IT 331 Web I: Web Development (3:3:0) Prerequisites: IT 106 and 213; or permission of instructor. Introduces the principles and techniques necessary for successful client-side web development. Topics such as HTML5, Cascading Style Sheets, JavaScript, DOM, XML, AJAX, and jQuery are presented. Students will learn to develop attractive and interactive web pages and applications and use client-side web-scripting languages to solve problems both with a text editor and more powerful WYSIWYG HTML editors.

Prerequisites

The pre/co-requisites for this course are IT 106/109 and 213 (or permission of instructor). A grade of "C" or better must be achieved in the prerequisite course before a student is qualified to take this course. The prerequisite course must be completed prior to, not concurrently with, this course.

Rationale

The old type of “read-only” or “brochure” websites that contain only static contents can no longer satisfy the needs of today’s Web users. The growing demand for more interactive and dynamic Web applications requires Web developers to cope with a variety of emerging and existing client-side Web technologies. This course is intended to develop both practical skills and a general appreciation of Web technologies which are emerging at such a tremendous rate. Students will learn client-side Web programming in the context of solving practical problems and building full-featured websites.

Course Outcomes

On successful completion of this course, students will be able to:

− Understand advanced Web design principles and technologies
− Create attractive Web interfaces with client-side technologies and popular Web authoring tools, such as Microsoft Expression Web and Adobe Dreamweaver.
− Create Web pages with emerging and existing technologies, such as HTML5, CSS3, Twitter Bootstrap, JavaScript, DOM, XML, JSON, AJAX, and jQuery
− Design, create and publish advanced interactive websites with accessible, user-friendly
interface design and features

**Supported Student Outcomes at the Program Level**

− (2) An ability to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program’s discipline
− (3) An ability to communicate effectively in a variety of professional contexts
− (6) An ability to identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of computing-based systems

**Major Topics**

− HTML5
− Cascading Style Sheets (CSS3)
− Bootstrap
− JavaScript: Control Structures; Functions; Arrays; Objects; Events
− Document Object Model (DOM): Objects and Collections
− Extensible Markup Language (XML)
− JavaScript Object Notation (JSON)
− Ajax-Enabled RIAs and AJAX
− jQuery: Core; UI; Plugins
− Developing attractive and interactive Websites and applications with client-side Web technologies and HTML editors

**Textbooks**

There is one required textbook for this course:

Internet & World Wide Web – How to Program, 5th edition
Harvey M. Deitel, Paul J. Deitel;
Publisher's URL

An electronic version of the textbook, provided by O'Reilly for Higher Education, is accessible through the university library website free of charge.

**Grading**

Grades will be awarded in accordance with the GMU Grading System for undergraduate students. See [http://catalog.gmu.edu/policies/academic/](http://catalog.gmu.edu/policies/academic/) under Grading for more information.

**Letter grades will be assigned according to the following scale:**

<table>
<thead>
<tr>
<th>Numeric Score</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>97 – 100</td>
<td>A+</td>
</tr>
<tr>
<td>93 – 96</td>
<td>A</td>
</tr>
</tbody>
</table>
Final grades will be determined based on the following components:

<table>
<thead>
<tr>
<th>Assignments</th>
<th>100%</th>
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<tbody>
<tr>
<td>Projects (5)</td>
<td>45%</td>
</tr>
<tr>
<td>Lab (10)</td>
<td>35%</td>
</tr>
<tr>
<td>Quizzes (10)</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Project includes:**
- Project 1: HTML5 & CSS & Bootstrap (16%)
- Project 2: JavaScript (8%)
- Project 3: DOM & Events & XML & JSON (8%)
- Project 4: AJAX & jQuery (8%)
- Final Presentation (5%)

These components are outlined in the following sections.

**Projects:**
Students are required to complete four projects in this course and give a final presentation in the last class. For more information about the projects, check the Project folder on Blackboard. Projects are always due at 11:00PM on the listed due date. **Late submission for Project 1~3 may be accepted but a late penalty of 10% is assessed for every calendar day beyond the due date; late submission for the Project Presentation and Project 4 cannot be accepted for any reason.**

**Lab Exercises:**
There are 10 lab exercises, which will help you prepare for the projects. Lab exercises are always due at 6:00AM on the listed due date. **Late submission will not be accepted.**

**Quizzes:**
There are 10 quizzes, which will be used to evaluate your mastery of terms and concepts along
with the successful application of those terms and concepts. Quizzes are conducted on Blackboard using the Assessment tool and you will be given 15 minutes to complete 10 questions in each quiz. Quizzes are always due at 6:00AM (noon) on the listed due date. **No makeups for missed quizzes for any reason.**

## Schedule

### Important Dates

- **Last day to add classes**: Mon. Aug 31
- **Last day to drop with no tuition penalty**: Tue. Sept 8

### Selective Withdrawal Period

Tue. Sept 29 - Wed. Oct 28

See [https://www2.gmu.edu/academics/academic-calendar](https://www2.gmu.edu/academics/academic-calendar) for more information.

### Religious Holidays

A list of religious holidays is available on the [University Life Calendar page](https://www2.gmu.edu/). Any student whose religious observance conflicts with a scheduled course activity must contact the Instructor at least 2 weeks in advance of the conflict date in order to make alternative arrangements.

## Hardware and Software Requirements

- Access to a configurable and Internet-accessible computer capable of fully running Blackboard is required. This computer needs to be equipped with speakers or a headset. Availability of a microphone is recommended but its use throughout the semester will be limited. As lectures are recorded and posted onto Blackboard as video files, students would need to use a software capable of displaying these video files, which will be posted in either QuickTime, Flash, Windows media or some other common video format.
- Microsoft Expression Web 4 is used as the editor and development environment. A free copy can be downloaded from Blackboard.
- Adobe Dreamweaver is required and used in some classes and assignments. A 7-day trial version can be downloaded at Adobe’s website. However, you must first sign up for a free [Creative Cloud](https://account.creativecloud.com) account, and you will need to have access to this software for more than the 7-day period to complete the assignments.
- FileZilla Client (or a compatible SFTP application) is required for transferring files and configuring the Mason server account. FileZilla can be downloaded from [https://filezilla-project.org/](https://filezilla-project.org/).
- Microsoft® Word (or a compatible word processing application) is required for preparing assignments.

## Attendance Policy

Students are expected to complete all units of the course and any required preparatory work and to participate actively in lectures, discussions and exercises. As members of the academic community, all students are expected to contribute regardless of their proficiency with the subject matter.

Students are expected to make prior arrangements with Instructor if they know in advance that
they will miss any class and to consult with the Instructor as soon as possible if they miss any
class without prior notice. Any student who expects to miss more than two class sessions is
strongly advised to drop the course and take it in a later semester when he/she can complete
every class unit.

**Discussion Board Conduct**

Online discussion board is the medium we will be using to communicate with the instructor,
graduate teaching assistant, and other fellow students. In postings, students are expected to
conduct themselves in a manner that is conducive to learning.

Please read the [10 core rules of netiquette](#). Any student who does not follow the 10 core rules of
netiquettes and negatively impacts the opportunity for other students to learn will be warned – if
disruptive communication continues, the student will be asked to leave the class.

**Communications**

Registered students will be given access to a section of the Blackboard Learning System for this
course. Blackboard will used as the primary mechanism to disseminate course information,
including announcements, lecture slides, lab and other assignments, and scores for lab and
exams.

Communication with the instructors on issues relating to the individual student should be
conducted using GMU email, using Blackboard virtual classroom (online office hours), via
telephone, or in person - **not** in the public forums on Blackboard. Email is the preferred method.
Federal privacy law and GMU policy require that any communication with a student related in
any way to a student's status be conducted using secure GMU systems – if you use email to
communicate with the Instructor you **MUST** send messages from your GMU email account.

**Privacy**

Instructors respect and protect the privacy of information related to individual students. As
described above, issues relating to an individual student will discussed via email, telephone or in
person. Instructors will not discuss issues relating to an individual student with other students
(or anyone without a need to know) without prior permission of the student.

Assessable work will be returned to individual students directly by the Instructor (or by a faculty
or staff member or a Teaching Assistant designated by the Instructor, or via another secure
method). Under no circumstances will a student's graded work be returned to another student.
Faculty and staff will take care to protect the privacy of each student's scores and grades.

**Disability Accommodations**

The Office of Disability Services (ODS) works with disabled students to arrange for appropriate
accommodations to ensure equal access to university services. Any student with a disability of
any kind is strongly encouraged to register with ODS as soon as possible and take advantage of
the services offered.

Accommodations for disabled students **must** be made in advance – ODS cannot assist students
retroactively, and at least one week's notice is required for special accommodations related to exams. Any student who needs accommodation should contact the Instructor during the first week of the semester so the sufficient time is allowed to make arrangements.

**Honor Code**

All members of the Mason community are expected to uphold the principles of scholarly ethics. Similarly, graduating students are bound by the ethical requirements of the professional communities they join. The ethics requirements for some of the communities relevant to IT graduates are available via the following links:

- ACM Code of Ethics and Professional Conduct
- IEEE Code of Ethics
- EC-Council Code of Ethics

On admission to Mason, students agree to comply with the requirements of the Honor Code at George Mason University. Student members of the George Mason University community pledge not to cheat, plagiarize, steal, and/or lie in matters related to academic work. The Honor Code will be strictly enforced in this course.

Any use of the words or ideas of another person(s), without explicit attribution that clearly identifies the material used and its source in an appropriate manner, is plagiarism and will not be tolerated. The Instructor reserves the right to use manual and/or automated means (including such services as Turnitin.com) to detect plagiarism in any work submitted by students for this course, and to direct Teaching Assistants and/or other faculty and/or staff members to do likewise in support of this course.

**WARNING!** This course has a zero tolerance policy for violations of the Honor Code. There are no second chances. Offenses carry the following minimum recommended sanctions:

**Level 1 Offenses, such as cheating on an assignment (working together when not allowed)**

1st Offense: 0 on the assignment, one letter grade (10%) reduction in the final grade, and the academic integrity seminar

2nd Offense: F in the course, and one semester academic suspension

3rd Offense: F in the course and expulsion from the University

**Level 2 Offenses, such as cheating on an exam, posting to a website for a partial or completed solution to an assignment (chegg.com, homeworkmarket.com, rentacoder.com, etc.)**

1st Offense: F in the course and the academic integrity seminar

2nd Offense: F in the course, and one year academic suspension

3rd Offense: F in the course and expulsion from the University

For this course, the following requirements are specified:

- All assessable work is to be prepared by the individual student, unless the Instructor explicitly directs otherwise.
All work must be newly created by the individual student for this course for this semester. Any usage of work developed for another course, or for this course in a prior semester, is strictly prohibited without prior approval from the instructor.