

LIBR 559C 941 2023S1 Topics in Computer-Based Information Systems - TP CS CP-BSED INF

Python Programming Course

Instructor Information

Instructor Name: Fatemeh Salehian Kia, Ph.D.

Teaching Assistant: Patrick Sales

Class Location: Terrace Lab (UBC iSchool)

Student Resources

UBC Learning Commons Tech Support
(<https://learningcommons.ubc.ca/tech-support/>)

Student IT Helpdesk (<https://it.ubc.ca/got-question-about-it-products-and-support/>)

A UBC Student's Guide to Canvas
(<https://students.canvas.ubc.ca/>)

UBC Student Wellness Centre
(<https://students.ubc.ca/health/wellness-centre>)

Course Syllabus

Welcome to the Python Programming Course! I have designed this class specifically for those with no prior programming experience. With relatively simple basic exercises that focus on the core concepts of programming, I hope that you will gain a solid understanding of the topics in this course and be well-prepared to take more advanced programming courses. I expect that someone who knows another programming language and is trying to learn Python should be able to go through the material easily.

Ground Rules

I expect everyone to be mindful of what they say and its potential impact on others. The goal is to have respectful discussions that do not violate the community space created for these conversations. Here are some productive ways to engage in this course:

- **Participate:** Read or listen to what others have written or said and share your thoughts.
- **Stay curious:** Learn from each other by listening and asking questions, not making assumptions.
- **Keep your passion positive:** When replying to a discussion forum post, respond with thoughts on what was said, not about the person who posted. Avoid using all caps, too many exclamation points, or aggressive language.

Attendance Policy

Students are expected to attend all classes in this course, as each session is important and builds on the previous one. However, given the short duration of this summer course, students are allowed one unexcused absence without penalty. Please note that even missing one class may put you behind and make it difficult to catch up, so it is strongly recommended that you attend all sessions.

If a student needs to miss more than one class, they are required to provide valid evidence to explain their absence. Acceptable reasons for absences include documented medical issues or emergencies. Failure to provide evidence may result in grade penalties or even course failure.

Please note that this course runs for only 28 days, which is a very short time. If you miss too many classes, it may be difficult for you to catch up and succeed in the course. Therefore, if you are unable to attend classes regularly, you may want to consider dropping the course.

In the case of an emergency, such as the instructor falling ill, the class will be cancelled or the Teaching Assistant will take over for the session. In such situations, students will be notified as soon as possible via Canvas Announcements.

Please ensure that you communicate with the instructor and/or TA in advance if you know you will be missing a class. This will allow us to support you better and help you stay on track with the course material.

Learning Objectives

I have two distinct goals for students to achieve in my classroom: (1) product goals, which focus on what students should know or be able to do as a result of learning, and (2) process goals, which focus on techniques and strategies that students can use to learn effectively.

For this course specifically, I aim to achieve the following two goals:

- (1) Teach the **key concepts of Python programming and guide you to write executable programs** as a result of your learning.
- (2) Teach **computational thinking skills** that you can adopt to solve problems in a systematic manner and create solutions that can be carried out by a computer.

At the beginning of our first session, I would like to hear about your personal learning goals for this course. If you prefer to discuss your goals further with me in a one-on-one setting, feel free to schedule a meeting during my office hours. I look forward to a productive and engaging term together!

Learning Resources and Materials

The electronic version of the textbook is available through open access. Each assigned reading chapter for the week is published on Canvas. Please refer to the Canvas Modules for lecture notes, book chapters, and instructions for assignments and final group project checkpoints. The reading assignments for this course include chapters from two books:

1. Python for Everybody: Exploring Data in Python3 by Charles Severance.
2. Python for Data Analysis by Wes McKinney (O'Reilly). Copyright 2017 Wes McKinney, 978-1-491-95766-0.

Course Schedule

Course Session	Canvas Modules	Assignments	Readings
1	1.1. Why Program? 1.2. Installing Python	Assignment 1 Due May 16 at Midnight	Chapter 1
2	2. Variables, expressions, and statements 3. Conditional Execution	Assignment 2 Due May 18 at Midnight	Chapters 2, 3
3	4. Functions	Assignment 3	Chapters 4, 5

	5. Loops and Iterations	Due May 25 at Midnight	
4	6. Strings 7. Files	Assignment 4 Due May 30 at Midnight	Chapters 6, 7
5	8. Lists 9. Dictionaries	Assignment 5 Due June 1 at Midnight	Chapters 8, 9
6	10. Tuples 11. Regular Expressions	Group Project Proposal Due June 4 at Midnight; Peer Review Due June 9 at Midnight	Chapters 10, 11
7	12. Databases	Assignment 6 Due June 8 at Midnight	Chapter 15
8	Group Project Checkpoint 1	-	-
9	13. Object-Oriented Programming	-	Chapter 14
10	Group Project Checkpoint 2	Checkpoint 2 Peer Review Peer Review Due June 20 at Midnight	-
11	14. Data Visualization	Guest Speaker (tentative)	Chapter 8 (Second Textbook)
12	Final Group Project Presentation	Final Group Project Submission	-

Assessment and Evaluation

Your final grade will be determined by your performance in the following course components:

- 1. Class Participation (25% of your final grade):** You will be presented with questions during the lecture that are based on the concepts taught in class and the reading chapters for that week. To answer the questions in class, you need to use iClicker Cloud. You can access iClicker Cloud on your laptop, tablet, or smartphone by following the instructions provided in this guide: <https://lthub.ubc.ca/guides/iclicker-cloud-student-guide/> (<https://lthub.ubc.ca/guides/iclicker-cloud-student-guide/>) .

2. **Programming Assignments (25% of your final grade):** All assignments must be submitted through Canvas. There are a total of six assignments, each due at midnight on the following day.
3. **Final Group Project (35% of your final grade):** You will work in a group of three to create a Python application. You may choose your own groupmates, but each group should have exactly three members. To form a group, students can go to the People tab on Canvas and sign up for their preferred group. Remember to coordinate with your groupmates and make sure that everyone is on the same page regarding the project's objectives and timelines.

To ensure that you stay on track and receive feedback, we have two checkpoints for the final project in addition to the final project submission/presentation. At each checkpoint, you must present your work to the class.

- **Checkpoint 1 (15%)-** Project Proposal. You will have 10 minutes to present your project idea in class. You must submit a one-pager project proposal through Canvas to the instructor for approval. The proposal should include a brief description of your project, data sources, and requirements.
- **Checkpoint 2 (5%)-** Progress Report. You will provide an update on your project's progress, including a description of the data collection and cleaning process, and an initial program structure. Your report should also include any features you have developed so far. You will have 10 minutes to present your progress. You do not need to submit a report in writing.
- **Final Group Project Submission (15%)-** Final Group Project Presentation on **June 26th, 2023**. You will present and explain your motivation behind the project idea, and its functionalities, and demonstrate how the application's features work (live demo). You will have 15 minutes for the presentation. The 10-minute presentation and 5-minute Q & A.

Additionally, you must submit a final project zip file that includes all code files, properly commented code, and a readme file. Your final group project will be evaluated based on creativity, technical complexity, and the quality of the final product.

The purpose of this project is to demonstrate your ability to apply the concepts and skills you've learned in this course. Therefore, it is crucial that you do not plagiarize or use any unauthorized resources.

4. **Peer Review (15% of your final grade):** Every student must provide constructive feedback on two peer final group projects assigned to them at Checkpoint 1 (7.5%) and Checkpoint 2 (7.5%). Details on the criteria for constructive feedback, the format for submitting the feedback, and the timeline for completing the peer review are available on Canvas Assignments for each checkpoint.

On the day of the final presentations, all students will be asked to vote for the best final group project among their peer groups. The voting process will be anonymous and based on the quality, originality, and relevance of the projects. Each student will have one vote, and it is not allowed to vote for your own group project. The group with the most votes will receive a 5% bonus credit towards their final group project performance.

Please keep in mind that although the bonus credit can help to improve your final group project performance, it cannot replace meeting the course requirements and expectations.

If you have any questions or concerns about the peer review process, please feel free to discuss them with me. I encourage you to support your peers and provide constructive feedback during the presentations and peer review process.

Late Submission Policy

I understand that unforeseen circumstances may arise that may prevent you from submitting your assignments on time. To accommodate for such cases, I allow a grace period of one week for late submissions. However, please note that for every day that your submission is late, a penalty of 2% will be deducted from your total grade. This means that if you submit your assignment one week late, there will be a 14% penalty deduction from your final grade.

To ensure that you receive the highest possible grade for your assignments, I strongly advise that you submit your work on time. It is your responsibility to ensure that your assignments are submitted on time. Late submissions beyond the grace period of one week will not be accepted, and a grade of zero will be assigned for the assignment. If you anticipate any difficulties in meeting the submission deadline, please reach out to me as soon as possible, and I will work with you to find a solution.

Academic Honesty

All submitted work should be your own, and academic dishonesty is not allowed. Academic dishonesty can be defined as:

- Copying answers
- Copying words, ideas, or other materials from another source without giving credit to the original author
- Copying from your peers
- Employing or allowing another person to alter or revise your work, and then submitting the work as your own
- Using AI tools

You are not allowed to engage in any of the above actions, and doing so will be considered cheating. The purpose of your assignments is to assess your understanding of the subject matter and your ability to apply what you have learned.

Using AI tools to complete your assignments undermines the learning process and does not allow you to demonstrate your own knowledge and skills. Therefore, we expect you to complete your assignments on your own, without any assistance from AI tools.

If you are struggling with the assignment, I encourage you to seek help from me or the TA. We are available to answer your questions and provide guidance to help you succeed.

I take academic integrity seriously, and any student found to have used AI tools to complete their assignments will face disciplinary action. Please ensure that you adhere to our academic policies and approach your assignments with honesty and integrity.

Please don't share or reuse solutions to assignments, which is an academic integrity concern. Please do not:

- Share the complete assignment code in the course discussion forums
- Upload completed assignments to public websites with the goal of sharing solutions. (You can share your work and ideas for professional purposes though)

Acknowledgments

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people. The land is [Conditional Execution \(https://canvas.ubc.ca/courses/118129/modules/787006?wrap=1\)](https://canvas.ubc.ca/courses/118129/modules/787006?wrap=1) situated on has always been a place of learning for the Musqueam people, who for millennia have passed on their culture, history, and traditions from one generation to the next on this site.
