
***Course Information:***

- SSW 215-B Individual Software Engineering (Fall 2023)
  - Class time: Monday and Wednesday 1:00 pm – 2:15 pm
  - Class location: Edwin A. Stevens 130

***Instructor:***

- Dr. Nafiseh Ghorbani
  - Email: nghorban@stevens.edu
  - Office: North Building 213
  - Office hours: Monday 4:00 pm – 5:00 pm
  - Virtual office hour: https://stevens.zoom.us/j/98328400011

***Teaching Assistant:***

- Mostaan Lotfalian
  - Email: mlotfali@stevens.edu
  - Office hour: Thursday 12:00 pm – 1:00 pm
  - Virtual office hour: https://stevens.zoom.us/j/8401943305

***Required Platform:***

Canvas.stevens.edu and stevens.zoom.us (Log in with your Stevens username and password). Supplementary information for the course is available at Canvas including the course syllabus, class announcements and notes, test dates, PowerPoint slides, assignments, and other information. Students are responsible for checking the announcements and reading the course material posted on Canvas. The instructor and teaching assistant will not be able to help with issues with the Canvas platform or any other technology.

***Course Overview:***

This course introduces core programming basics-including data types, control structures, and algorithm development with functions-via the Python programming language for students without prior programming experience. The course discusses the fundamental principles of Object-Oriented Programming. In this course students learn to practice a disciplined engineering process for developing software. Individual skills and practices, such as effort estimation and unit testing, are mastered so that students can become successful members of software engineering teams. Best practices in software engineering are followed, including the use of simple design patterns with well-known properties. Students work in small teams to construct a simple web service using web-based technologies including MySQL.

***Prerequisites:***

It would be desirable that students are comfortable with scripting language such as Python.

***Recommended Textbook:***

- Fundamentals of Python: First Programs (2nd Edition), Kenneth Lambert (2018). Cengage Learning, ISBN-13: 978-1-337-56009-2.
- Online text book, How to Think Like a Computer Scientist: Learning with Python 3 (RLE), http://openbookproject.net/thinkcs/python/english3e/index.html
- Python for Data Analysis (2nd Edition), McKinney, W. (2017). O'Reilly Media Inc, ISBN: 9781491957653.

***Evaluation and Grading:***

Weekly lectures, quizzes, homework, exams, and project form the core of the course. Students will be expected to participate in weekly lectures and complete weekly reading assignments, quizzes, and homework assignments along with group project. Students are required to attend weekly lectures. In case of **missing a lecture**, instructor **should receive** a prior **email**. A final examination is administered to insure student mastery of the subject matter.

The evaluation will be based on the following criteria:

- **Assignments:** Homework problems will be generally assigned bi-weekly based on the covered material. Assignments will be due **at the beginning of class** the following week after the assignment unless otherwise announced. All assignments must be uploaded to the Canvas platform by the due date and time provided on the assignment. The solutions to the programming problems should include full working code, not just an output of your program. Solutions should have a logical order. Some homework problems may require the submission of handwritten notes which will be notified. Specific naming convention will be required for homework submissions, where X is the assignment number: hwX_lastname_firstname. All times are given in Eastern US time (ET). Ensure your familiarity with the Canvas platform in advance and allot a sufficient amount of time for assignment submission and any technical difficulties that may arise. Written homework should be finished individually, discussions with peers or instructor is allowed, but copying or any other type of cheating is strictly prohibited. **Note that late assignments will be graded with 50% penalty**.

- **Quizzes:** Every homework assignment will generally be followed by a quiz that will be during the regular class time and taken through Canvas. Quizzes will be announced one session in advance. Quizzes might be in the form of multiple-choice questions. Collaboration with other students is not allowed when working on the exams and quizzes. **Missing a quiz** will result in **a zero grade.**

- **Exams:** Two term exams and a final exam will be given in this course. Term exams will be during the regular class time. Collaboration with other students is not allowed when working on the exams and quizzes. Any suspicious activity will result in a zero grade for the exam. Term exam dates will be announced at least two weeks in advance. **Missing** an exam without substantial **prior notification** will result in a **zero grade**.

  Final exam will be comprehensive. The final exam has not been scheduled yet and students are advised to check out the following website for the final exam date: https://www.stevens.edu/directory/office-registrar/final-exam-schedule

- **Group project:** Students will be required to build a team (**2 team members maximum**), complete a project, and make a presentation in class. The project will require students to design a webpage/game/application or identify, model, solve, and report on a problem that they encounter in their work/research/real life. A one-page project proposal briefing the anticipated project will be due at a date to be determined and is subject to approval by the instructor. The objective of the group project is to provide you with an opportunity to encounter a wide range of real-world applications.

The grading and grading scale will be based on the following tables:

- **Grading:** The evaluation will be based on the following criteria and weights. Students are expected to abide by the Stevens Honor Code in submitting assignments and projects.

| Criteria | Weights (%) |
|---|---|
| Homework | 20 |
| Quizzes | 10 |
| Term exams | 30 |
| Final exam | 25 |
| Group project | 15 |

- **Grading Scale:**

| Grades | Percentages (%) |
|---|---|
| A | 93-100 |
| A- | 90-92.9 |
| B+ | 87-89.9 |
| B | 83-86.9 |
| B- | 80-82.9 |
| C+ | 77-79.9 |
| C | 73-76.9 |
| C- | 70-72.9 |
| F | < 70 |

**Notes:**

- Grades may be curved at the end of the semester
- Make-up exams will be provided to the student if there is a situation of unavoidable emergency. This requires a written excuse. If you do not submit a quiz/exam with no explanation in advance, you will receive zero.

***Tentative Outline (subject to change)***

The following is a tentative outline for the course - we will probably change things as we proceed depending upon the progress, we are able to make.

| Lecture Topics |
| --- |
| Administrative Preliminaries<br>HTML<br>CSS<br>JavaScript<br>SQL |
| **Review and Term Exam 1** |
| Data Types and Expressions<br>Loops and Selection Statements<br>Formatting, Methods, and File<br>Python iteration refactoring<br>List and Dictionaries |
| **Review and Term Exam 2** |
| Design with Functions<br>Complexity Analysis<br>Advanced Python |
| **Review and Project Presentations** |
| **Final Exam** |

***Academic Integrity:***

***Undergraduate Honor System***

Enrollment into the undergraduate class of Stevens Institute of Technology signifies a student's commitment to the Honor System. Accordingly, the provisions of the Stevens Honor System apply to all undergraduate students in coursework and Honor Board proceedings. It is the responsibility of each student to become acquainted with and to uphold the ideals set forth in the Honor System Constitution. More information about the Honor System including the constitution, bylaws, investigative procedures, and the penalty matrix can be found online at http://web.stevens.edu/honor/ .

The following pledge shall be written in full and signed by every student on all submitted work (including, but not limited to, homework, projects, lab reports, code, quizzes, and exams) that is assigned by the course instructor. No work shall be graded unless the pledge is written in full and signed.

"*I pledge my honor that I have abided by the Stevens Honor System*."

Reporting Honor System Violations

Students who believe a violation of the Honor System has been committed should report it within ten business days of the suspected violation. Students have the option to remain anonymous and can report violations online at www.stevens.edu/honor (Links to an external site.).

**Graduate Student Code of Academic Integrity**

All Stevens graduate students promise to be fully truthful and avoid dishonesty, fraud, misrepresentation, and deceit of any type in relation to their academic work. A student's

submission of work for academic credit indicates that the work is the student's own. All outside assistance must be acknowledged. Any student who violates this code or who knowingly assists another student in violating this code shall be subject to discipline.

All graduate students are bound by the Graduate Student Code of Academic Integrity by enrollment in graduate coursework at Stevens. It is the responsibility of each graduate student to understand and adhere to the Graduate Student Code of Academic Integrity. More information including types of violations, the process for handling perceived violations, and types of sanctions can be found at www.stevens.edu/provost/graduate-academics (Links to an external site.).

**Special Provisions for Undergraduate Students in 500-level Courses**

The general provisions of the Stevens Honor System do not apply fully to graduate courses, 500 level or otherwise. Any student who wishes to report an undergraduate for a violation in a 500-level course shall submit the report to the Honor Board following the protocol for undergraduate courses, and an investigation will be conducted following the same process for an appeal on false accusation described in Section 8.04 of the Bylaws of the Honor System. Any student who wishes to report a graduate student may submit the report to the Dean of Graduate Academics or to the Honor Board, who will refer the report to the Dean. The Honor Board Chairman will give the Dean of Graduate Academics weekly updates on the progress of any casework relating to 500-level courses. For more information about the scope, penalties, and procedures pertaining to undergraduate students in 500-level courses, see Section 9 of the Bylaws of the Honor System (Links to an external site.) document, located on the Honor Board website.

***Learning Accommodations:***

Stevens Institute of Technology is dedicated to providing appropriate accommodations to students with documented disabilities. The Office of Disability Services (ODS) works with undergraduate and graduate students with learning disabilities, attention deficit-hyperactivity disorders, physical disabilities, sensory impairments, psychiatric disorders, and other such disabilities in order to help students achieve their academic and personal potential. They facilitate equal access to the educational programs and opportunities offered at Stevens and coordinate reasonable accommodations for eligible students. These services are designed to encourage independence and self-advocacy with support from the ODS staff. The ODS staff will facilitate the provision of accommodations on a case-by-case basis.

*Disability Services Confidentiality Policy*

Student Disability Files are kept separate from academic files and are stored in a secure location within the Office of Disability Services. The Family Educational Rights Privacy Act (FERPA, 20 U.S.C. 1232g; 34CFR, Part 99) regulates the disclosure of disability documentation and records maintained by Stevens Disability Services. According to this act, prior written consent by the student is required before our Disability Services office may release disability documentation or records to anyone. An exception is made in unusual circumstances, such as the case of health and safety emergencies.

For more information about Disability Services and the process to receive accommodations, visit https://www.stevens.edu/office-disability-services. If you have any questions please contact: Phillip Gehman, the Director of Disability Services Coordinator at Stevens Institute of Technology at pgehman@stevens.edu or by phone (201) 216-3748.

***Inclusivity:***

*Name and Pronoun Usage*

As this course includes group work and in-class discussion, it is vitally important for us to create an educational environment of inclusion and mutual respect. This includes the ability for all students to have their chosen gender pronoun(s) and chosen name affirmed. If the class roster does not align with your name and/or pronouns, please inform the instructor of the necessary changes.

*Inclusion Statement*

Stevens Institute of Technology believes that diversity and inclusiveness are essential to excellence in academic discourse and innovation. In this class, the perspective of people of all races, ethnicities, gender expressions and gender identities, religions, sexual orientations, disabilities, socioeconomic backgrounds, and nationalities will be respected and viewed as a resource and benefit throughout the semester. Suggestions to further diversify class materials and assignments are encouraged. If any course meetings conflict with your religious events, please do not hesitate to reach out to your instructor to make alternative arrangements.

You are expected to treat your instructor and all other participants in the course with courtesy and respect. Disrespectful conduct and harassing statements will not be tolerated and may result in disciplinary actions.

**Students are responsible for any changes/additions to this syllabus announced on Canvas.**