Fall 2023

IS 601 - 007: Web System Development

Matt Toegel

Course Number: *IS601*
Course Title: *Web System Development*
Section: *007*
Semester: *Fall 2023*
Date & Time:
007: Mon/Thurs 4-5:20pm CKB 204
Modality: *Face to Face*
Credits: *3*
Office Hours: *Mon/Thurs 2:50 - 3:50 pm (CKB Main Floor Study Lounge, no appointment necessary)*
General availability via Discord via a provided communication channel

Instructor:
Matt Toegel (matthew.toegel@njit.edu)
Webex (if/when needed) https://njit.webex.com/meet/mt85njit.edu

Course Catalog:
Prerequisites*:NONE*
Students will gain experience in open source web development through an intensive hands-on project, applying real-world problem-solving skills to meeting information systems requirements. Students will learn Web development principles, as well as professionally relevant skills including industry standards, conventions, and procedures within large-scale programming projects. Also covered are the communication tools, technologies, and practices that individuals use to coordinate and collaborate within the open source software development community.

Academic Integrity:
The work done is expected to be your own, any group work should clearly distinguish ownership of tasks. Use of snippets/material from others should be kept to a minimum and the source should be accredited where applicable.
That being said, please also note the below:
Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at:
http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. ***Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university.*** *If you have any questions about the code of Academic Integrity, please*

contact the Dean of Students Office at dos@njit.edu"Any violations of the NJIT Honor Code will be brought to the attention of the Dean of Students.

Learning Outcomes:

1. *Students will be able to create applications using Python and MySQL*
2. *Students will be able to design and implement a user registration and management process for web applications*
3. *Students will be able to demonstrate fundamental concepts in web application development such as Model View Controller (MVC) and other OOP design patterns*
4. *Students will be able to demonstrate the ability to collaborate using source code management software (i.e., Git/Github)*
5. *Students will be able to demonstrate through coding and project design concepts such as DRY and basic OOP Design Patterns*
6. *Students will be able to use SQL create, retrieve, update, and delete (CRUD) queries*

Overview:

A major objective of this course is to expose students to current software development technologies, so that students develop problem solving skills that will help develop technical confidence. Students gain this through Internet research and developing a process to isolate, identify, and seek solutions to problems by using an Internet search engine.

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.

Assignments:

Generally there will be small coding samples to go over in class where there will be lab/class time to practice. The course will consist of a few mini-projects and a final project that'll have a few milestones due at different points in the semester. The milestones will check on progress and see if any special topics need focus.

Illustrative Schedule

The schedule is a guideline and is subject to change to fit the particular instance of the class. All topics in general are planned to be covered. Some may have more focus than others and per class interest other related topics may be included.

Week 1: Overview of class/materials/GIT and environment setup/prep
Week 2: GIT / Further Environment Setup / Basic Command line
Week 3: Docker/Python

Week 4: Mini Project 1
Week 5: Python/Flask Intro
Week 6: Mini Project 2
Week 7: Flask / SQL
Week 8: Mini Project 3 / SQL
Week 9: Flask Templates / Final Project Assigned
Week 10: Flask Packages
Week 11: User Management
Week 12: Project Milestone / Project Workshop
Week 13: Project Milestone / Project Workshop
Week 14: Final Project Wrap up
Week 15: Final Project/Exam

Grading:
Mini Projects (3): 50%
Homework: 5%
Quizzes: 10%
Milestones (2): 10%
Final Project (Demo + final submission): 20%
Participation/Attendance: 5%

Grading Scale:

A	*100 % to 89.5%*
B+	*< 89.5 % to 84.5%*
B	*< 84.5 % to 79.5%*
C+	*< 79.5 % to 74.5%*
C	*< 74.5 % to 69.5%*
D+	*< 69.5 % to 64.5%*
D	*< 64.5 % to 59.5%*
F	*< 59.5 % to 0.0%*

Materials/Technology:
Heroku (register with NJIT email)
Online Resources (provided)
GitHub
Laptop
Zybooks (recommended)

Late Policy:
General Assignments will have 5% deducted for each day late.
Projects/larger assignments will have 5% deducted for each day late.
Missed Exams/Quizzes will result in a 0.

If you are going to miss a class and cannot hand in an assignment, it's your responsibility to let me know.
There also will be no make-up exams (except, at the discretion of the instructor in the case of a documented medical or family emergency).

Attendance Policy:

Attendance is mandatory and will be recorded each class. For webex sessions, make sure you login with your NJIT id so it's properly recorded. For in-class sessions, please follow the in-class instructions.

Having 4 or more unexcused absences will result in an 'F' for the course. An absence can be excused via a note from the Dean of Students. Otherwise, refer to the NJIT Attendance Policy at https://www5.njit.edu/registrar/policies/attendancepolicy.php

Syllabus is subject to change, attend class to stay current.