

## ISTA 230: Final Exam Review

Listed below are topics that have been covered in ISTA 230 over the course of the semester. You will be expected to be able to answer questions on any of the topics below. This list is not intended to replace the lecture slides and/or any notes you may have taken during the course of the semester. Rather, you should use this list as a summary of topics that you should be comfortable with.

If you have any questions about the list below, please don't hesitate to contact me at [jmspargu@email.arizona.edu](mailto:jmspargu@email.arizona.edu).

- History of the Web
  - DARPA
  - Doug Engelbart – The Mother of all Demos
  - ARPANet / X.25 / JANET / CYCLADES
  - TCP / IP
  - Gopher
  - Tim Berners-Lee
    - WWW
    - HTML
  - Mosaic
    - Supported inline images
    - Available on multiple platforms
  - History of HTML
    - HTML
    - HTML+
    - HTML 2.0
    - Development of World Wide Web Consortium (W3C)
    - HTML 3.2
    - Web Standards Project
    - HTML 4.01
    - XHTML 1.0
    - Difference between HTML 4.01 and XHTML 1.0
    - Development of Web Hypertext Application Technology Working Group (WHATWG)
    - Difference between XHTML 1.0 and HTML 5
- Communication on the Web
  - IP Address
  - Uniform Resource Locator (URL)
    - Structure of a URL
    - Absolute vs. Relative URLs
  - HTTP Response Codes
- Images
  - Supported Image Types
  - Comparison of different types
  - Proper Use of Images
    - Images for content vs. images for design
    - Image Replacement Techniques
    - Sprites

- HTML
  - Purpose of HTML
  - Doctype – What is it and what does it do for me?
  - HTML Tag – Structure of standard and self-closing tags
  - Block Elements vs. Inline Elements
  - Standard XHTML 1.0 Tags (see Appendix A)
  - HTML Lists
    - Different types and their applications
    - Nesting lists
    - Best practices for applying CSS to lists
  - HTML Tables
    - Structure and Appropriate Use
    - Row and Column Management
    - Best practices for applying CSS to tables
  - HTML Forms
    - Form Structure
    - Methods for form submission and their use
    - Types of form fields and their use
    - Best Practices for form layout
    - Best practices for applying CSS to forms
  - Embedded Media
    - Best Practices
  - HTML 5
    - Changes in structure / rules
    - Semantic Elements
    - HTML 5 Forms
      - New Input Types
      - New Form Attributes
      - New Input Attributes
    - HTML 5 Video/Audio
- CSS
  - Purpose of CSS
  - CSS – How to include it on your page (hint: there are three ways)
  - CSS – Basic Syntax
  - CSS 2 and CSS 3 Properties (see Appendix B)
  - CSS 2 and CSS 3 Selectors (see Appendix C)
    - Combining selectors
    - Rules of Specificity
  - CSS Units
  - CSS 2 and CSS 3 Color Values
    - Color Keywords
    - RGB Values
    - Hexidecimal Values
    - RGBa Values
  - Color Theory
    - Terminology
    - General Color Associations
    - Color Schemes
      - Monochromatic Scheme

- Analogous Scheme
  - Complement Scheme
  - Split Complement Scheme
  - Triad Scheme
- Box Model
  - Box Model – Basic Structure
  - Dimension Calculations
  - Collapsing Margins
  - 'auto' Keyword for width/height
- Print CSS
  - Application
  - Best Practices
- CSS 3 Animations
  - Basic Syntax
  - Best Practices
- Design Concepts
  - Balance
  - Proximity
  - Similarity
  - Focus and Emphasis
  - Common Design Elements
  - Fluid vs. Fixed Layouts
- Accessibility
  - Goals of website accessibility
  - Web Content Accessibility Guidelines
    - Perceivable
    - Operable
    - Understandable
    - Robust
  - ARIA Roles
- Search Engine Optimization
  - On-Site Optimization
    - Keyword Placement
    - Quality Content
    - Page Construction
  - Off-Site Optimization
    - Authority and Relevancy
    - Getting Linked To
- Typography
  - Goals of typography
  - Limitations of web typography
  - Proper use of fonts
  - CSS 2 and CSS 3 properties related to typography
- Positioning Elements Using CSS
  - Floating Elements

- Relative Positioning
- Absolute Positioning
- Fixed Positioning
- Flexbox Layouts
- Multicolumn Layouts
  
- Generated Content Using CSS
  - Associated CSS Pseudo-Selectors
  - Pros and cons of CSS-generated content
  
- Cross-Browser Compatibility
  - Internet Explorer Conditional Statements
  - Browser Prefixes for CSS 3
  
- Mobile-Accessible Web Design
  - Approaches
  - CSS Media Queries
    - Common Device Breakpoints
  - Responsive Design
    - Flexible images
    - Common Design Patterns
  - Viewports and virtual pixel resolution
  
- CSS Frameworks
  - Pros/Cons of Using a Framework
  - CSS Reset Files
  - Bootstrap
    - Typography
    - Images
    - Tables
    - Forms
    - Accessibility
    - Navigation
    - Grid-Based Layouts
  - CSS Grid Frameworks
  
- CSS Preprocessors
  - Pros/Cons of Using a CSS Preprocessor
  - Basic Sass Syntax
    - Sass Variables
    - Sass Functions
    - Sass Nesting
    - Sass Mixins
    - Sass Extend
  
- JavaScript
  - Purpose of JavaScript
  - jQuery Event Handlers

## Appendix A: XHTML 1.0 and HTML 5

### Tags You Should Know

- <a>
- <article>
- <aside>
- <audio>
- <blockquote>
- <body>
- <br>
- <button>
- <datalist>
- <dfn>
- <div>
- <dl>
- <em>
- <footer>
- <form>
- <fieldset>
- <figcaption>
- <figure>
- <h1>, <h2>, <h3>, <h4>, <h5>, <h6>
- <head>
- <header>
- <hr>
- <html>
- <img>
- <input>
- <label>
- <legend>
- <li>
- <main>
- <meta>
- <meter>
- <nav>
- <object>
- <ol>
- <option>
- <p>
- <pre>
- <progress>
- <q>
- <script>
- <section>
- <select>
- <strong>
- <sub>
- <sup>
- <table>
- <textarea>
- <time>
- <title>
- <ul>
- <video>

## Appendix B: CSS 2 and CSS 3 Properties and Keywords You Should Know

- align-items
- align-self
- animation
- animation-delay
- animation-direction
- animation-duration
- animation-fill-mode
- animation-iteration-count
- animation-name
- animation-play-state
- animation-timing-function
- background
- background-attachment
- background-color
- background-image
- background-origin
- background-position
- background-repeat
- background-size
- border
- border-collapse
- border-color
- border-radius
- border-spacing
- border-style
- border-width
- borders
- box-shadow
- calc
- clear
- color
- columns
- column-gap
- column-rule
- column-span
- content
- cursor
- display
- filter
- flex-direction
- flex-grow
- flex-wrap
- float
- font-family
- font-size
- font-style
- font-variant
- font-weight
- height
- hyphens
- justify-content
- left
- letter-spacing
- line-height
- linear-gradient
- list-style-image
- list-style-type
- margin
- opacity
- order
- overflow
- padding
- page-break-after
- page-break-before
- position
- radial-gradient
- repeating-linear-gradient
- rotate
- scale
- shape-image-threshold
- shape-margin
- shape-outside
- skew
- text-align
- text-decoration
- text-indent
- text-shadow
- text-transform
- top
- transform
- transform-origin
- transition
- translate
- vertical-align
- visibility
- white-space
- width
- word-wrap
- word-spacing
- z-index

\* For CSS3 properties, you will not be expected to know which browsers support which properties, though you should have a rough idea of which browsers best support CSS 3 in general.

## **Appendix C: CSS 2 and CSS 3 Selectors, Pseudo-Selectors, and @- Rules You Should Know**

- #id
- .class
- E F (Descendant selector)
- E + F (Sibling selector)
- E > F (Child selector)
- E ~ F (General sibling selector)
- E (Element selector)
- E:active
- E:after
- E:before
- E:checked
- E:empty
- E:first-child
- E:first-letter
- E:first-line
- E:first-of-type
- E:focus
- E:hover
- E:last-child
- E:last-of-type
- E:link
- E:nth-child(n)
- E:nth-last-child(n)
- E:nth-last-of-type(n)
- E:nth-of-type(n)
- E:not
- E:only-child
- E:only-of-type
- E:target
- E:visited
- E[attr\$="val"]
- E[attr\*="val"]
- E[attr="val"]
- E[attr]
- E[attr^="val"]
- E[attr|= "val"]
- E[attr~="val"]
- @import
- @media
- @font-face
- @keyframes