**Exam 2 Review**

**Chapter 6. JavaScript: Client-Side Scripting, pp. 230-282**

* **Intro to JavaScript and Client-Side Scripting**
  + **JavaScript**
  + **JavaScript vs. Java applets vs. Browser plug-in vs VBScript**
  + **ECMAScript standard**
* **HTTP request vs. AJAX (Asynchronous JavaScript and XML) asynchronous data requests**
* **JavaScript and XML HttpRequest Object**
* **JavaScript Design Principles:**
  + **Software Layers:**
    - **Presentation layer**
    - **Business logic layer**
    - **Data layer**
  + **JavaScript Software Layers**
    - **Presentation Layer (HTML, CSS)**
    - **Validation Layer (JavaScript)**
    - **Asynchronous Layer (JavaScript)**
    - **Framework (JavaScript, jQuery, etc)**
* **Users without JavaScript**
  + **Web crawler**
  + **Browser plug-in**
  + **Text-based client**
  + **Visually disabled client**
* **<NoScript> tag**
* **Where Does JavaScript Go?**
  + **Inline JavaScript, Examples**
  + **Embedded JavaScript, Examples**
  + **External JavaScript, Examples**
  + **Advanced Inclusion of JavaScript**
* **JavaScript Language Syntax**
  + **Variables**
    - **Dynamically typed**
  + **Keywords**
  + **Operators**
    - **Assignment**
    - **Conditional**
    - **Logical**
    - **Loops**
  + **Functions**
  + **Arrays**
  + **JavaScript Objects**
    - **Properties, Methods, Constructors: new**
    - **JavaScript Objects**
      * **Array object**
      * **Date object**
      * **Math object**
      * **String object**
      * **Window object**
      * **document (DOM - Document Object Model) object**
      * **Element Node object**
  + **JavaScript Events**
    - **Events and Event Types**
      * **Mouse Events**
      * **Keyboard Events**
      * **Form Events**
      * **Frame Events**
    - **Event Listeners Event Handlers**
    - **Event objects**
  + **Forms**
    - **Validating Forms: Empty Field Validation, Number Validation**

**Chapter 8. Web Server and Application Servers**

* **Types of Servers**
* **Enterprise Data Integration**
* **Enterprise Application Integration**
* **CGI**
* **HTTP RFC**
* **Apache Web Server Configuration** 
  + **Client and Server Error Codes**
* **PHP Date() function reset**

**Chapter 7. Web Media**

**7.5 Audio and Video**

* **Video container formats (file formats)**
* **Audio format and Support**

**Chapter 8. Intro to Server-Side Development with PHP**

* **Intro to Server-Side Development**
* **Server-Side Script Resources**
  + **Data storage**
  + **DBMS (database management system)**
  + **Web service**
* **Comparison Server-Side Technologies**
  + **ASP**
  + **ASP.NET**
  + **JSP**
  + **Node,js**
  + **Perl**
  + **PHP**
  + **Python**
  + **Ruby on Rails**
* **A Web Server’s Responsibility**
  + **Apache and Linux:** 
    - **Daemon, Process**
    - **Apache Module, Handlers**
  + **Apache and PHP**
    - **PHP as an Apache module or as a CGI library**
    - **mod\_php5 module – SAPI (Server Application Programming Interface)**
    - **Apache running modes**
      * **Multi-process (preforked)**
      * **Mult-thread (worker)**
  + **Windows/IIS**
  + **PHP Internals**
    - **PHP core**
    - **Extension layers**
    - **Zend Engine (VM)**
* **Installing Apache, PHP, and MySQL for Local Development**
  + **http.conf**
  + **localhost == 127.0.0.1**
* **Quick Tour of PHP**
  + **PHP tags**
  + **PHP comments**
  + **Variables, Data types, and Constants**
  + **Writing to Output**
    - **echo()**
    - **printf()**
  + **Program Control**
    - **if … else**
    - **switch … case**
    - **while and do … while**
    - **for**
  + **Include Files**
    - **Server-side include (SSI)**
    - **Include**
    - **Include\_once**
* **Functions**
  + **Function Syntax**
  + **Calling a Function**
  + **Parameters: default values, by reference**
  + **Variable scopes: function scope, global scope, super global**

**Chapter 9. PHP Arrays and Superglobals**

* **Arrays**
* **Introduction**
  + **Data structure: vector, hash table, dictionary, list collections**
  + **Arrays: keys and values**
* **Defining and Accessing Arrays**
* **Multidimensional Arrays**
* **Iterating through and Array**
* **Adding and Deleting Elements**
* **Array Sorting**
* **More Array Operations**
* **Superglobal Arrays**
  + **$GLOABLS**
  + **$\_COOKIES**
  + **$\_ENV**
  + **$\_FILES**
  + **$\_GET**
  + **$\_POST**
  + **$\_REQUEST**
  + **$\_SESSION**
  + **$\_SERVER**
* **Accessing Form array data**
* **Using Query Strings in Hyperlinks**
* **Sanitizing Query Strings**
* **$\_SERVER array**
  + **Server Information Keys**
  + **Request Header Information keys**
* **$\_File array**
  + **HTML Required for File Uploads**
  + **Handling the File Upload in PHP**
  + **Checking for Errors**
  + **File Size Restrictions**
  + **Limiting the Type of File Upload**
  + **Moving the File**
* **Reading/Writing Files**
  + **Stream Access**
  + **In-Memory File Access**

**Chapter 10. PHP Classes and Objects**

* **Object-Oriented Overview**
* **Terminology**
  + **Classes and Objects**
  + **Properties (data members), Methods (behavior functions)**
  + **Instances**
* **The UML (Unified Modeling Language)**
* **Difference between Server and Desktop Objects**
  + **PHP objects, memory storage for running, Life time**
* **Classes and Objects in PHP**
  + **Defining Classes**
    - **Keywords**
    - **Visibility/Accessibility: public, private, protected**
  + **Instantiating Objects**
  + **Properties**
  + **Methods**
  + **Constructors**
  + **Static Members**
  + **Class Constants**