

## COURSE SYLLABUS



### WEBSITE DESIGN

IFSA-Butler Reimagining Europe Semester Program in Prague

**Suggested US semester credit hours:** 4 credits

**Contact Hours:** 60

**Course Level:** 200

**IFSA-Butler course code:** CME280-11

**Course length:** Semester

**Delivery method:** Face to face

**Language of Instruction:** English

#### COURSE DESCRIPTION

This course will enable students to understand the concepts of website design and apply their own creativity in designing and developing interactive websites. Students will begin this course by evaluating existing websites, in the context of cross-platforms, range of browsers, and design features. Designing websites, which are accessible to all types of users is a fundamental aspect of any website design. This course also considers the whole process from identification of need, design, implementation, testing, maintenance and review. As with any field of information technology, a comprehensive understanding of the relevant legislation and guidelines is always fundamental.

The objective of this course is to master the core technologies of the client side web development. This includes: semantic markup in HTML5; styling in CSS3; visual effects in JavaScript using JQuery library; building responsive layouts using the FLEX system, working with images, SVGs graphics, animations and Google maps API.

On successful completion of this course students will have developed sufficient knowledge and skills to build websites based on the particular needs and accessible to all types of users. Students will be able to decide when and where specific techniques are most appropriate based on client and user needs.

#### STUDENT LEARNING OBJECTIVES

Students who successfully complete this course will:

- Understand website design concepts
- Be able to design interactive websites
- Be able to implement interactive websites
- Be able to test interactive websites

- Strengthen critical thinking skills
- Become aware of resources available for further research on website design.
- Make cognitive connections between learning in this course and other learning experiences in the IFSA-Butler Reimagining Europe Semester Program in Prague

### COURSE DELIVERY

Students are expected to read or view resources in advance and be prepared to actively discuss them in class. In each meeting, the instructor will overview the topic and then facilitate a group discussion, drawing out relevant themes, following up on specific lines of inquiry, and prompting students' thoughtful engagement with the topic. Students are encouraged to bring their prior learning experiences into class discussions and to make cognitive connections between this course and others in the IFSA-Butler Reimagining Europe Semester Program in Prague whenever possible. Theories of experiential learning and integrative learning therefore undergird the dynamic learning environment of this course.

This course utilizes an interactive approach to teaching that focuses on the individual student's needs. This approach to teaching and learning aims to foster a challenging but caring environment that allows students to explore, create, and test themselves and their ideas in a safe place.

### COURSE SCHEDULE

15 weeks	Content Delivery
1-2	<p><b>Understand basic principles of web design, user experience and user interface design</b>            A simple design is an effective design. Complexity is just not something that a visitor wants to see on your web page, and one of the most important aspects of a simple design is the use space, color, layout and typography, combined with well designed page structure and content.</p> <ul style="list-style-type: none"> <li>• Understand the importance of clean and simple page structure</li> <li>• Understand web typography</li> <li>• Have a solid understanding of good vs bad design practices</li> <li>• UX and UI Design vs. Web Design: What's the Difference and Why Should You Care?</li> <li>• Web Design Trends 2016</li> </ul> <p>Individual Presentation</p>
3-5	<p><b>Be able to apply appropriate semantic markup in HTML5</b>            HTML is where the magic of web page design begins. It isn't presentational — that's what CSS is for — HyperText Markup Language is a simple, elegant way to structure content.</p> <ul style="list-style-type: none"> <li>• HTML5 syntax and semantics</li> <li>• Be able to create required HTML page structure</li> <li>• Tag nesting!</li> <li>• Understand block vs inline tags</li> <li>• Have a good knowledge of the core set of HTML tags</li> </ul>

	<ul style="list-style-type: none"> <li>• Understand document semantics</li> </ul>
6-7	<p><b>Be able to use CSS3 to apply visual styling</b></p> <p>CSS stands for Cascading Style Sheets. CSS is used to apply typography, colour and layout to a HTML document. CSS3 is the latest evolution of the Cascading Style Sheets language and aims at extending CSS2.1. It brings a lot of long-awaited novelties, like rounded corners, shadows, gradients, transitions or animations, as well as new layouts like multi-columns, flexible box or grid layouts.</p> <ul style="list-style-type: none"> <li>• CSS Tutorial</li> <li>• CSS3 Introduction</li> <li>• HTML Dog CSS Tutorials</li> <li>• CSS Selector Reference</li> <li>• Where does CSS go?</li> <li>• CSS Syntax: braces, colons, semicolons, quotation marks, courses</li> <li>• CSS Fonts Stack</li> <li>• Colours: hex, rgb, rgba</li> <li>• The box model</li> </ul>
8	<p><b>Use CSS3 and the FLEX system to construct responsive layouts</b></p> <p>Flex Box system is a CSS3 component for building flexible, responsive layouts. Unlike the older use of float:left and float:right, flexbox can be easily configured to meet any layout requirement.</p> <ul style="list-style-type: none"> <li>• A complete guide to flexbox</li> <li>• CSS3 Flexbox</li> <li>• Using CSS3 Flexible Boxes</li> <li>• Visual Guide for CSS3 Flexbox</li> <li>• CodePen Flexbox Playground</li> <li>• Visual Flexbox Builder</li> <li>• Flexy Boxes</li> <li>• What is a flex container and flex item</li> <li>• How to arrange flex items in a row</li> <li>• How to arrange flex items in a column</li> <li>• How to size flex items</li> <li>• How to distribute free space between flex items</li> </ul>
9	<p><b>Use CSS3 to apply advanced visual effects</b></p> <p>CSS3 includes advanced features like 2D and 3D element property transition and keyframe animation.</p> <ul style="list-style-type: none"> <li>• CSS hover selector</li> <li>• CSS3 Transition</li> <li>• CSS3 Transform Property</li> <li>• CSS3 Animations</li> <li>• CSS3 Hover Effects Collection</li> <li>• CSS3 Animation Tutorial</li> <li>• CSS pseudo-class selectors</li> <li>• Transitions</li> <li>• Transforms</li> <li>• CSS Animation</li> </ul>

	Creation of a Website Project
10	<p><b>Use jQuery to apply special effects like smooth scroll, waypoints and custom animations</b></p> <p>jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.</p> <ul style="list-style-type: none"> <li>• jQuery</li> <li>• JavaScript Tutorial</li> <li>• jQuery Tutorial</li> <li>• jQuery Learning Center</li> <li>• Waypoints</li> <li>• Smooth Scroll</li> <li>• How to link jQuery into HTML document</li> <li>• What is \$(document).ready();</li> <li>• How to detect a click on an object.</li> <li>• How to install and use a jQuery plugin like SmoothScroll</li> </ul>
11	<p><b>Use Google maps JavaScript API to create a custom map</b></p> <p>Google Maps JavaScript API let's you embed maps inside your web page. You can add icons, information bubbles, custom layers, paths and interact with the the map using JavaScript.</p> <ul style="list-style-type: none"> <li>• Google Maps JavaScript API</li> <li>• Getting Started with Google Maps</li> <li>• Google Maps Tutorial</li> <li>• How to import Google maps JavaScript API into your HTML document</li> <li>• How to place a custom map (coordinates, zoom) into a DIV</li> <li>• How to place an icon on a map</li> <li>• How to create a custom information box</li> </ul>
12	<p><b>Optimise bitmap images for use on the web</b></p> <p>Images often account for most of the downloaded bytes on a web page and also often occupy a significant amount of visual space. As a result, optimizing images can often yield some of the largest byte savings and performance improvements for your website: the fewer bytes the browser has to download, the less competition there is for the client's bandwidth and the faster the browser can download and render useful content on the screen.</p> <ul style="list-style-type: none"> <li>• Image Optimisation</li> <li>• 10 Must Know Image Optimization Tips</li> <li>• Optimising Images in Photoshop</li> <li>• What is jpg, gif, png8 and png24</li> <li>• How to crop images</li> <li>• How to choose the correct export format</li> <li>• How to save images for web</li> </ul>
13	<b>Be able to select and use Google web fonts</b>

	<p>Standard web safe font stack allows only the use of fonts already installed on end users machine. Google web fonts provides around 800 additional web font families.</p> <ul style="list-style-type: none"> <li>• Google Web Fonts</li> <li>• Getting started with Google Web Fonts API</li> <li>• How to select Google font family</li> <li>• How to choose specific Google font typefaces (bold, italic, light ...)</li> <li>• How to import Google font using browser tag</li> <li>• How to import Google font using an CSS @import</li> <li>• Adding and removing font families by editing the import url</li> </ul>
14	<p><b>Use SVG icons and graphics</b></p> <p>Scalable Vector Graphics (SVG) is an XML-based vector image format for two-dimensional graphics with support for interactivity and animation. SVG graphics can be embedded in an HTML document and controlled using CSS and JavaScript</p> <ul style="list-style-type: none"> <li>• SVG Tutorial</li> <li>• The Ultimate Guide to SVG</li> <li>• Everything You Need To Know About SVG</li> <li>• Tips for Creating and Exporting Better SVGs for the Web</li> <li>• Styling SVG Content</li> <li>• Styling And Animating SVGs With CSS</li> <li>• IcoMoon - Free SVG Icons</li> <li>• What is an SVG and how is it different from other image formats</li> <li>• How to place an SVG graphic into your page using an img tag</li> <li>• How to get SVG icons from icomoon.io</li> <li>• How to change a colour and size of an SVG icon using CSS on hover</li> </ul>
15	<p><b>Test and review interactive websites</b></p> <p>Provide functionality testing, review content and check user requirements and acceptance. Audit trail of changes. Plan and perform browser compatibility, platform and script- language testing. Plan and evaluate tests.</p> <ul style="list-style-type: none"> <li>• User environments, links and navigation</li> <li>• User requirements and acceptance</li> <li>• Testing functionality against requirements</li> <li>• Error detection and messages</li> <li>• Test plans and results</li> <li>• Programmer and user guidance</li> </ul> <p>Technical Report</p>

## EVALUATION METHODS

The course instructor will determine specific assignments (including paper topics), projects, and exams for the course. Your work on individual assignments and projects will be guided by grading rubrics provided by the course instructor. Your final grade in the course will be arrived at through assessment methods determined by the course instructor and according to the percentages attached to each assignment and exam by the course instructor. Participation will constitute a determined percentage of your grade. Participation includes attendance, preparation, engagement in discussion, civility, and respect.

Assignment Number	Type of Assignment	Description and Areas Assessed
1	Individual presentation	Web Design Concepts Material covered during week 1
2	Creation of a website	Conference Website Design and Implementation Material covered during weeks 2-9 based on a selected or given client
3	Technical Report	Website Testing and Documentation Material covered during the last weeks

### **Timely Submissions**

Assignments submitted after the deadline will be accepted at the discretion of the course instructor and generally only in the event of a documented illness or emergency.

### READING LIST

Mark Pilgrim: HTML5: Up and Running: Dive into the Future of Web Development, ISBN-13: 978-0596806026

Matthew MacDonald: HTML5: The Missing Manual, ISBN-13: 978-1449363260

Ben Frein: Responsive Web Design with HTML5 and CSS3, ISBN-13: 978-1784398934

### ACADEMIC INTEGRITY

Any academic endeavor must be based upon a foundation of honesty and integrity. Students are expected to abide by principles of academic integrity and must be willing to bear individual responsibility for their work while studying abroad. Any academic work (written or otherwise) submitted to fulfill an academic requirement must represent a student's original work. Any act of academic misconduct, such as cheating, fabrication, forgery, plagiarism, or facilitating academic dishonesty, will subject a student to disciplinary action.

IFSA-Butler takes academic integrity very seriously. Students must not accept outside assistance without permission from the instructor. Additionally, students must document all sources according to the instructions of the professor. Should your instructor suspect you of plagiarism, cheating, or other forms of academic dishonesty, you may receive a failing grade for the course and disciplinary action may result. The incident will be reported to the IFSA-Butler resident director as well as your home institution.