactions for the user to occur, that modify or delete user-controllable data in data storage systems, or that submit user test responses, at least one of the following is true: (Level AA)
 - Reversible: Submissions are reversible.
 - **Checked:** Data entered by the user is checked for input errors and the user is provided an opportunity to correct them.
 - **Confirmed:** A mechanism is available for reviewing, confirming, and correcting information before finalizing the submission.
 - No legal or financial commitments are made via the site
- 3.3.5 Help: Context sensitive help is available (Level AAA)
- Some text instruction provided on forms but not consistent. Mandatory form fields are marked where needed. No help link provided.
- **3.3.6 Error Prevention (All):** For Web pages that require the user to submit information, at least one of the following is true:
 - Reversible: Submissions are reversible.
 - **Checked:** Data entered by the user is checked for input errors and the user is provided an opportunity to correct them.
 - **Confirmed:** A mechanism is available for reviewing, confirming, and correcting information before finalizing the submission. **(Level AAA)**
 - **X** Form submissions are not reversible.
 - ✓ Data is checked/validated where possible.
 - X No current mechanism to review/confirm or correct information prior to submission.

Principle 4: Robust - Content must be robust enough that it can be interpreted reliably by a wide variety of user agents, including assistive technologies.

4.1.1 Parsing: In content implemented using markup languages, elements have complete start and end tags, elements are nested according to their specifications, elements do not contain duplicate attributes, and any IDs are unique, except where the specifications allow these features. **(Level A)**

✓	Complete and valid markup used and nested appropriately		
✓	No duplicate IDs on the site		

4.1.2 Name, Role, Value: For all user interface components (including but not limited to: form elements, links and components generated by scripts), the name and role can be programmatically determined; states, properties, and values that can be set by the user can be programmatically set; and notification of changes to these items is available to user agents, including assistive technologies. (**Level A**)

>	Applied given complete and valid markup
✓	ARIA attributes used effectively on the site where required
✓	Role attribute applied in rare cases to improve accessibility
✓	No custom UI components are used

4.1.3 Status Messages: In content implemented using markup languages, status messages can be programmatically determined through role or properties such that they can be presented to the user by assistive technologies without receiving focus. **(Level AA)**

Site does not use status messages in this way