VCU Web Standards Supplemental Information

1. General

1.1 Representation

Websites must represent VCU and not VCU Health.

VCU Health Hosting

Content describing patient or clinical services must be hosted on vcuhealth.org.

1.2 Copyright

Websites must comply with the VCU Intellectual Property Policy.

1.3 Commercial Activity

Websites must not promote commercial activity outside of official university business.

Policy

This requirement is outlined in the Organizational Websites, Management, and Hosting policy.

Examples

Bad: "Come see the Richmond Squirrels play baseball on March 1st."

Acceptable: "The Division of Community Engagement will be at the Richmond Squirrels game on March 1st providing information about upcoming engagement opportunities."

1.4 Sexually Explicit Content

Websites containing sexually explicit content must provide a written warning statement and be accessible only through a password mechanism.

Policy

This requirement is outlined in the Organizational Websites, Management, and Hosting policy.

Written Warning Statements

Written warning statements before sexually explicit content need to inform a visitor as to what content they are about to view, giving them the opportunity to view the content at their discretion.

Using CAS to Restrict Access

Restricting access to sexually explicit content through a password mechanism can be accomplished using [CAS (Central Authentication Service)](#). For more technical information, check out the [Using CAS on a VCU Website](#) guide.

1.5 Blogs

Websites acting as the primary web presence for a unit must not be a blog.

Blog Components & Links

While a unit's website may incorporate blog components or link to a blog, sites that only function as a blog cannot be a unit's primary website or only form of web presence.

Blog Definition

The definition of a blog is defined in the FAQ section of the [Web Content, Management and Hosting](#) policy.

1.6 Visibility & Ownership

Websites must be listed in the VCU [A-Z Index](#) with at least one site owner or technical contact provided.

Non-Public Websites

For accountability and auditability purposes, websites with a primary audience that is internal (e.g. intranets) also need to be in the A-Z Index. These listings can be marked as "Hidden" so they do not show up on the public facing view.

What is the A-Z Index?

The VCU [A-Z Index](#) can be found under the three-dot menu at the top-right of the [VCU homepage](#). The listing provides high visibility for large or small websites by featuring them on the VCU homepage, allowing users to quickly and efficiently navigate to them. The listing is also filterable and searchable, providing a much faster way for users to find or discover websites.

The Importance of Site Owners or Technical Contacts

Including a site owner or technical contact for a website in the VCU [A-Z Index](#) provides a single point of contact should a visitor have difficulty finding information or identify a technical issue.

1.7 Archival & Removal

Websites left out-of-date for 12 or more months must be moved to the VCU [Website Archive](#) or taken offline.

Archival

If a decision is made to archive the website by moving it to the VCU Website Archive, the site owner will incur an archival cost of $1,000. This cost guarantees the site will remain archived for 5 years. The archival fee is waived for websites regarding university-level (non-unit/non-school specific) resources.

Removal

If a decision is made to take the website offline, a [Service Desk](#) ticket must be opened with Technology Services to properly handle the decommission and records management process.

2. Accessibility

2.1 Federal

The following are high-priority accessibility requirements for federally funded organizations.

2.1.1 Skip to Content Links

Websites must include skip to content links on every page.

Skipping to Main Content

All sites must have at least one skip-to-content link which skips a user's focus past redundant template elements and into the main content. However, it is good practice to have skip links to all relevant content, like the main navigation or footer.

Visibility & Location

The skip to content link must be visible on focus and must be the first link after the opening body element.

Code Example

CSS

```
#skip-links {
    position: absolute;
    left: 0;
    top: 0;
    width: 100%;
    margin-left: 0;
    list-style: outside none;
}
#skip-links a {
    position: absolute;
    left: 15px;
    top: -100px;
    z-index: 10000;
    height: auto;
    margin: 0 auto;
    padding: 10px 15px;
    background-color: transparent;
    color: #ffba00;
    outline: none;
    transition: top 0.2s, background-color 0.2s;
}
#skip-links a:focus, #skip-links a:hover {
```

```
    top: 0;
    background-color: #333;
}
```

HTML

```
<div id="skip-links">
    <a href="#main-navigation" tabindex="1">Skip to main navigation</a>
    <a href="#main-content" tabindex="2">Skip to main content</a>
    <a href="#footer" tabindex="3">Skip to footer</a>
</div>
```

2.1.2 Unique Title Tags

Websites must include unique title tags for every page.

The Importance of Unique Title Tags

Unique title tags help with both accessibility and search engine optimization.

Structure

A website's title tags should follow the following structure:
- Home page: Department Name | Virginia Commonwealth University
- Interior page: Title of single page | Department Name | Virginia Commonwealth University.

Home pages should not use the word "Home" as a title. Interior pages should include the title of the page and the name of the department.

Example Title

Prospective Students | Biology | HAS | VCU

2.1.3 Input Labels

Websites must provide associative labels for form inputs.

The Importance of Input Labels

All form inputs must have associated labels so screen readers may interpret what content is required for each form input.

Visibility

Labels do not have to be visible, but they must be machine readable.

Code Example (HTML)

```
<label for="sender">Your email address</label>
```

```
<input type="text" name="sender" id="sender" placeholder="example@vcu.edu">
```

Documentation

Visit the wiki for more [documentation on form accessibility](#).

2.1.4 Input Agnostic Functionality & Navigability

Websites must be equally functional and navigable when using the mouse, keyboard, or both.

The Importance of Input Agnostic Functionality & Navigability

All content and functionality, including navigation and dropdown menus, that is reachable by mouse, must be reachable by keyboard. This ensures users can get to where they're going regardless if they're using a mouse or using a screen reader.

Tabbing

Functionality and navigability can be tested by using the tab key to hop through focusable elements on the site. Skip links should be the first tab-able elements, then the branding bar, and finally the rest of the site, including dropdown navigation and links.

Visible & Identifiable Focus

Links, as well as other focusable elements such as form inputs and buttons, need focus state styles so the user can identify it as focused. In most cases, the hover state styles can also be used for the focus state styles.

Code Example (CSS)

```
a:focus, [tabindex]:focus { border: 2px solid purple }
```

Documentation

Visit the wiki for more [documentation on keyboard navigable websites](#).

2.1.5 Alternative Image Information

Websites must provide alt-text for non-trivial images.

Informative & Descriptive Alt-Text

Alt-text should be informative and describe the image to a screen reader. The following guidelines will help in creating informative and descriptive alt-text:

1. Do not use the word "image"; Screen readers will already inform the user that this is an image.
2. Do not just use the filename; The filename does not saying anything informative or descriptive about the image.

3. Do not use the word "page" or describe its location; Screen readers will already inform the user as to what page they're on.

Images Containing Text

Images that have relevant text in the image must have the same information in the alt tag.

Social Media

Images posted via social media that have relevant text in the image must have the same information in the alt tag or have the information as text provided along with the image.

Documentation

Visit the wiki for more [documentation on image accessibility](#).

2.1.6 Meaningful Link Text

Websites must provide links with meaningful text and information as to their end location.

Non-Distinguishable Links

This requirement refers to non-distinguishable links, or links that have the same text but point to a different location. Links can be made distinguishable by adding titles or aria-labels (instructing a screen reader how the links are different) or changing the text so that it is only used one time.

Code Example (HTML)

```
<!-- Using meaningful link text -->
<a href="/about">About Technology Services</a>
<!-- Using aria-labels -->
<a href="/about" aria-label="About Technology Services">About</a>
```

Documentation

Visit the wiki for more [documentation on non-distinguishable links](#).

2.1.7 PDF Highlighting & Copying

Websites providing PDF files must ensure these files properly allow highlighting text in a logical order and copying its contents to another program.

Logical Header Nesting & Content

All PDF files must have logical header nesting and content.

How to Check for PDF Issues

Use [Siteimprove](#) to identify a site's PDFs that have accessibility issues.

VCU Web Standards & Guidelines, Supplemental Information, Version 2.5

Visit the wiki for more [documentation on PDF accessibility](#).

2.1.8 Video Captioning

Websites providing videos must ensure they are captioned.

Automatic Captioning

Services that provide automatic captioning, such as [Kaltura](#) or [YouTube](#), fulfill this requirement. At the time of writing, [Vimeo](#) does not support automatic captioning.

Live Streamed Videos

Live steamed videos must be captioned within 24 hours.

2.1.9 Appropriate Page Language

Websites must have an appropriate language set on every page.

Common Languages & Use

Most websites will have the language set to English, but there are instances where Spanish is applicable. The language may be set on the page's HTML element or a specific element inside the page's content.

Code Example

The language of a page can be set to English by adding the following code:

```
<html lang="en">
```

Documentation

Visit the wiki for more [documentation on setting the language of a webpage](#).

2.1.10 Color Contrast

Websites must utilize suitable color contrast ratios between text and background.

Contrast Ratios

Following WCAG 2.0 AA compliance, color contrast ratios should be at least 4.5:1 for normal text and 3:1 for large text.

Tools

Here's a list of useful tools for correcting color contrast issues:

- [Siteimprove](#) will identify pages that have color contrast issues.
- [0to255](#) is a great tool to lighten or darken colors while trying to fix color contrast issues.
- [Lea Verou's WCAG 2.0 color contrast tool](#) helps web developers decide what color combinations provide enough contrast to meet WCAG 2.0 compliance.
- [Colour Contrast Check](#) is a useful tool for checking the degree of contrast between foreground and background colors.

Documentation & Resources

Visit the wiki for more [documentation and resources for fixing color contrast issues](#).

2.2 VCU

The following requirements have been established by VCU, and either reflect, elaborate, or build on the Accessibility, Federal (2.1) requirements.

2.2.1 Accessibility Review

All new website designs or redesigns and/or web applications must be submitted to Web Services for accessibility approval via Service Desk, [category EIT Accessibility](#).

2.2.2 WCAG 2.0 AA Compliance

Websites must pass [WCAG 2.0](#) Level AA accessibility standards.

Status & Compliance

Visit the [A-Z Website Manager](#) to check the current [compliance status](#) of your website.

How to Ensure WCAG 2.0 AA Compliance

Use the [Siteimprove Accessibility Checker](#) Google Chrome extension, and set the filter to AA conformance to prioritize a11y errors. In addition, [AChecker](#) can be used to evaluate single web pages for accessibility issues.

Accessibility Resources

Visit the wiki for more [accessibility resources for a11y error evaluation](#).

2.2.3 PDF Accessibility

Websites providing PDF files must ensure these files pass [WCAG 2.0](#) Level AA accessibility standards.

2.2.4 HTML Validation

Websites must not contain HTML validation errors.

VCU Web Standards & Guidelines, Supplemental Information, Version 2.5

AChecker

[AChecker](#) can evaluate single webpages for HTML validation errors. A successful AChecker report should show zero "Known Problems" and zero "HTML Validation" errors.

Documentation

Visit the wiki for more [documentation on AChecker](#).

2.2.5 Skip Links

Websites must include a div with the id of "skip-links" enclosing a series of skip links after the opening body tag of every page.

Best Practices

It is encouraged to include skip links to major page sections of the website, like the main navigation and footer, but the skips links must include at least one link to the main content section. The inclusion of at least one skip link to the main content is under the Accessibility, Federal, Skip to Content Links (2.1.1) requirement.

Code Example

Visit the code example found under the Accessibility, Federal, Skip to Content Links (2.1.1) requirement.

2.2.6 Readability with Disabled Stylesheets

Websites must be readable with stylesheets disabled.

The Importance of Readability with Disabled Stylesheets

Web page readability with CSS stylesheets disabled is important for users accessing text only versions of your website. Additionally, it ensures equal functionality and navigability regardless of styles.

3. Branding

3.1 Branding Bar

Websites must load an approved VCU branding bar at the top of every page and must not be obstructed from view by visual elements.

VCU Health Branding

Websites may not use the VCU Health logo or branding bar.

Menu & Search Icons

The exception to visual elements on top of the branding bar include approved menu and search icons as detailed in the VCU [Brand Standards](#) guide.

Using the Branding Bar Script

All VCU branding bars must be loaded in from the branding.vcu.edu javascript . Implementation instructions can be found at the VCU [Academic Branding Bar](#) website.

Including the following script on a website will inject the default (light-gray/black) branding bar on a page:

```
<script type="text/javascript"
src="//branding.vcu.edu/bar/academic/latest.js"></script>
```

3.2 Unofficial Logos & Seals

Websites must not use unofficial VCU logos or seals on any page.

What are Unofficial Logos & Seals?

This includes, but is not limited to, outdated or modified VCU logos or seals and the use of a VCU logo or seal that does not follow the rules outlined in the VCU [Brand Standards](#) guide.

3.3 Unit Context

Websites for a unit that serves a specific part of the university must include the unit name prefixed or in conjunction with its title or parent unit.

Context is Important

Specifying what part of the university your unit serves is important, especially when there are multiple units of the same or similar name dotted around the university. For instance, a site for the School of Medicine's Technology Services department should be distinguishable from the central VCU Technology Services department.

4. Captioning

4.1 General Public & Employees

Websites containing audio/visual media intended for the general public or any VCU employee who has a relevant accommodation agreement on file with the ADA Coordinator must provide appropriate captioning for these materials.

4.2 Students

Websites containing audio/visual media provided by instructors for students must provide appropriate captioning or transcriptions for these materials.

5. Content

5.1 VCU Homepage Link

Websites must include a link to the [VCU homepage](#).

Details & Example

The [VCU homepage](#) link must go to "https://www.vcu.edu" and have "Virginia Commonwealth University" spelled out. This is typically included in the website's footer in the contact information. Inclusion of the VCU branding bar does not fulfill this requirement.

```
<a href="https://www.vcu.edu" title="VCU homepage">Virginia Commonwealth
University</a>
```

5.2 Parent Unit Link

Websites for a unit of the university that has a parent unit must provide a link to the parent unit on every page.

Importance & Implementation

A link to a parent unit provides visitors context to the university's organizational structure as well as ease of navigability to similar resources. This link is typically included in the website's footer contact information.

5.3 Contact Information

Websites must provide contact information (e.g. address, phone, email) on every page

Required Information

The following contact information is required on every page of a website:
- A physical address or mailing address
- A phone number
- An email address

Importance & Implementation

Providing contact information provides visitors the ability to get additional information by alternative methods. This information is typically included in the website's footer, but can alternatively be linked to a dedicated contact page.

5.4 Last Updated Date

Websites must provide a date of when the site or its pages were last updated or reviewed on every page.

Importance & Implementation

A last updated date informs visitors on how up-to-date the content is. The following guidelines and suggestions should be referenced when implementing a last updated date:

- The date should be specific to the individual page and not the overall website.
- The terms "Last updated", "Updated", or "Last reviewed" may be used.
- Special CMS tags, client-side Javascript, or server-side code are often used to provide a last updated date.
- This information is typically included in the website's footer.

Out-of-Date Content

Websites are required to be updated or reviewed every 12 months. Therefore, the last updated date on any page should be less than 12 months old.

5.5 Postal Box

Websites must not use the phrase "PO Box ####" on any page.

United States Postal Services Trademark

Due to a trademark by the United States Postal Services, websites are not allowed to use the phrase "PO Box ###". Instead, use "Box ####" when referring to a postal box.

5.6 Inclusion Links

Websites must include links to the required inclusion resources.

Required Inclusion Links

The following are the required inclusion resources every website must link to. These links are typically included in the website's footer.

Accessibility Link

To better provide inclusive access to VCU's resources, all websites must include a link to VCU's [Accessibility Resources](#) page on every page.

```
<a href="https://accessibility.vcu.edu/" title="Accessibility at VCU"
target="_blank">Accessibility</a>
```

Technical Support (Webmaster) Link

To better provide centralized technical support for university websites, all websites must include a mailto link to the VCU Webmaster on every page. This email is monitored by the Technology Services IT Support Center who route messages to the responsible party. Additional methods for technical assistance may be linked alongside the VCU Webmaster mailto link.

```
<a href="mailto:webmaster@vcu.edu" title="Contact the VCU webmaster"
target="_blank">Webmaster</a>
```

Privacy Link

All websites must include a link to the VCU privacy policy on every page. The privacy policy informs users on what information is collected and how it is used while using VCU digital resources. Custom privacy policies may be linked so long as it references and links to the official VCU privacy policy.

```
<a href="https://www.vcu.edu/privacy-statement/" title="VCU privacy statement"
target="_blank">Privacy</a>
```

5.7 404 Page

Websites must provide a helpful 404 error page.

The Importance of a Helpful 404 Page

Helpful 404 pages guide users when they stumble across a resource that no longer exists or has moved. These page should be relevant and tailored specifically for the website.

Implementation & Example

Configuration of a 404 page depends on the platform the website is hosted on. Please contact Web Services if technical assistance in implementing a 404 page is required. A good example of a helpful 404 page is the VCU homepage 404.

5.8 Search

Websites must include an input field to the VCU search tool.

Exceptions

If a website provides its own equivalent search functionality, or is a single page site, the inclusion of an input to the VCU search tool is not required.

Implementation

To learn more on how to include an input to the VCU search tool on a website, visit the article on [adding a basic VCU search box to your site](#) at the VCU Technology Services website.

5.9 Course Information

Websites must not contain duplicate information from the [VCU Bulletin](#).

Supplementary Information

If course information must be provided on a website, this information should only supplement and link to the corresponding [VCU Bulletin](#) page.

Importance

The [VCU Bulletin](#) is the main resource for course information. Course information that duplicates a [VCU Bulletin](#) page, instead of supplementing and linking to a [VCU Bulletin](#) page, can cause confusion for students when outdated content is found or information between both locations do not match.

5.10 Third Party iFrames

Websites cannot deliver primary content via an iframe.

Details

Use of iframes to display content should only be used for supplemental content. Websites should refrain from delivering primary content via an iframe, but if for technical reasons iframes must be used for primary content then contact information and instructions on how to obtain the content in alternate formats must be provided.

6. Content Management

6.1 CMS Platform

Websites requiring a content management system (CMS) must use the approved content management platform for VCU, [TerminalFour](#).

Requesting a CMS Managed Website

If a new website needs to be setup in TerminalFour, please complete and submit a [Web Request](#) form. Make sure to fill out the appropriate options regarding CMS usage.

6.2 Direct Edit Link

Websites must contain a link to the TerminalFour "Direct Edit" mode of the site in the footer of every page.

The Importance of the Direct Edit Link

By including the direct edit link in the footer of a website, it ensures users with valid access though TerminalFour can easily edit the page as soon as they see an issue on the site. It also gives VCU Technology Services a clear indication to whether the site is using TerminalFour or managed manually, making technical support much easier.

How to Implement a Direct Edit Link

TerminalFour has a built-in tag to use with a site's HTML to generate a direct edit link:

```
<t4 type="edit-page" action="direct-edit" text="Edit" />
```

6.3 Navigation Tags

Websites must use appropriate TerminalFour navigation tags to generate links used to navigate the site.

The Importance of Navigation Tags

Using navigation tags to generate links used to navigate a website ensures it can be properly navigated within the TerminalFour "Preview" or "Direct Edit" modes. In addition, it also ensures a link will automatically be updated in case a section is renamed or moved.

Best Practices

Only links to external websites or resources should be hardcoded.

6.4 Configurable Global Header & Footer

Websites must provide configurable global header and footer sections within their TerminalFour page layout(s).

The Importance of Configurable Global Header & Footer Sections

Providing configurable global header and footer sections in a website's page layout(s) during development ensures a user can easily modify and management things like styling, scripts, and the use of plugins.

7. Design & Browser Compatibility

7.1 Modern Support

Websites must utilize HTML5 and work on modern browsers.

7.2 Structure & Layout

Websites must not use tables as the primary means of site structure or layout.

7.3 External Stylesheets

Websites must utilize external CSS stylesheets for styling.

Best Practices

While the use of inline styles can sometimes be necessary, excessive use of inline styles is not permitted.

7.4 Favicons

Websites must provide at least a 16px by 16px favicon.

7.5 Development Environments & Resources

Websites not under development must not serve assets such as images, CSS, and Javascript from development environments.

7.6 Flash

Websites must not use Flash.

Security Vulnerabilities & End-of-Life

Not only does Flash have numerous security vulnerabilities, Adobe, in collaboration with large web and computer companies, will stop updating and distributing Flash Player by the end of 2020.

For more information regarding Flash's end-of-life, check out Adobe's [Flash & The Future of Interactive Content](#) article.

8. Domain

8.1 Top-Level Domains

Websites must use a vcu.edu top-level domain.

Exceptions

If a website requires a non vcu.edu top-level domain name due to a specific business need, an exception must be granted by VCU [University Relations](#).

8.2 Subdomains

Websites must not include the term "VCU" in their subdomain.

Examples of Non-Compliance

- vcuarts.vcu.edu
- vcuhas.vcu.edu
- vcuts.vcu.edu.

8.3 Personal Names

Websites must not include a person's name in a domain or subdomain.

Exceptions & Personal Websites

If a unit is permanently named after a person, a website for said unit is exempt from this rule.

A website for a person, but not unit a named after that person, should be made through VCU [People Accounts](#).

8.4 Hosting

Websites must use a top-level domain hosted on a VCU approved web server.

9. Mobile

9.1 Responsive & Mobile-Friendly

Websites must be responsive and mobile-friendly.

The Importance of Responsiveness & Mobile-Friendliness

As web browsing on small devices becomes more popular, your website's mobile presence becomes increasingly more important. While traditional websites may work on small devices, they are often not optimally designed for them.

9.2 Viewport Meta Tags

Websites must utilize viewport meta tags to properly handle device width.

The Importance of Viewport Meta Tags

The viewport meta tag allows designers and developers to better control how a website is rendered on small devices.

Documentation

Information regarding viewport meta tags can be found at Google's Web Fundamentals guide on multi-device responsive design.

9.3 Google Mobile-Friendly Test

Websites must pass the Google Mobile-Friendly Test.

9.4 Tap Target Area

Websites must have buttons and inputs that have a decent tap target area.

Documentation

Information regarding decent tap target areas can be found at Google's Web Fundamentals guide on multi-device responsive design.

9.5 Availability, Visibility, & Navigability

Websites must provide content that is equally available, visible, and navigable regardless of viewport size or viewing device.

9.6 Third Party Mobile Applications

Content that requires the user to download an external application from a mobile application store or download library must include download instructions and contact information to request the content in alternate formats.

Implementation

Provide instructions and contact information on the website for how to obtain the content and a link to the mobile application store or download library.

10. Security

10.1 HTTPS

Websites must be loaded over HTTPS with a valid certificate.

10.2 Secure Connection

Websites must have a secure connection.

Identifying Secure Connections

Secure connections are signified by a green lock icon next to the URL in the URL bar of most modern browsers.

Loading Resources

Non-compliance is often due to loading resources explicitly over HTTP. This can easily be resolved by loading resources explicitly over HTTPS or in select use cases using relative protocol.

The following code shows an example of noncompliance due to resourcing loading, and 2 examples of how to potentially resolve the issue.

```
<!-- Loading explicitly over HTTP, noncompliant -->
<link type="stylesheet" href="http://example.vcu.edu/media/styles.css">

<!-- Loading explicitly over HTTPS, compliant, preferred -->
<link type="stylesheet" href="https://example.vcu.edu/media/styles.css">

<!-- Loading over relative protocol, compliant, select use cases -->
<link type="stylesheet" href="//example.vcu.edu/media/styles.css">
```

10.3 Authentication & Form Requests

Websites that contain pages requiring authentication or forms requesting sensitive data must send requests over SSL with a secure connection.

10.4 Redirects

Websites must not automatically redirect visitors to an external non vcu.edu domain.

11. Analytics

11.1 Google Analytics

Websites using Google Analytics must setup their Google Analytics account using at least two VCU domain accounts.

VCU Domain Accounts

A VCU domain account is often an account used when authenticating into VCU applications, such as myVCU; This is usually tied to your eID. This can also include VCU generic accounts, which are accounts made for teams to share (e.g. t4admin@vcu.edu or webservices@vcu.edu).

Importance

In the event that a user leaves the university, it is important to ensure Google Analytics account access is not lost; By requiring at least two VCU domain accounts to have access to the Google Analytics account, this situation can be avoided.

11.2 Google Analytics Account Permissions

Websites using Google Analytics must grant webservices@vcu.edu access to their Google account with "Manage Users" permissions.

Importance

In the event that Google Analytics account access has been lost, granting webservices@vcu.edu access to the Google Analytics account with "Manage Users" permissions allows the Web Services team to restore access.