

**LAGUARDIA COMMUNITY COLLEGE  
CITY UNIVERSITY OF NEW YORK  
DEPARTMENT OF MATHEMATICS, ENGINEERING, AND COMPUTER SCIENCE**

**MAC172: WEB DEVELOPMENT I**

**3 credits (2 hours lecture, 2 hours lab)**

**Pre/corequisite: MAC101**

**COURSE DESCRIPTION**

This course introduces students to concepts and tools for creating front end web pages using HTML, CSS, JavaScript and JavaScript libraries. Students will be introduced to common industry approaches and practices; they will work in teams to create websites using version control tools. Students will visit websites such as online newspapers, academic journals and cultural exhibitions; which will allow them to explore perspectives, share insights and communicate ideas on a global scale.

**CORE COMPETENCIES:**

This course will be used to assess global learning competency and written communication ability.

**TEXTBOOK:**

1. Programming the World Wide Web – Robert W. Sebesta, 8<sup>th</sup> edition, Pearson, 2014, ISBN - 0133775984
2. HTML and CSS: Design and Build Websites – Jon Duckett, 1<sup>st</sup> edition, John Wiley & Sons, 2011, ISBN – 1118008189
3. JavaScript and jQuery: Interactive Front-End Web Development – Jon Duckett, 1<sup>st</sup> edition, John Wiley & Sons, 2014, ISBN - 1118531647

**INSTRUCTIONAL OBJECTIVES:**

1. Introduce students to fundamentals of web development.
2. Introduce students to HTML and its features.
3. Introduce students to cascading style sheets (CSS).
4. Introduce students to JavaScript, and familiarize them with its syntax, primitives, operations and expressions.
5. Familiarize students with basic control statements, object creation, arrays and functions.
6. Enable students to use JavaScript to access elements and handle web page events.
7. Enable students to create dynamic documents and web pages using JavaScript and its libraries.
8. Familiarize students with version control and content management systems.
9. Enable students to understand the use of websites in analyzing global trends.

**PERFORMANCE OBJECTIVES:**

1. Identify different layers and tools required for web development.
2. Illustrate use of various HTML tags to create static web pages.
3. Identify different styles for HTML tags and use CSS to design HTML pages.
4. Describe and explain Java Script syntax and write JavaScript code to perform basic operations on web page.

5. Write JavaScript code to demonstrate use of control statements, objects, arrays and functions in a web page.
6. Illustrate the use of JavaScript to access web page elements and handle events on the page.
7. Write programs using JavaScript and its libraries to create dynamic documents and web pages.
8. Describe and illustrate the use of version control and content management systems.
9. Write a report describing the use of websites in analyzing global trends.

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|------------------------|----------------------------|------|
| <b>GRADING POLICY:</b> | Laboratory work (10)       | 20%  |
|                        | Group Project              | 15%  |
|                        | Global Learning assignment | 5%   |
|                        | Midterm Exam               | 30%  |
|                        | Final Exam                 | 30%. |

**ACADEMIC INTEGRITY:**

This class will be conducted in compliance with LaGuardia Community College’s academic integrity policy.

**ATTENDANCE:**

The maximum number of unexcused absences allowed is 15% of the total class meetings (about 7 hours). Unexcused absences beyond this maximum will result in a grade of WU or F.

**COMMENTS:**

The grading standards listed above and the suggested homework problems listed in the course outline are both subject to modification by the instructor.

**WEEKLY TOPICS:**

Week 1: Introduction to fundamentals of web development, web browsers, web servers HTTP and basic HTML tags.

Lab 1: Setting up the environment and creating simple HTML pages

Week 2: HTML tags for text, links, lists, tables and images.

Lab 2: Using HTML tags.

Week 3: HTML forms, layouts and styles.

Lab 3: Using HTML forms, layouts and styles

Week 4: Cascading style sheets (CSS), levels, formats, selector forms and property value forms.

Midterm I

Week 5: Fonts, colors, alignments and their tags.

Lab 4: Using CSS sheets

Week 6: Introduction to JavaScript, syntax, primitives, operations and expressions.

Lab 5: Using basic JavaScript

Week 7: JavaScript control structures.

Lab 6: Using JavaScript control structures

Week 8: JavaScript arrays and functions.

Lab 7: Using JavaScript arrays and functions.

Week 9: Document object model, accessing elements.

Midterm II

Week 10: Event handling, reacting to mouse click, locating mouse cursor.

Lab 8: Creating web pages to access elements and handle events

Week 11: Introduction to JQuery.

Lab 9: Using JQuery.

Week 12: Introduction to version control, content management systems (CMS). Group project presentations.

Lab 10: Using version control and CMS

Week 13: Final Exam