Ohio State Digital Accessibility Skills Training Curricula

Curricula:

Office Document Accessibility (approx. 5.0 hours)

Digital documents are part of our daily lives, particularly in an office setting. Because of the vital role they play, it is important that all office documents are created with accessibility in mind. This curriculum explores techniques for creating accessible office documents, including Microsoft Word, Excel, PowerPoint, and basic PDF files.

- **Audience:** Office staff, Content writers, document designers
- **Courses:**
    1. Document Accessibility: MS Word
    2. Document Accessibility: MS Excel
    3. Document Accessibility: MS PowerPoint
    4. Document Accessibility: PDF

PDF Accessibility (approx. 2.75 hours)

The Portable Document Format was created by Adobe in the 1990s to offer a way to preserve visual formatting from various authoring programs and allow people to share files anywhere on any machine.

PDF offers many accessibility features, but they must be deliberately incorporated — they don't happen by accident. This curriculum will explore techniques for creating accessible PDF documents, from simple letters to complex forms.

- **Audience:** Office staff, Content writers, document designers
- **Courses:**
    1. Document Accessibility: PDF
    2. Document Accessibility: Advanced PDF - Complex Tables and Forms
    3. Document Accessibility: MS Word

Authoring Accessible Web Content (approx. 2.25 hours)

The web has the potential to bring an unprecedented level of independence to people with disabilities. People with disabilities who cannot easily leave the house, or who may encounter barriers outside the home, can perform tasks from their computer like shopping, banking, working, and even watching entertainment or playing games. But that's only if the web sites are built with accessibility in mind.

Web sites are not accessible by accident. They must be purposefully planned, built, and tested for accessibility. Inaccessible web sites deprive users with disabilities of experiences and opportunities that other people take for granted, and they put companies at legal risk for discrimination lawsuits.

This curriculum explores digital accessibility concepts with a focus on how to craft accessible content for the web.

- **Audience:** Content writers, document designers
- **Courses:**
    1. Basic Web and Document Accessibility for Content Contributors
    2. Document Accessibility: PDF

Accessible Web Design (approx. 5.75 hours)

The web has the potential to bring an unprecedented level of independence to people with disabilities. People with disabilities who cannot easily leave the house, or who may encounter barriers outside the home, can perform tasks from their computer like shopping, banking, working, and even watching entertainment or playing games. But that's only if the web sites are built with accessibility in mind.

Web sites are not accessible by accident. They must be purposefully planned, built, and tested for accessibility. Inaccessible web sites deprive users with disabilities of experiences and opportunities that other people take for granted, and they put companies at legal risk for discrimination lawsuits.

This curriculum explores digital accessibility concepts and their application in designing web sites and web applications.

- **Audience:** Web designers
- **Courses:**
    1. Accessibility Fundamentals: Designing an Accessible User Experience
    2. Web Accessibility: Visual Design and Colors
    3. Web Accessibility: Responsive Design and Zoom
    4. Web Accessibility: Multimedia, Animations, and Motion

Accessible Web Development (approx. 17.0 hours)

The web has the potential to bring an unprecedented level of independence to people with disabilities. People with disabilities who cannot easily leave the house, or who may encounter barriers outside the home, can perform tasks from their computer like shopping, banking, working, and even watching entertainment or playing games. But that's only if the web sites are built with accessibility in mind.

Web sites are not accessible by accident. They must be purposefully planned, built, and tested for accessibility. Inaccessible web sites deprive users with disabilities of experiences and opportunities that other people take for granted, and they put companies at legal risk for discrimination lawsuits.

This curriculum explores digital accessibility concepts and their application the development and testing of web sites and web applications.

- **Audience:** Web developers, QA testers
- **Courses:**
    1. Accessibility Fundamentals: Designing an Accessible User Experience
    2. Web Accessibility: Semantic Structure and Navigation

3. Web Accessibility: Images, SVG, and Canvas
4. Web Accessibility: Visual Design and Colors
5. Web Accessibility: Responsive Design and Zoom
6. Web Accessibility: Multimedia, Animations, and Motion
7. Web Accessibility: Device-Independent User Input Methods
8. Web Accessibility: Form Labels, Instructions, and Validation
9. Web Accessibility: Dynamic Updates, AJAX, and Single-Page Apps
10. Web Accessibility: Custom JavaScript/ARIA Widgets
11. Accessibility Testing: Basic Methods and Tools

Accessible Mobile App Development (approx. 5.75 hours)

Mobile apps are playing a larger and larger role in the way we communicate, work, and learn. As such, it is critical that apps are designed to be as inclusive and accessible as possible.

Mobile apps are not accessible by accident. They must be purposefully planned, built, and tested for accessibility. Inaccessible apps deprive users with disabilities of experiences and opportunities that other people take for granted, and they put companies at legal risk for discrimination lawsuits.

This course will teach you how to identify accessibility problems in native mobile apps and how to code them with accessibility in mind. You'll learn how to use native accessibility APIs to add all the necessary accessibility properties and support to your apps.

- **Audience:** Native app developers, QA testers
- **Courses:**
    1. Accessibility Fundamentals: Designing an Accessible User Experience
    2. Accessibility Testing: Screen Readers
    3. App Accessibility: Android Native Mobile App
       - or -
    4. App Accessibility: iOS Native Mobile App

Accessibility Evaluation (approx. 35.25 hours)

Evaluating the accessibility of digital information, software, and services is no easy task, but it is a skill that can be learned with training and practice. This curriculum provides an in-depth exploration of accessibility concepts in web development, mobile apps, and PDF documents. It also teaches the steps involved in the accessibility evaluation process, and various accessibility testing techniques and methodologies. Finally, a sample methodology is presented that can be used to maximize efficiency in testing for accessibility.

- **Audience:** Accessibility evaluators, QA testers
- **Courses:**
    1. Accessibility Fundamentals: Disabilities, Guidelines, and Laws
    2. Accessible Web Development Curriculum
    3. PDF Accessibility Curriculum
    4. App Accessibility: iOS Native Mobile App

5. Accessibility Testing: Basic Methods and Tools
6. Accessibility Testing: Screen Readers
7. Accessibility Testing: WCAG Conformance Testing, Detailed Methodology

Accessibility Coordinator Fundamentals (approx. 4 hours)

This curriculum provides a set of foundational skills training for Ohio State Digital Accessibility Coordinators.

- **Audience:** Digital Accessibility Coordinators
- **Courses:**
    1. Accessibility Fundamentals: Disabilities, Guidelines, and Laws
    2. Accessibility Fundamentals: Disability Etiquette Basics
    3. Accessibility Testing: Basic Methods and Tools

Courses (as posted in BuckeyeLearn)

Accessibility Fundamentals: Disabilities, Guidelines, and Laws

Digital information and services have the potential to bring an unprecedented level of independence to people with disabilities, but only if our systems and content are built with accessibility in mind.

Accessibility does not happen by accident. It must be purposefully planned, built, and tested. Inaccessible services deprive users with disabilities of experiences and opportunities that other people take for granted. This module explores the needs of people with disabilities and provides important background information about accessibility guidelines, laws, and rationale.

- **Audience:** Everyone
- **Duration:** 90 minutes
- **Required Prerequisites:** None

Accessibility Fundamentals: Designing an Accessible User Experience

This module explores the challenges and opportunities in creating a compelling, enjoyable, and useful user experience for people with disabilities.

- **Audience:** Everyone
- **Duration**: 135 minutes
- **Required Prerequisites**: None

Web Accessibility: Semantic Structure and Navigation

Semantic structure is the bedrock of accessible markup. Screen readers rely on the meaning of HTML elements and attributes to convey information to blind users. It is through the semantic markup that browsers are able to parse accessibility cues and information through the accessibility API and pass that information on to users, through assistive technologies, such as screen readers.

- **Audience:** Web developers, QA testers
- **Duration:** 105 minutes
- **Required Prerequisites:**
    - Accessibility Fundamentals: Designing an Accessible User Experience

Web Accessibility: Images, SVG, and Canvas

People who are blind do not access images directly. They listen to their screen readers read the alternative text that the developer or content creator provided for the image. In the case of users who are deafblind, the text is converted to refreshable braille characters that they feel with their fingers.

The techniques for supplying alternative text vary, depending on whether the image is presented in the image element, via SVG markup, via the canvas element, or via some other method. But the concept is the same: the alternative text must be meaningful and must serve as an effective substitute for the image in a way that makes sense to users who are blind.

- **Audience:** Web developers, QA testers
- **Duration:** 90 minutes
- **Required Prerequisites:**
    - Accessibility Fundamentals: Designing an Accessible User Experience
    - Web Accessibility: Semantic Structure and Navigation

Web Accessibility: Visual Design and Colors

This module focuses on visual accessibility techniques for people who can see, but perhaps not with perfect acuity or color perception. There are people who need to magnify the screen, or who need high contrast colors, or who have a form of color-blindness. There are also people with reading disabilities or certain kinds of cognitive disabilities who may have good vision, but whose brains may process the visual signals in ways that make things difficult to distinguish or understand unless the elements on the screen are laid out clearly. This module is all about the visual side of accessibility.

- **Audience:** Web developers, Web designers, QA testers
- **Duration:** 75 minutes
- **Required Prerequisites:**
    - Accessibility Fundamentals: Designing an Accessible User Experience

Web Accessibility: Responsive Design and Zoom

One of the best things designers and developers can do to design for people with low vision is create responsive designs that adapt to small screens and that allow users to zoom in. Users with low vision frequently need to magnify the content and may use a combination of browser zoom plus a separate screen magnifier. This course explores some of the accessibility nuances of responsive designs and zoom features.

- **Audience:** Web developers, Web designers, QA testers
- **Duration:** 30 minutes
- **Required Prerequisites:**
    - Accessibility Fundamentals: Designing an Accessible User Experience
    - Web Accessibility: Visual Design and Colors

Web Accessibility: Multimedia, Animations, and Motion

There are four main methods of making video and audio accessible to audiences with sensory disabilities (deaf or hard of hearing, blind or low vision, and deafblind): captions, transcripts, audio descriptions, and sign language interpretation. This module covers these topics in detail.

- **Audience:** Web developers, Web designers, QA testers
- **Duration:** 105 minutes
- **Required Prerequisites:**
    - Accessibility Fundamentals: Designing an Accessible User Experience
    - Web Accessibility: Visual Design and Colors

Web Accessibility: Device-Independent User Input Methods

Users must be able to interact with web content with a mouse, a keyboard, a touch device, and by voice input. If any one of these methods is unavailable, at least one group of users with disabilities will be unable to use your web content. This module discusses the rules and techniques for ensuring that users will be able to use your content, scripted events, custom widgets, and so on, no matter what kind of input device they are using.

- **Audience:** Web developers, QA testers
- **Duration:** 45 minutes
- **Required Prerequisites:**
    - Accessibility Fundamentals: Designing an Accessible User Experience

Web Accessibility: Form Labels, Instructions, and Validation

In order for users to know how to fill out a form, the form must be accessible. For the most part this is easy to do. Key concepts include: Labels for form inputs, instructions and hints, error prevention, and form validation. This module provides instruction and examples about each of these concepts.

- **Audience:** Web developers, QA testers
- **Duration:** 90 minutes
- **Required Prerequisites:**
    - Accessibility Fundamentals: Designing an Accessible User Experience
    - Web Accessibility: Semantic Structure and Navigation

Web Accessibility: Dynamic Updates, AJAX, and Single-Page Apps

This module examines several use cases of dynamic content, including timed events, AJAX methods, and single-page applications, among others.

- **Audience:** Web developers, QA testers
- **Duration:** 45 minutes
- **Required Prerequisites:**
    - Accessibility Fundamentals: Designing an Accessible User Experience
    - Web Accessibility: Semantic Structure and Navigation

Web Accessibility: Custom JavaScript/ARIA Widgets

This module covers a wide range of topics related to creating custom widgets with ARIA (accessible rich internet applications) methods. In order to create a custom widget successfully, you have to know techniques related to ARIA itself (such as name, role, value, description, and live regions), and keyboard accessibility (all the basic concepts, plus an understanding of the ARIA keyboard model).

The section entitled "ARIA Widget Examples" shows live examples of these principles in action. The accessibility features of the widgets are explained in detail. You may copy and use the code in your own web development, or just learn from the accessibility patterns in the widgets.

- **Audience:** Web developers, QA testers
- **Duration:** 180 minutes
- **Required Prerequisites:**
    - Accessibility Fundamentals: Designing an Accessible User Experience
    - Web Accessibility: Semantic Structure and Navigation
    - Web Accessibility: Dynamic Updates, AJAX, and Single-Page Apps

Accessibility Testing: Basic Methods and Tools

This module presents the elements needed to establish an accessibility testing program within an organization, the steps involved in the accessibility evaluation process, and the types of web accessibility testing techniques and methodologies. This module also presents a sample methodology that can be used to maximize efficiency in testing for accessibility.

- **Audience:** Web developers, QA testers
- **Duration:** 120 minutes
- **Required Prerequisites:** None
- **Recommended Prerequisites:**
    - Accessibility Fundamentals: Disabilities, Guidelines, and Laws
    - Accessibility Fundamentals: Designing an Accessible User Experience
    - Web Accessibility: Semantic Structure and Navigation
    - Web Accessibility: Images, SVG, and Canvas
    - Web Accessibility: Visual Design and Colors
    - Web Accessibility: Responsive Design and Zoom
    - Web Accessibility: Multimedia, Animations, and Motion
    - Web Accessibility: Device-Independent User Input Methods
    - Web Accessibility: Form Labels, Instructions, and Validation
    - Web Accessibility: Dynamic Updates, AJAX, and Single-Page Apps
    - Web Accessibility: Custom JavaScript/ARIA Widgets

Accessibility Testing: Screen Readers

Testing with screen readers is the only way to know if you've actually achieved screen reader compatibility, especially when it comes to dynamic content and custom widgets. Automated tools and checklists are important, but they have inherent limitations.

Learning a screen reader can seem intimidating at first, but by learning a few keystrokes and understanding how people use screen readers, you'll be able to test web content accessibility accurately and completely.

- **Audience:** Web developers, QA testers
- **Duration:** 90 minutes
- **Required Prerequisites:**
    - Accessibility Testing: Basic Methods and Tools

- **Recommended Prerequisites:**
    - Accessibility Fundamentals: Disabilities, Guidelines, and Laws
    - Accessibility Fundamentals: Designing an Accessible User Experience
    - Web Accessibility: Semantic Structure and Navigation
    - Web Accessibility: Images, SVG, and Canvas
    - Web Accessibility: Visual Design and Colors
    - Web Accessibility: Responsive Design and Zoom
    - Web Accessibility: Multimedia, Animations, and Motion
    - Web Accessibility: Device-Independent User Input Methods
    - Web Accessibility: Form Labels, Instructions, and Validation
    - Web Accessibility: Dynamic Updates, AJAX, and Single-Page Apps
    - Web Accessibility: Custom JavaScript/ARIA Widgets

Accessibility Testing: WCAG Conformance Testing, Detailed Methodology

Accessibility testing is a lot like being a detective and reaching agreement on interpretation of WCAG among experts can be a challenge. This module explores a methodology based on WCAG normative that increases the accuracy and consistency of testing results while simultaneously acknowledging that the craft is analytical and defies simple decision trees.

- **Audience:** Web Accessibility QA Testers
- **Duration:** 6 hours
- **Required Prerequisites:**
    - Accessibility Fundamentals: Disabilities, Guidelines, and Laws
    - Accessibility Fundamentals: Designing an Accessible User Experience
    - Web Accessibility: Semantic Structure and Navigation
    - Web Accessibility: Images, SVG, and Canvas
    - Web Accessibility: Visual Design and Colors
    - Web Accessibility: Responsive Design and Zoom
    - Web Accessibility: Multimedia, Animations, and Motion
    - Web Accessibility: Device-Independent User Input Methods
    - Web Accessibility: Form Labels, Instructions, and Validation
    - Web Accessibility: Dynamic Updates, AJAX, and Single-Page Apps
    - Web Accessibility: Custom JavaScript/ARIA Widgets
    - Accessibility Testing: Basic Methods and Tools
    - Accessibility Testing: Screen Readers

Basic Web and Document Accessibility for Content Contributors

This course provides an overview of accessibility considerations for people who contribute content and documents to web sites, but who do not actually design the web sites themselves.

- **Audience:** Content writers, document designers
- **Duration:** 90 minutes
- **Required Prerequisites:** None

Document Accessibility: MS Word

This course provides an overview of how to make a Microsoft Word document accessible to users with disabilities.

- **Audience:** Content writers, document designers
- **Duration:** 75 minutes
- **Required Prerequisites:** None

Document Accessibility: MS PowerPoint

This course provides an overview of techniques to make a Microsoft PowerPoint document accessible to user with various disabilities.

- **Audience:** Content writers, document designers
- **Duration:** 30 minutes
- **Required Prerequisites:**
    - Document Accessibility: MS Word

Document Accessibility: MS Excel

Microsoft Excel is the most popular spreadsheet software in use today. It is an excellent tool for storing and analyzing data, creating graphs and charts, performing mathematical computations, identifying patterns, and much more. This course focuses on making accessible workbooks with Microsoft Excel.

- **Audience:** Faculty, Office staff
- **Duration:** 135 minutes
- **Required Prerequisites:** None

Document Accessibility: PDF

PDF stands for Portable Document Format. This file format was created by Adobe in the 1990s to offer a way to preserve visual formatting from various authoring programs and allow people to share files anywhere on any machine.

PDF offers many accessibility features, but they must be deliberately incorporated — they don't happen by accident. Although the process can be time-consuming, you'll see that it's nothing more than adopting an accessible design approach and following an explicit checklist of items.

- **Audience:** Content writers, document designers
- **Duration:** 45 minutes
- **Required Prerequisites:** None

Document Accessibility: Advanced PDF - Complex Tables and Forms

Complex Tables and Forms are advanced topics in PDF Accessibility. Before beginning this course, ensure that you have read the course Basic PDF Accessibility, as the concepts here build on those topics.

As in all PDF remediation, you'll need Adobe Acrobat. In this course, we'll focus on documents that first start in Microsoft Word and end up in Acrobat for touch-up.

- **Audience:** Content writers, document designers
- **Duration:** 45 minutes
- **Required Prerequisites:**
    - Document Accessibility: MS Word
    - Document Accessibility: PDF

Document Accessibility: InDesign

Adobe InDesign is desktop publishing software that facilitates creation of print and digital media documents such as books, magazines, brochures, posters, flyers, newspapers, and slideshow presentations. Some of the digital formats that it can produce are PDF, EPUB, and HTML.

- **Audience:** Content writers, document designers
- **Duration:** 30 minutes
- **Required Prerequisites:** None

Document Accessibility: EPUB

This course provides an overview on how to make EPUB and eBook documents accessible to users with various disabilities.

- **Audience:** Content writers, document designers
- **Duration:** 45 minutes
- **Required Prerequisites:**
    - Document Accessibility: MS Word

App Accessibility: Android Native Mobile App

This course will teach you how to identify accessibility problems in native Android apps and how to code them with accessibility in mind. You'll learn how to use the Android Accessibility API to add all the necessary accessibility properties and screen reader support to your apps. Additionally, you will explore integrating accessibility requirements into the earliest phases of design, development, and all stages of testing.

- **Audience:** Native Android developers
- **Duration:** 105 minutes
- **Required Prerequisites:** None

App Accessibility: iOS Native Mobile App

The iOS platform features a wide range of accessibility features for a wide range of disability types. It was the first mobile operating system for smart phones and tablets to offer a robust touchscreen

interface and screen reader for users who are blind. The accessibility API is sophisticated, approaching the accessibility support in desktop operating systems or in web content.

Even within the simplified nature of the iOS accessibility model, it is possible to create highly accessible native iOS applications by following the same general principles common to all digital accessibility. This course will teach you how to identify accessibility problems in native iOS apps and how to code them with accessibility in mind.

- **Audience:** Native iOS developers
- **Duration:** 115 minutes
- **Required Prerequisites:** None

Accessibility Fundamentals: Disability Etiquette Basics

Disability Etiquette Basics are guidelines for respectful etiquette towards people with disabilities. If you haven't spent much time interacting with people with disabilities, you may feel uncertain or even intimidated by new situations. You may not know the right way to approach someone with a specific type of disability, how to communicate effectively, or how to anticipate and meet people's needs.

This course will help you to recognize respectful behaviors for interacting with people with disabilities.

- **Audience:** Everyone
- **Duration:** 30 minutes
- **Required Prerequisites:** None