Course Syllabus
Test Driven Develop (Python)
Course Format: WEB
Fall 2024

Course Information

Course Registration Number (CRN): 10106
Course ID: CLD 141 001
Start Date: 11/11/2024
End Date: 12/13/2024
Credit Hours: 3
Last Day to Withdraw: 12/06/2024

Instructor Information

Instructor Name: Jacob Buck
Office Phone: +1 316-677-1680
Email: jbuck2@wsutech.edu
Office Hours/Hours of Availability/Preferred Method of Contact: By appointment, please email ahead of time so we can schedule something.

Course Description

Programmers shouldn't have to guess whether software is working correctly. They should be able to prove it, every step of the way. A formal test-driven development (TDD) process allows programmers to build testing into their daily routine. Programmers can run tests many times a day, getting instant feedback on the quality of their code. This course explains how to adopt a TDD mindset and process —vital skills for all modern software developers. Find out what makes a good test, why programmers should be more interested in failure than success, and how to measure and repeatedly run tests. In this course students will get an overview of both unit testing and TDD, why both are crucial for developers, how to set up a development environment for TDD, and go into detail with the pytest unit-

testing framework. In addition too, students will learn best practices and develop test cases in order to master TDD in Python.

Textbook and Instructional Materials

All reading material will be online
All material will be online

Course Outcomes

1. What is test-driven development?
2. What is Unit Testing
3. What is Test-Driven development (TDD)
4. Setting up Your Development Environment
5. Setting up Pytest with Eclipse and PyCharm
6. Assertion Statements and Exceptions
7. Test doubles
8. TDD Best Practices

The Plan to Edu-CATE

CLD - Cloud

All courses at Wichita State University Campus of Applied Sciences of Technology (WSU Tech) aim to prepare students to perform in a 21st century academic and work environment. Students will regularly engage in activities, assignments and assessments that offer them the opportunity to build and refine general education skills relevant to their academic future and/or career development plan. These skills are specifically centered on communication, analysis, technology and expertise. This course prepares students by addressing those skills in the following ways:

C: Communication (Oral and Written)

Students will demonstrate their ability to communicate effectively using both written and oral methods. They will engage in projects and assignments designed not only to impart industry-specific knowledge but also to evaluate their proficiency in oral and written communication. Examples of such activities include integrating text into iOS builds, managing and producing websites, participating in classroom discussions, maintaining journals, and contributing to discussion posts.

A: Analysis (Problem Solving and Critical Thinking)

Students will encounter numerous opportunities to showcase their critical and abstract thinking skills through projects that address real-world issues within the industry. Collaboration is encouraged, allowing students to collaboratively troubleshoot, refine, and produce high-quality projects.

T: Technology (Information Literacy and Technological Skills)

Students will gain exposure to emerging technologies and will receive guidance on their ethical application. They are urged to explore and familiarize themselves with these technologies, as well as to acquire the skills necessary to effectively incorporate them into their program.

E: Expertise (Industry Specific Skills)

Students will be presented with learning experiences designed to cultivate their passion for their chosen industry and to augment their skill set. By participating in project-based learning, students will refine their technical skills, essential workplace abilities, and professional networks. These assets will empower them to confidently embark on their chosen career path.

Academic Honesty

Students who compromise the academic integrity of the classroom, laboratory, internship or clinical areas are subject to disciplinary action, which may result in suspension and/or expulsion from WSU Tech. Violations of academic honesty include, but are not limited to, cheating, plagiarism, falsification, forgery or alteration of records. Link to Academic Code of Conduct.

Commitment to Success

Faculty	Student
Interact with students by name by first class/end of the first week	Complete what you start
Close monitoring of student behavior and progress with immediate intervention	Ask questions and use support resources
One-on-one meetings/frequent communication with students early in the semester	Attend class and make a legitimate attempt at each assignment
Highly structured courses with penalties for missed exams and assignments, etc. but flexible when appropriate	Develop well-organized and disciplined habits

Graded Items

Activity	Weighted Percentage of Final Grade
Average score of all quizzes	10%
Average Score of all Labs/Projects (Note: all projects must have a minimum score of 78%)	30%
Assignments	20%
Exams (Minimum average must be at least 78%)	20%
Final Exam	20%

Grading Scale

Letter Grade	Percentage
A	94-100%
B	86-93%
C	78-85%
F	0-77%

Assignments

Assignments a placed throughout the course that will measure how well you are absorbing and retaining course material. Assignments are listed in the course schedule below. A reminder that not all assignments are worth points. Several assignments are readings, videos, and activities, which do not carry a point value but are required for you to successfully navigate this course.

Point valued assignments will be graded within 48 hours of the due date and not before.

Quizzes

Quizzes have a 30 Minute time limit. Once you start the quiz you must finish. After 30 minutes the quiz will close and record your score.

Exams

There are no exams.

Projects Required

There will be a final project worth 100 points.

Final Exam

The final project will be the final exam.

Extra Credit

Extra Credit is not offered in this course.

Late Work

If situations hinder timely work completion, students must inform the instructor and provide documentation 24 hours before the deadline. Unforeseeable/uncontrollable cases may receive extensions, determined case-by-case.

Late work will be a 10% reduction of assignment grade per day it is late.

Make-up Work/Tests

Make-up work and or exams is only allowable with instructor approval. Consideration is evaluated on a case-by-case basis.

Official WSU Tech Communications

Communication from WSU Tech administration, staff and advisors will be delivered to Student Webmail. Example: jsmith@wsutech.edu. Common names may have a number after the last name and before the @ sign. Your specific email address is printed on the back of your schedule. It is the student's responsibility to check their WSU Tech email account frequently.

Attendance

Students are expected to attend all scheduled class and examination meetings. In compliance with federal policy, students who have not attended class in fourteen calendar days will be administratively withdrawn by the Registrar. Students are also expected to maintain satisfactory progress in each of

the classes in which they are enrolled. Thus, whenever absences become excessive and minimum course objectives cannot be met due to absences, the instructor may, after consultation with and approval of the appropriate Dean or Associate Dean have the student withdrawn from the course. If a student is withdrawn by the instructor for excessive absences, a “WT” (withdrawn by teacher) may be recorded on the student’s permanent record.

Online Attendance

It is recommended that you log into the class a minimum of 2-3 times weekly with one time being required for counting you present in class. Pay close attention to deadlines, and allow yourself plenty of time to complete assignments, discussion questions, quizzes, and exams.

Important: Weekly attendance for an online class runs from 12:00 a.m. Sunday, until 11:50 p.m. the next Saturday. You MUST log in at least once during that week, or you will be counted absent.

In addition to logging in each week, in order to receive credit for attending the class, you must either post to the discussion board, turn in an assignment, or take a quiz or exam. You must be active in the class as demonstrated by actual work done in the class in order to be counted present each week for attendance purposes.

Note: Additional information, see instructor class policies.

Instructor Class Policies

1. Active listening and participation
    - Students should actively participate during class discussions.
    - Students should not wear any headsets/earbuds during class discussions.
    - Students will not play games on the WSU Tech computers except assignments listed in the syllabus. This represents a violation of WSU Tech Policy 9-03 Network Services Acceptable Use Policy.
2. Students should dress in industry appropriate attire (ask your instructor/program director for examples).
3. Students shall utilize all school provided resources appropriately.
4. Students shall maintain professional communication between student and instructor, student and student, at all times. Follow up with a face-to-face discussion with an electronic recap, when necessary.

5. Artificial Intelligence (AI) has become an invaluable tool in education and its integration in the classroom is encouraged by both students and instructors.
    - AI is meant to enhance learning and increase effective classroom instruction.
    - Students are encouraged to explore and utilize AI tools responsibly and ethically. This includes adhering to the principles of privacy, fairness, and understanding the inherent bias that comes with AI.
    - Students are expected to adhere to WSU Tech's Academic Code of Conduct of academic integrity. Instructors will provide guidance on AI integration within the context of their class and assignments.
6. Information Technology students are given local administrator privileges to facilitate the completion of lab assignments. Malicious actions that violate the instructor's trust or taking advantage of these privileges, you will receive zero points on assignments for the day and will be asked to leave the premises for the day. Second offenses will not be tolerated, and you will be removed from the IT program.
    - Examples are stealing another student's VMs without the instructor's explicit permission.
    - Conducting malicious activity on the WSU Tech computer/network.
7. Students need to be familiar with the WSU Tech Student IT Helpdesk guide, so they understand how to properly use technology in the classroom.
8. Students must let the instructor know if they need or require accommodation (running late, leaving early, or needing an absence).
9. Students must submit assignments per the instructor's expectations.
10. Missing more than 25% of the scheduled class time and/or assignments may result in an instructor withdrawal before the official course withdrawal date. Communication with your instructor is essential.

College Inclusiveness

WSU Tech is committed to being an inclusive campus that reflects the evolving diversity of society. Inclusiveness aims to promote and encourage the intermingling of its students, faculty, and staff from different backgrounds, in a challenging intellectual and multicultural environment demonstrated through the respect and appreciation for the spectrum of human diversity. WSU Tech does not discriminate in its programs, classes, and activities based on race, religion, color, national origin, gender, age, sexual orientation, gender identity, gender expression, marital status, political affiliation, status as a veteran, genetic information or disability.

Diversity Expectations in Programs and Courses

WSU Tech instructors are committed to providing an atmosphere of learning that is representative of a variety of perspectives. Every voice in the classroom is important and brings with it a wealth of experiences, values, and beliefs. Students are to honor the uniqueness of their classmates and appreciate the opportunity we have to learn from each other with civility and respect. While respect may vary toward peers, and even the instructor, respect for the academic environment and the credential pursued is essential.

The Vice President, Student Services has been designated to handle inquiries regarding nondiscrimination policies.

General Education Outcomes/Competencies: General Education Courses Only

The learning outcomes and competencies detailed in this syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Project for this course, as sanctioned by the Kansas Board of Regents.

Notice

Changes in the course syllabus, procedure, assignments, and schedule may be made at the discretion of the instructor.

WSU Tech Links

- Tutoring and Remediation
- College Policies
- Computer Requirements
- Concealed Carry Handgun (CCH)
- Tuition Refund Policy
- Counseling and Preventative Services
- Disability Services Program

Due dates are given in each module.

UDEMY https://wsutech.udemy.com/course/unit-testing-and-tdd-in-python/learn/lecture/8419290

Course Schedule

Module	Assignment Name	Points/Percentage	Due Date
Module 1	Sprint 1 - A refreshing assignment	100	11/17
Module 1	Sprint 1 - Mid Sprint Report	40	11/17
Module 2	Sprint 2 - Mid Sprint Report	40	12/1
Module 2	Sprint 2 - A Testy Situation	100	12/1
Module 2	Sprint 2 - PR Unit Tests	100	12/1
Module 2	Sprint 2 - Documentation	100	12/1
Module 2	Sprint 3 - Feature Additions	100	12/1
Module 3	Sprint 3 - Hungry Hungry Students	100	12/8
Module 3	Sprint 3 - PR Unit Tests	100	12/8
Module 3	Sprint 3 - Something to Munch On	100	12/8
Module 4	Sprint 4 - The Trifecta	100	12/13