

ITMD 543 SYLLABUS

ITMD 543 Front-End Development

Hours: 3 credit hours / 45 contact hours

Instructor: Karl Stolley

Textbook, title, author, and year:

- a. *Practical SVG*, Coyier, C. 2016
- b. *Going Responsive*, McGrane, K. 2015
- c. *On Web Typography*, Santa Maria, J., 2014
- d. *Cross-Cultural Design*, Akpem, S., 2020.

Specific course information:

- a. Catalog description: This course emphasizes front-end, browser-based components of web application development. It includes a robust survey of Web APIs in addition to advanced coverage of visual design executed in leading-edge CSS.
- b. **Prerequisites:** ITMD 442 or ITMD 542.

Specific goals for the course

- a. **Course Outcomes:**
Students completing this course will learn to:
 - Design a responsive web application utilizing a web framework and presentation technologies in support of a diverse online community.
 - Apply principles of UXD to enhance the user experience of a web site or mobile application.
 - Apply leading-edge web standards specifications in a backward-compatible way
 - Extract front-end components into a reusable system or framework
 - Track and perhaps contribute to the development of open web standards
- c. **Course student outcomes:**
At the conclusion of this course, successful students will be able to:
 - Compare characteristics such as color depth, compression, codec, and server requirements for media file formats.
 - Propose a graphic file type for a given set of image characteristics.
 - Engage in robust test coverage for all facets of front-end development.
 - Explore problems and develop actionable answers to provide technology solutions for the problems of business, industry, government, non-profit organizations, and individuals.

Topics to be covered:

- a. ARIA Roles and ARIA in HTML
- b. Function-Syntax CSS
- c. Intrinsic Design
- d. Visual Regression Testing
- e. End-to-End Testing
- f. Variable Fonts
- g. SVG for Illustration
- h. SVG for User-Interface Components
- i. Cross-Cultural Design
- j. Internationalization (i18n)
- k. Service Workers
- l. Web Notifications
- m. Progressive Web Apps
- n. Front-End Preprocessors
- o. Auditing Front-End Assets