Course Description:

Building on the basic Web Technologies units in the CSI course, students will learn to create more dynamic and interactive websites. Advanced HTML and CSS, and basic JavaScript enhance the client-side webpages, and students will begin working with server-side scripting and web applications development. PHP and MySQL will allow students to create dynamic websites that store, access, and use data stored in the database tables.

INSTRUCTOR(S):

- Name(s): Namrata Pandya
- Office Number(s) (When and where you are available for help.): A157
- Telephone number(s): 630-907-5965
- Email address(es): npandya@imsa.edu

- Office Hours: 9:00 – 10:00am (math office)

Meeting Days, Time and Room(s)

A/C days: 12:30pm – 2:10pm Room A133

B/D days: 12:30pm – 2:10pm Room A133

Text(s) / Materials:

There is no required text for this course. A number of online resources, including tutorials on http://www.w3schools.com/ will be used.

Instructional Design and Approach:

There will be a hands-on approach in learning the web technologies in this course. Students are introduced to JavaScript in the first quarter after a brief review of HTML and CSS. Students are expected to know basic HTML and CSS from their CSI course. They will be introduced to the basic programming constructs of JavaScript and will be asked to embed JavaScript in their web pages. Students will also experiment with JQuery to enhance their pages. They will then be introduced to PHP, Hypertext Preprocessor, in the second quarter. PHP is widely used, general-purpose scripting language that was originally designed for web development to produce dynamic web sites. They will be asked to download a web server, which support the programs, to run on their computers.

Students will also be introduced to MySQL, a relational database management system (RDMS) that runs on a server providing multi-user access to a number of databases. Students learn the server side of technologies and get an overview of how the Internet is built on the client-server architecture.

Student Expectations:

Be involved in class discussions and explorations, both large and small group.

- attend all the classes and be on time.
- complete all daily assignments, labs, and projects in a timely manner.
- take responsibility to look up new features from online resources.
- take responsibility for learning certain basic skills and relationships.
- take responsibility for seeking additional help as it is needed.
- collaborate with each other and contribute to each other's learning
- follow the guidelines of Students Handbook about ethical behavior and plagiarism.

Materials Needed:

Because of the abundance of information about web technologies on the Internet, we will not use any one text book for this course. However, students will be required to go through tutorials for each topic at the given links. Students will also be asked to read material from online text book and /or handouts for certain topics, **http://www.w3schools.com/** and **http://htmldog.com/**

Course components:

- **Exercises*:*** Must be completed on a timely basis. Will be checked regularly during class time.
- **Projects:** Programming projects will be assigned throughout the semester.
- **Labs:** Labs are designed to be completed in class. As such the labs are due by the end of the class the day they are assigned. The labs are meant to help students exercise specific concepts covered in (or out of) the class.
- **Exams:** Pencil and paper tests/quizzes will be given in addition to programming.
- **Final exam/Project:** Designing and Developing a web site using multiple web technologies and/or a final paper and pencil assessment (could be a research paper about web technologies that we did not cover) .

Academic Honesty: All programs must be your own work. Copies of another's work will be considered plagiarism and treated accordingly. IMSA plagiarism policy is

strictly enforced.

Class Rules: **No food or drinks will be allowed in the classroom**. Inappropriate use of resources will result in expulsion from the course. No head phones allowed during the class time.

Late Work: Students are encouraged to turn in their assignments/projects in a timely manner. Late work is heavily penalized. Assignments should be turned in on moodle by the due date/time, usually in the beginning of the class.

Quarterly grades will be averaged using the following weighting:

Projects	30%
Quizzes/Tests	30%
Exercises	15%
Labs	20%
Participation/Organization	5%

Semester grades will be averaged using the following weighting:

Cumulative semester work	95%
Semester Final Project	5%

Sequence of Topics and Activities

Week	Topics Covered
1	About the course/go through syllabus. Review of HTML, CSS. What's a web application? Why are we using JavaScript? Introduction to tutorials
2	Review of HTML forms and form validation using JavaScript. What is client-side scripting? What is server-side scripting? Introduction to JavaScript and its constructs
3	Variables, constants, Conditional Statements, assignment statements, loops
4	Data types, Functions, Arrays, Random numbers, String methods
5	Introduction to JQuery, animation, scaling, menus, special effects
6	More JavaScript and JQuery in web pages, labs and in class exercises contd.
7	Introduction to PHP, server side of scripting language

	Handling form input with PHP. Introduction of OOP using PHP. User authentication.
8	Catch up with topics, projects, quizzes Students work in-class on projects
9	• PHP Basic Constructs o Variables and data types o Expressions and operators o Conditional statements
10	• PHP Basic Constructs contd. o Iteration statements o while loops, for loops o switch statements
11	• PHP Basic Constructs contd. o Functions o Arrays and Objects o PHP $_GET o PHP $_POST
12	PHP cookies PHP sessions
13	What's a database and what's an RDBMS? Introduction to SQL. Using MySQL. Relational Database concepts. Designing your web database.
14	Primary keys in database tables. SQL statements: SELECT and INSERT. SQL statements: UPDATE and DELETE. Introduction to PHPMyAdmin. Creating a database in PHPMyAdmin. Accessing a database through PHP.
15	Inserting data into the Database. Retrieving data from the Database. Using sub queries. Updating, adding and deleting records.
16	Accessing MYSQL database from the web with PHP. Web database architecture. Querying the database from the web. Putting new information in the database.