CS 172 Computer Programming II

Winter 2022

**Course Description:**

Object-oriented design, inheritance hierarchies, information hiding principles, string processing, recursion, good programming style, documentation, debugging, and testing.

**Prerequisites:**

C or better in CS 171

**Learning Expectations:**

This is the second in a two-term sequence of programming (CS171-2), required for all majoring in CS and those minoring in CS. The goal is to be able to write a working program using appropriate constructs when presented with a problem description.

**Objectives:**

Students completing this course should be able to:

* Be able to import and use Python modules
* Design and Implement Object Oriented Programs
* Be familiar with common data structures like lists and stacks
* Be able to design tests to determine code quality
* Understand how objects are used to improve code development.

**Instructor:**

Dave Augenblick

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**Teaching Assistants:**

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**Lecture Meetings:**

In general, lectures will be held in the Bossone Research Entr. Center (Auditorium)

**However, for week 1:**

A single “live” remote lecture will be conducted via BBlearn Collaborate on Monday (1/3) from 11am-12:50 pm. I understand that some of you are in different time zones where this time wouldn’t work, therefore the lecture will be recorded for asynchronous watching. It should become available around 2PM on that Monday.

**Office Hours**

In general, TA office hours will be held in the CLC. Hours are listed below.

Office hours are as follows:

Manal Abbas: Thursdays – 10 AM to 12 noon

Akshiv Bansal : Tuesdays – 12 noon to 2 PM

Andy Chek: Fridays – 4 PM to 6 PM

John Greaves: Wednesdays – 6 PM to 8 PM

**However, for Week 1:**

**Office hours will be held remotely.**  **The process** **for this will be communicated in an announcement prior to the start of classes (1/3)**

**Required Textbooks:**

CS 172: Computer Programming II, Zybooks

**1. Sign in or create an account at learn.zybooks.com**

**2. Enter zyBook code: DREXELCS172AugenblickWinter2021**

**3. Subscribe**

A subscription is **$88**. Students may begin subscribing on Nov 17, 2021 and the cutoff to subscribe is Apr 08, 2022. Subscriptions will last until May 14, 2022.

Making Games with Python & Pygame

* <https://inventwithpython.com/pygame/>

**Software & Hardware Requirements**

All Drexel students are required to have individual access to a dedicated computer which meets minimum specifications, including processor speed, memory and secondary storage requirements, connectivity via high-speed or direct connection to campus network, and a CD/DVD drive.

The official language of the course is Python 3. It is available for free from

<http://www.python.org>.

*Blackboard*

BBlearn will host the course syllabus and lecture material, in addition to supplemental material, grades, etc.. You can access the Drexel Learn course website by visiting the Drexel Learn Website (http://learn.dcollege.net/) and logging in using your Drexel userid and password. Further help is available at the login page.

*Zybook*

We will be using Zybooks as our interactive textbook. You will use for reading activities, homeworks, and labs. You’ll have to register and pay for access to the book. When you register, please use your alphanumeric Drexel ID (i.e. mjb528) so that we can easily import to BBlearn from Zybooks.

The course registration ID is

DREXELCS172AugenblickWinter2022

*Slack*

Unfortunately, the discussion forums built into Blackboard are not that effective at this time. To stimulate discussion and address questions asked by many (instead of answering them several times to individual students), we will be using Slack. We will also be using Slack to make course announcements. The courses URL is

drexelcs172winterer2022.slack.com (not yet set up as of 12/20/2021)

**The registration instructions for this site will be made available on or about Jan. 2nd.**

**Please do NOT attempt to register until I’ve announced the availability of this channel.**

*Zoom*

Zoom will be utilized in combine with Slack for office hours. Links to the meeting rooms will be communicated when needed during a Slack office session and you can attend the meetings using either the Zoom standalone software or via their web version

**CS 172 Week by Week**

This is a preliminary outline and may be revised and augmented during the term according to need.

*Readings are from the Zybook, unless otherwise stated.*

|  |  |  |  |
| --- | --- | --- | --- |
| *Week* | *Topic(s)* | Reading | Assessment |
| Week 1 | Course Overview  Object Oriented Design  Using/Including Objects  Modules/Packages | Syllabus  Week 1 | Lab 1 |
| Week 2 | Classes in Python | Week 2 | Lab 2  **HW 1 Due (zyBooks)** |
| Week 3 | Overloading Operators  **Note : No lecture on Monday due to Martin Luther King day holiday.**  **The University is closed on 1/17.**  **Lecture will be recorded and posted in bbLearn.** | Week 3.1 | Lab3 |
| Week 4 | Inheritance | Week 3.2 | Lab 4  **HW 2 due (zyBooks)** |
| Week 5 | Pygame | Week 5  Sweigart, Chapters 1-2 | Lab 5  **HW 3 Due (zyBooks)** |
| Week 6 | Memory considerations  Stacks and Queues | Week 6 | Lab 6  **MIDTERM EXAM** |
| Week 7 | Linked Lists | Week 7 | Lab 7  **HW4 Due (BBlearn)** |
| Week 8 | Hash Tables Week 8 Lab 8 | | |
| Week 9 | Binary Search Trees | Week 9 | No Lab  **HW5 Due (zyBooks)** |
| Week 10 | Review + Prep for Final Exam |  |  |
| Week 11 | Final exam |  |  |

**Course Assessment:**

Your grade will have five components:

* Readings (zyBooks) 15%
* Labs 15%
* Individual Programming Assignments (zybooks, BBlearn) 15%
* Midterm Exam 25%
* Final Exam 30%

**Readings**

Most weeks we will assign material from ZYbooks to complete. This reading is to be completed the evening **before** lecture (with the exception of week 1) so that you can get the most out of lecture time. (Correct) participation in the exercises will be used as your “reading grade”.

**Labs**

With the exception of lab 1 (details to be communicated shortly), labs will be held live in class on Thursdays (1PM to 2:50PM) or Fridays (1PM to 2:50PM), depending upon which day you are registered.

Lab rooms are 912 and 913 in 3675 Market.

**Individual Programming Assignments**

There will be 5 assignments scattered throughout the course. They are to be done individually. All will be submitted via ZYbooks, with the exception of one using Pygame (which will be submitted to BBlearn for grading).

**Midterm and Final Exams**

The midterm and final exams are individual online exams using bbLearn’s quiz feature, with both multiple choice and programming components. You will receive a zero if you miss an exam. I know that many of you are in different time zones; exam plans will be communicated prior to the 1st exam.

**Deadlines:**

* Readings – Sundays by 11:59pm (day before Monday’s lecture)
* Labs – Sundays by 11:59pm (end of current week)
* Assignments – Wednesdays by 11:59pm (one week after assigned)

**Additional Policies**

* You, your instructor, and the TA are bound by the Academic Honesty policy. Students are responsible for reading and understanding the course policies in this syllabus and for announcements made in class and in the course email list. See the academic policy at the end of the syllabus
* Any dispute about an assignment grade must be made in writing (email) and resolved within 5 days of receiving your grade. After this period your grade cannot be adjusted.
* If you are seeking help with an assignment you must contact me or a TA prior to Friday close-of-business hours. We cannot guarantee a timely response of that. This policy is to ensure that you get started early on your assignments.
* If you have extended time for an exam please contact your professor.

**Plagiarism Detection System**

To ensure that assignments are done independently, in addition to human observation, we will be running all assignments through a plagiarism detection system. This program uses compiler techniques which are invariant of syntax and style. It has a very high accuracy rate.

**University Policies**

In addition to the course policies listed on this syllabus, course assignments or course

website, the following University policies are in effect:

* Academic Integrity: <http://www.drexel.edu/provost/policies/academic_dishonesty.asp>
* Students with Disability Statement: <http://drexel.edu/oed/disabilityResources/students/>
* Course Drop Policy: <http://drexel.edu/provost/policies/course-add-drop/>
* Course Withdrawal Policy: <http://drexel.edu/provost/policies/course-withdrawal/>

The instructor(s) may, at his/her/their discretion, change any part of the course before or during the term, including assignments, grade breakdowns, due dates, and schedule. Such changes will be communicated to students via the course web site. This website should be checked regularly and frequently for such changes and announcements.

Students [requesting accommodations](http://drexel.edu/oed/disabilityResources/students/) due to a disability at Drexel University need to request a current Accommodations Verification Letter (AVL) before accommodations can be made. These requests are received by Disability Resources (DR), who then issues the AVL to the appropriate contacts. For additional information, visit the DR website at [drexel.edu/oed/disabilityResources/overview/](http://drexel.edu/oed/disabilityResources/overview/), or contact DR for more information by phone at 215.895.1401, or by email at disability@drexel.edu.

**Academic Integrity/Plagiarism Policy**

As a reminder, below is the university’s academic integrity/plagiarism policy:

“Drexel University Policy on Plagiarism:

Violations of the Academic Integrity Policy include, but are not limited to:

1. Plagiarism

2. Fabrication

3. Cheating

4. Academic Misconduct

***1. Plagiarism***— the inclusion of someone else’s words, ideas, or data as one’s own work. When a student submits work for credit that includes the words, ideas, or data of others, the source of that information must be acknowledged through complete, accurate, and specific references, and, if verbatim statements are included, through quotation marks as well. By placing his/her name on work submitted for credit, the student certifies the originality of all work not otherwise identified by appropriate acknowledgments.

Plagiarism covers unpublished as well as published sources. Examples of plagiarism include, but are not limited to:

* Quoting another person’s actual words, complete sentences or paragraphs, or an entire piece of written work without acknowledgment of the source.
* Using another person’s ideas, opinions, or theory, even if it is completely paraphrased in one’s own words without acknowledgment of the source.
* Borrowing facts, statistics, or other illustrative materials that are not clearly common knowledge without acknowledgment of the source.
* Copying, or allowing another student to copy, a computer file that contains another student’s assignment, and submitting it, in part or in its entirety, as one’s own.
* Working together on an assignment, sharing the computer files and programs involved, and then submitting individual copies of the assignment as one’s own individual work.

Students are urged to consult with individual faculty members, academic departments, or recognized handbooks in their field if in doubt regarding issues of plagiarism.

***2. Fabrication* ‐** Fabrication is the use of invented information or the falsification of research or other findings. Examples include, but are not limited to:

* Citation of information not taken from the source indicated. This may include the incorrect documentation of secondary source materials.
* Listing sources in a bibliography not used in the academic exercise.
* Submission in a paper, thesis, lab report, or other academic exercise of falsified, invented, or fictitious data or information, or deliberate and knowing concealment or distortion of the true nature, origin, or function of such data or information.
* Submitting as your own written work, printing, sculpture, etc. prepared totally or in part by another.”

***3. Cheating* ‐** Cheating is an act or an attempted act of deception by which a student seeks to misrepresent that he or she has mastered information on an academic exercise that he/she has not mastered. Examples include, but are not limited to:

* Copying from another student’s test, exam, quiz, and/or paper.
* Allowing another student to copy from a test, exam, quiz, and/or paper.
* Unauthorized use of course textbook or other materials, such as a notebook to complete a test or other assignment.
* Collaborating on a test/exam/quiz or other project with another person(s) without authorization.
* Using or processing specifically prepared materials during a test such as notes, formula lists, notes written on the students clothing, etc. that are not authorized.
* Taking a test for someone else or permitting someone else to take a test for you.”

***4. Academic Misconduct* ‐** Academic misconduct includes other dishonest acts such as tampering with grades or taking part in obtaining or distributing any part of an administered or unadministered test/assignment. Examples include, but are not limited to:

* Stealing, buying, or otherwise obtaining all or part of an administered or unadministered test.
* Selling or giving away all or part of an administered or unadministered test including questions and/or answers.
* Bribing any other person to obtain an administered or unadministered test or any information about the test.
* Any unauthorized action taken for the purpose of changing a grade in a grade book, on a test, or on other works for which a grade is given.
* Changing, altering, or being an accessory to the changing and/or altering of a grade in a grade book, on a test, a “change of grade” form, or other official academic records of the University that relate to grades.
* Continuing to work on an examination or project after the specified allotted time has elapsed.
* Any buying or otherwise acquiring any theme, report, term paper, essay, computer software, other written work, painting, drawing, sculpture, or other scholastic art work, and handing it in as your own to fulfill academic requirements.
* Any selling, giving, or otherwise supplying to another student for use in fulfilling academic requirements, any theme, report, term paper, essay, computer software, other written work, painting, drawing, sculpture, or other scholastic art work.
* Scientific Misconduct—See <http://www.drexel.edu/provost/policies/conduct_of_research/>”

A step‐by‐step guide for reporting a case of academic dishonesty can be found on the Student Life Website: http://drexel.edu/studentlife/community\_standards/facultyStaff/integrity/. Should you have any questions or need further assistance regarding academic dishonesty, please call 215‐895‐6074 and ask for Stephen Rupprecht or email sccs@drexel.edu.