CSE 160, Computer Science A: Honors
Course Information

Spring 2021

Stony Brook University

Instructor: Dr. Paul Fodor

http://www.cs.stonybrook.edu/~cse160

Course Description

- "*First part of a two-semester sequence, CSE 160 and CSE 260. An introduction to procedural and object-oriented programming methodology and basic data structures. Topics include program structure, conditional and iterative programming, procedures, arrays, object classes, encapsulation, information hiding, inheritance, polymorphism, file I/O, exceptions and simple data structures, such as lists, queues and stacks*"

  (https://www.cs.stonybrook.edu/students/Undergraduate-Studies/courses/CSE160)

- Prerequisites: Computer Science Honors Program or Honors College or WISE program or University Scholar or permission of instructor

Course Outcomes

- The following are the official course goals agreed upon by the faculty for this course:
  - An ability to program in a procedural and object oriented language, using concepts such as loops, methods, object classes, encapsulation, inheritance, and polymorphism.
  - An ability to use and define fundamental data structures such as arrays, stack and queues.
  - An ability to program with sound code structure and use systematic software debugging and testing techniques.

Course Focus

- Introduction to programming (in Java):
  - conditional statements
  - loops
  - methods
- Fundamental data structures of high-level programming: arrays, lists, stacks
- Algorithms
- Basic concepts of object-oriented programming
  - object classes
  - encapsulation
  - inheritance
  - polymorphism
  - Application: GUIs
- Programming assignments
  - systematic software debugging
  - systematic testing techniques

Instructor Information

- Dr. Paul Fodor
  214 New Computer Science Building
- Office hours: Mondays and Wednesdays 4-5:30pm
- Email: paul (dot) fodor (at) stonybrook (dot) edu
  - Please include "CSE 160" in the email subject and your name in your email correspondence
- TAs: see course Piazza
- Course Web site:
  http://www.cs.stonybrook.edu/~cse160
- **Blackboard** will be used for assignments, grades and course material.

General Information

- Meeting Information (Class Time and Place):
  - CSE 160 Computer Science A: Honors (Lecture): MoWe 6:05PM - 7:25PM, online on Zoom.
  - CSE 161 Laboratory for Computer Science A: Honors: MoWe 7:50PM - 9:10PM, online on Zoom.

Textbook

- Optional:
  - Introduction To Java Programming, Comprehensive Version, Author: Daniel Liang, Publisher: Pearson , Edition: 11th, 2017.

Software

- Necessary Software:
  - Java Developer Kit (JDK): download from http://java.com/en/download/index.jsp
    - You should download JDK for your operating system (cost: free)
  - Eclipse IDE: http://www.eclipse.org
    - You should download the Eclipse IDE for Java Developers (cost: free)

Coursework

- Grading Schema:
  - Grades will be based on homework and exams according to the following formula:
    - Homework assignments -- 15%
    - Labs -- 10%
    - Midterm exams (2) -- 50% (25% each)
    - Final exam -- 25%
  - CSE161 is the lab for CSE160 and will get the same grade as CSE160.

Coursework

- Grade Cutoffs
  - A [95-100], A- [90-95), B+ [87-90), B [83-87), B- [80-83), C+ [77-80), C [73-77), C- [70-73), D+ [65-70), D [60-65), F [0-60)
  - SPECIAL RULE: If all your grades, including homework assignments, quizzes, recitation and your three exam grades are above the respective class averages, you're guaranteed to receive a grade of C or higher for this class.
  - There will be extra credit problems as a part of quizzes and homework assignments which values to an increase of less than 4% in the final grade.

Important Dates

- Midterm Exam #1: Monday, March 8, 2021, during class time (80 minutes).
- Midterm Exam #2: Wednesday, April 7, 2021, during class time (80 minutes).
- Final Exam: FINAL EXAM: Wednesday, May 12, 2021, 8:30-10:30pm (2 hours final exam).
  - See Final Exams University Schedule for exam schedules: http://www.stonybrook.edu/registrar/finals.shtml
- The exams will be administerred using Respondus LockDown Browser with Monitoring.
- The exams will be like the problems that we solve in the class!

Assignments

- Homework assignments due on fixed dates and times.
  - **no late submission is permitted**
- All assignments should be submitted electronically
  - Blackboard and the textbook Web site

Lab exercises

- Simple Coding Exercises
  - You have only the lab-time to edit, compile and execute your solution
  - Attendance is mandatory, if you want credit.
  - Submit your lab work on Blackboard for lab credit by the end of the lab day.

    0 –3 points:
    - 0 - Student did not attend the lab or program does not even compile.
    - 1 - Student attended the lab, program compiles but has major problems.
    - 2 - Student attended the lab, and program partially works (with some minor errors)
    - 3 - Student attended the lab, and program is correct

Regrading of Homework/Exams

- Please meet with a grading TA or the instructor and arrange for regrading.
- **You have one week from the day grades are posted or mailed or announced!**
  - Late requests will not be entertained

Class Schedule

Week	Lecture Topics
1	Introduction to Computers, Programming and Java
2	Elementary Programming, Selections
3	Mathematical Functions, Characters, and Strings, Loops
4	Methods
5	Arrays
6	Multi-dimensional Arrays
7	Objects and Classes, Object-Oriented Thinking
8	Inheritance and Polymorphism
9	Exception Handling and Text I/O
10	Abstract Classes and Interfaces
11	Graphical User Interfaces
12	Event-Driven Programming
13	JavaFX UI Controls and Multimedia
14	Recursion

Student Accessibility Support Center

- If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Student Accessibility Support Center, ECC (Educational Communications Center) Building, Room 128, (631)632-6748. They will determine with you what accommodations, if any, are necessary and appropriate. All information and documentation is confidential
- Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Student Accessibility Support Center. For procedures and information go to the following website: http://www.stonybrook.edu/ehs/fire/disabilities
- **All documentation of disability is confidential**

Academic Integrity

- The following rules are posted in every course syllabus: "*Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong.* ***Any suspected instance of academic dishonesty will be reported to the Academic Judiciary.*** *For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at* http://www.stonybrook.edu/commcms/academic_integrity/"

Academic Integrity

- You can discuss general assignment concepts with other students: explaining how to use systems or tools and helping others with high-level design issues
- You **MAY NOT share** assignments, source code or other answers by copying, retyping, looking at, or supplying a file
  - Assignments are subject to manual and automated similarity checking (We do check! and our tools for doing this are much better than cheaters think)
- If you cheat, you will be brought up on academic dishonesty charges - we follow the university policy:
  - http://www.stonybrook.edu/uaa/academicjudiciary

Examples of Academic Dishonesty

- Unpermitted collaboration (on a paper, homework, lab reports, etc.). Unless an instructor has explicitly approved working together, students should assume, for their own protection, that it is not permitted.
- Helping someone else to plagiarize from one's own homework (for example, by giving them a copy of yours, or doing it for them)
  - This includes having a public repository on Github that other students can copy from.
- Representing someone else's source code as one's own. If another person's code is being used, it must be properly cited.
- Buying or selling source code.
- Using source code or pieces of a paper from the internet without properly citing the source.

Academic Dishonesty

- The instructor makes a recommendation at the Academic Judiciary office
  - Cheating is cheating! No matter the amount of cheating or if one is the source or destination of cheating.
  - Do not cheat! You are cheating yourself.
  - Our job is the teach you the material and make sure that you learn it.
  - Our recommendation is always F for the cheaters!

Catastrophic events

- Major illness, death in family
- Formulate a plan (with your CEAS academic advisor) to get back on track
- Advice
  - Once you start running late, it's really hard to catch up

Piazza

- The Piazza discussion board should be used for all communication with the teaching staff for questions about the course assignments and material
  - Piazza is a forum for additional learning and assistance
  - You are expected to use the Piazza forum for all non-personal, course-related communication
    - Like questions about what a homework problem is asking, technical problems that need troubleshooting, or other questions that might be of interest to other students must be posted to Piazza and not emailed to the instructor or a TA

Piazza

- The following are NOT appropriate uses of Piazza:
  - cyber-bullying
  - posting memes
  - complaining about a grade
  - airing concerns/comments/criticisms about the course
  - posting more than a few lines of source code from an attempt at a homework problem
  - posting the solution to a homework problem or a link to a website containing the solution
  - in general, anything unrelated to the course material and student learning
- Anonymous posting is turned off, so we can see who you are.

Email Etiquette

- When emailing your instructor about the course, use the following guidelines to ensure a timely response:
  - use your official **@stonybrook.edu** email account (we cannot respond to an other email due to FERPA regulations)
  - use a descriptive subject line that includes "CSE160" and a brief note on the topic
  - begin with a proper greeting, such as "Hi Prof. Fodor"
  - briefly explain your question or concern or request including the course (we are teaching several courses)
  - end with a proper closing that includes your full name, Net ID and SBU ID number

What do you need to get started?

- Blackboard account
  - http://blackboard.stonybrook.edu
- Java JDK standard edition:
  - http://www.oracle.com/technetwork/java/javase/downloads
- Eclipse IDE:
  - http://www.eclipse.org/downloads
  - Learn to use the debugger!!!
- Optional: Liang's student Web site:
  - http://www.cs.armstrong.edu/liang/intro10e

Tools for Writing Java Programs

- 1st Approach – the bare minimum
  - edit Java source code in text editor (ex: Notepad or Pico)
  - compile source code into class files from command line: javac
  - can be tedious
  - poor interactivity
- 2nd Approach – Integrated Development Environment (IDE)
  - combines writing, compiling, running and debugging Java code into a single application
  - makes coding much more efficient and organized
  - Eclipse, NetBeans, etc.

Java: How does it work?

- Java Source Code
  - you write *??????.java* **files**
- Compile your Program

  `javac ??????.java`

  OR
  - ***Build menu option in the Run menu*** included in the Eclipse IDE
  - The Result is: Java Executable Code (bytecode)
    - *????????.class* files = Java bytecode - not humanly readable
- Now you can run your java program using the Java Virtual Machine (JVM):

  `java YourProgramName`

  OR ***Run*** button included in the Eclipse IDE

Please

- Please be on time
- Please show respect for your classmates
- Please turn off (or use vibrate for) your cellphones

…

- On-topic questions are welcome

Welcome and Enjoy!