MIS2402 - Exam 1 - Study Guide

The format of the exam

The exam will be a hands-on programming challenge broken down into steps. You will have the entire class in which to complete the exam. The exam is open book, open notes. There are also online resources you may use. Here they are:

- http://www.w3schools.com
- http://developer.mozilla.org
- http://community.mis.temple.edu

There will be approximately 9 steps total for the student to complete. Some of these steps are broken down into smaller sub-steps with varying point value. There will be a total of 30 points on the exam.

All the steps require you to apply some aspect of HTML, CSS or JavaScript previously encountered in class. No portion of the exam should require you to research a technology or syntax that you have not previously encountered.

Each step is meant to assess your comprehension of topics we have learned up to this point in time. Here's a list of topics we have covered so far:

1. HTML and CSS
2. Bootstrap
3. JavaScript – Conditional Statements
4. JavaScript – Arrays and Loops
5. JavaScript – Functions and Events
6. jQuery

You should complete your work on one of the desktops provided in the classroom and then upload it to the class server. You must do this before the end of class.

Be sure to put your work into your `wwwroot` folder, and also make sure that you can access your work by calling it up in a browser.

Only your work uploaded to the class server will count towards your exam grade. Students will not receive credit for missing / misplaced / misnamed work.

Grading

Here are some things your instructor looks for when evaluating code.
1. Does the code run without error or warning in the JavaScript Console found in the Google Developer Tools?
2. Does the code work in the fashion described by the problem?

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If you haven't been following along with the class, it is difficult to "catch up" and compensate for a lack of practice. Below is a list of the skills and concepts that the exercises and challenges were developing.

1. Set up a project in VS Code
2. Upload work to the class server
3. JavaScript Fundamentals
   a) Data types: numbers, strings, Booleans, simple arrays.
   b) What are valid / invalid variable names? How to declare and assign a variable using `var`.
   c) Math operators: `+`, `-`, `*`, `/`, `%`
   d) The syntax of the `prompt` command to get the value from the user.
   e) Print the value to the console using `console.log()`
   f) Useful functions: `isNaN()`, `parseInt()`, `parseFloat()`
   g) Comparison operators: `==`, `!=`, `>`, `<`, `>=`, `<=`
   h) Logical operators: `!`, `&&`, `||`
   i) The syntax of "`if`" statements ("`if - else if - else`"). This includes the ability to compare variables and/or literal values.
   j) The syntax of a "for" statement. This includes the use of the "++" operator to add one to a variable. (As in: "`i++`"). Please be advised that you can use "`i--`" to decrement by one.
   k) The syntax of work with an array: create, add an element, get the value by the index, use "`for`" loop to iterate through the elements of the array.
   l) The basic pattern for expressing a function in JavaScript:
      `var somename = function(){};`
   m) Passing values in to a function with parameters and getting a result with return.
   n) Objects: understanding the difference between properties, methods, and events.
   o) String variables as objects: the `.length` property and the `.toUppercase()` method
   p) Number variables as objects: the `.toFixed()` method.
4. jQuery
   a) Selectors: `.` for classes, `#` for ids, No prefix for tags
   b) Events: `.ready()`, `.click()`
   c) Methods: `.html()`, `.append()`, `.val()`, `.addClass()`, `.removeClass()`, `.toggleClass()`, `.next()`
5. Other
   a) The Google Developer Tools – what's a breakpoint? Use the F9 key to step through code.

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Advisories

1. Transferring your exam work to another student, either deliberately or through negligence, will be considered cheating and result in a zero for the exam. **Incidents of academic dishonesty will be escalated to the University Disciplinary Committee**.
2. Be advised that classroom and server activity during the exam is monitored.
3. Only one screen per student will be permitted. Students using more than one electronic device will be asked to leave the room, and will earn a grade of zero on the exam.
4. Put your phones away. They are not to be visible during the exam. Not even as you are entering/leaving the room.
5. Under no circumstances is the printed exam to leave the classroom. Students who do so will receive a grade of zero on the exam.
6. You have the whole class period in which to complete the exam. If you do not upload your solution before the end of class, you will receive a zero on the exam.