

**Course Number:** IS601  
**Course Title:** Web System Development  
**Section:** 001  
**Semester:** Fall 2017  
**Date & Time:** T:230PM - 525PM  
**Location:** CULMLECT 3  
**Credits:** 3  
**Contact Hours:** 3 Hours Face-to-Face

**Instructor Information:**

Name: Keith Williams  
Office: 5114 GITC  
Email: [kwilliam@njit.edu](mailto:kwilliam@njit.edu)  
Slack: Best to contact me

**Office Hours:**

Tuesday: 1:00PM – 2:15PM  
Wednesday: 3:30-5:30PM  
Thursday: 4:00-5:30PM  
By Appointment and Contact me through email or slack to let me know you're coming to office hours.

**Course Materials**

Murach, Joel, and Associates. *Murach's PHP and MySQL 2<sup>nd</sup> Edition*. Fresno, Calif.: Mike Murach & Associates, 2014. Print. ISBN: 978-1890774790

**Catalog Description**

Students will gain experience in the development of Web based systems using an object oriented programming language and SQL. Students will learn to develop a web based system through an intensive hands-on project that requires students to apply real-world problem-solving skills to meet the challenge of developing a web based information system. Students will learn the basic principles of web based applications, MVC application design, how to apply object oriented design patterns, design a relational database, and write SQL queries to create, retrieve, update, and delete information in a database.

Prerequisites: NONE

**Learning Outcomes**

1. Students will be able to create an application using PHP and MySQL.
2. Students will be able to design and implement a user registration and management process for a web application.
3. Students will be able to demonstrate fundamental concepts in web application development such as Model View Control (MVC).
4. Students will be able to demonstrate the ability to collaborate using source code management software.
5. Students will be able to describe and implement basic design patterns found in PHP such as a singleton and factory pattern.
6. Students will be able to demonstrate asynchronous client server communication using JavaScript and PHP.
7. Students will be able to use SQL create, retrieve, update, and delete (CRUD) queries

**Grading Category Weights**

2 Projects: 30% (Project #1 = 10%, Project #2 = 20%)  
5 Quizzes: 10% (each = 2%)  
2 Exams: 20% (each = 10%)  
Homework: 30% (each = 3.75%)  
Participation: 10% (each = 0.66%)

**Grading Scale**

|                    |                    |
|--------------------|--------------------|
| <b>A:</b> 90 - 100 | <b>C:</b> 70 - 77  |
| <b>B+:</b> 88-89   | <b>D+:</b> 68 - 69 |
| <b>B:</b> 80 - 87  | <b>D:</b> 60 - 67  |
| <b>C+:</b> 78-79   | <b>F:</b> 0 - 59   |

Incompletes are only given for extenuating and documented medical or personal issues.

**Late Grading policy**

- A. No free late days for projects and homework. 20% off from full credits per day late. (e.g. if you were late for one day, the instructor would start grading your work at 80%).
- B. Quizzes will be graded to 0 automatically if you do not finish them on time.
- C. You will receive 0 for any missed exams. If you know you will not be in the day of exams, please inform the instructor at least a week beforehand to make alternative arrangements. There will be no make-up exams.

**Attendance**

Attendance will be taken for each class meeting. Attendance is worth 10% of your final grade. Students who miss 5 or more than 5 will receive a 'F'.

**Academic Integrity Policy**

My expectation is that each person will complete original work for this course and will not copy from fellow students or tutorials online. It is OK to refer to tutorials online; however, you will be considered in violation of the NJIT honor code by submitting work found online. Any violations of the honor code will be referred to the Dean of Students for investigation and possible disciplinary action. For more information about the NJIT honor code, you should refer to this document:

<http://www.njit.edu/academics/pdf/academic-integrity-code.pdf>

## TENTATIVE CLASS SCHEDULE

Below are the TOPICS covered in the course.

| Week Meetings | Topics  | Assignments  |
|---------------|---|--|
| 1             | <b>Introduction of tools we use in this course:</b> <ul style="list-style-type: none"> <li>• Install Sublime and SFTP;</li> <li>• A brief intro to AFS and command line;</li> <li>• A brief intro to Git and GitHub.</li> </ul> | <i>Git commands, basic AFS commands and Sublime practice</i> |
| 2             | <b>Introduction to PHP basic 1:</b> <ul style="list-style-type: none"> <li>• Basic syntax;</li> <li>• Variable types;</li> <li>• Constant types.</li> </ul>   | <i>Quizzes</i>   |
| 3             | <b>Introduction to PHP basic 2:</b> <ul style="list-style-type: none"> <li>• String;</li> <li>• Number;</li> <li>• Array.</li> </ul>  | <i>Quizzes</i>   |
| 4             | <b>Introduction to PHP basic 3:</b> <ul style="list-style-type: none"> <li>• Comparison &amp; Logical operators;</li> <li>• Conditional expressions;</li> <li>• Control statements.</li> </ul>                                  | <i>PHP basic practice and Quizzes</i>                        |
| 5             | <b>Form Handling</b>  | <i>Exam #1</i>   |
| 6             | <b>Basic intro to MySQL:</b> <ul style="list-style-type: none"> <li>• Workbench;</li> <li>• SQL statements.</li> </ul>  | <i>SQL query practice</i>                                    |
| 7             | <b>MySQL and PHP:</b> <ul style="list-style-type: none"> <li>• PDO connection;</li> <li>• Exceptions handling.</li> </ul>   | <i>PDO practice</i>  |
| 8             | <ul style="list-style-type: none"> <li>• HTML and CSS review,</li> <li>• Bootstrap.</li> </ul>  | <i>Create a sign up page</i>                                 |
| 9             | <b>Functions and Class:</b>   | <i>Functions and Class Practice</i>                          |

|    |   |                            |
|----|---|----------------------------|
|    | <ul style="list-style-type: none"> <li>• How to define a functions;</li> <li>• Functions arguments and returning values;</li> <li>• How to define a class;</li> <li>• Member visibility;</li> <li>• Inheritance.</li> </ul> |                            |
| 10 | <b>Introduction to PHP basic 4:</b> <ul style="list-style-type: none"> <li>• Cookies;</li> <li>• Sessions;</li> <li>• Date;</li> <li>• Time.</li> </ul> <b>Project (Discussion)</b>   | <i>Project #1</i>          |
| 11 | <b>MVC</b>  | <i>Simple MVC practice</i> |
| 12 | <b>Demo MVC example</b>   | <i>Draw MVC work flow</i>  |
| 13 | <b>Regular expression</b>   | <i>Quizzes</i>             |
| 14 | <b>Open questions</b>   | <i>Exam #2</i>             |
| 15 | <b>Project (Discussion)</b>   | <i>Project #2</i>          |