

## ITMD 361 SYLLABUS

### ITMD 361 Fundamentals of Web Development

Hours: 3 credit hours / 45 contact hours

Instructor: Karl Stolley

#### Textbook, title, author, and year:

- Eloquent JavaScript, 2nd ed.* Haverbeke, M., 2014
- HTML5 for Web Designers 2nd ed.* Keith, J. & Andrew, R., 2016
- Responsive Web Design, 2nd ed.* Marcotte, E., 2014
- On Web Typography.* Santa Maria, J., 2014
- Pragmatic Version Control Using Git.* Swicegood, T., 2009

#### Specific course information:

- Catalog description: This course covers the creation and deployment of modern, standards-compliant web pages written in HTML, CSS, and JavaScript in the context of the client-server architecture of the web. Students create and deploy a website with multiple, structured pages cross-linked by a site navigation structure.
- Prerequisites:** None.
- Required.**

#### Specific goals for the course

##### a. Course Outcomes:

Students completing this course will learn to:

- Recognize HTML, CSS, and JavaScript markup and code in a web page/application
- Select the proper mark-up tags or code to achieve a particular result
- Identify improperly used markup and code
- Produce modern standards compliant web pages
- Deploy web pages to a public server
- Thoughtfully evaluate and adopt only the most standards-compliant documentation, libraries, and development techniques
- Write valid, well-formed semantic HTML; error-free, backward- and forward-compatible CSS; and error-free, progressively enhanced JavaScript over HTML pages that continue to function in the absence of JavaScript
- Effectively comment on and format source code for maximum readability
- Track development of a project over time and collaborate with others using version control.

##### c. Course student outcomes:

At the conclusion of this course, successful students will be able to:

- Recognize HTML, CSS, and JavaScript markup and code in a web page/application
- Select the proper mark-up tags or code to achieve a particular result
- Identify improperly used markup and code
- Produce modern standards compliant web pages

- Deploy web pages to a public server
- Thoughtfully evaluate and adopt only the most standards-compliant documentation, libraries, and development techniques
- Write valid, well-formed semantic HTML; error-free, backward- and forward-compatible CSS; and error-free, progressively enhanced JavaScript over HTML pages that continue to function in the absence of JavaScript
- Effectively comment on and format source code for maximum readability
- Track development of a project over time and collaborate with others using version control
- Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions **(ABET Computing Criterion 3.1)**
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline **(ABET Computing Criterion 3.2)**
- Communicate effectively in a variety of professional contexts **(ABET Computing Criteria 3.3)**

#### Topics to be covered:

- GIT; HTML history, syntax & fundamentals
- Well formed, valid semantic HTML; global attributes
- Responsive web design overview + HTML foundations
- Course refresher; work day
- CSS syntax & fundamentals; units of measure
- CSS: typography
- CSS: page layout (fluid grids), feature detection
- Responsive images, accessible media
- Responsive images; Javascript: syntax, fundamentals, data structures
- JavaScript: syntax and fundamentals; functional programming style
- DOM Scripting: Javascript + the Document Object Model; JQuery and alternatives
- Unobtrusive JavaScript & progressive enhancement
- JavaScript: non-blocking asynchronous patterns, page performance
- HTTP 1.1, HTTP/2, and REST architecture; server-side web development
- Parting material: Preprocessors