COMSC 201: Advanced Problem Solving and Object-oriented Programming (Section 02)

Syllabus Fall 2018

Overview

This is the second programming course in the required Computer Science major sequence. By the end of this course, you will be a more sophisticated programmer comfortable with the object-oriented programming (OOP) language Java. You will also learn elementary data structures.

Lecture and Lab Information

- Lecture
  - Monday/Wednesday 2:55-4:10 PM, Clapp 206
- Labs
  - L-03: Thursday 1:30-4:20 PM, Clapp 202
  - L-04: Friday 1:30-4:20 PM, Clapp 202

Instructor

Heather Pon-Barry
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Website: www.ponbarry.com
Office: Clapp 226
Office hours: Monday 1:30-2:30, Thursday 1:30-2:30

Lab Instructor

Amy Tayloe
Email: atayloe@mtholyoke.edu
Office: Kendade 310
Office Hours: by appointment

Piazza Q&A Forum

Piazza will be used for course announcements and for question answering: piazza.com/mtholyoke/fall2018/cs201ponbarry/

Required Textbook

We will be using this textbook:

- *Data structures and algorithms in Java.* By Michael Goodrich, Roberto Tamassia, and Michael H. Goldwasser. John Wiley & Sons, 2014. **6th edition**.

TA Office Hours

Drop-in help in Kendade will begin on Monday Sept 10.

Course Topics

- Object-oriented programming (OOP) concepts
  - Abstraction
  - Inheritance
  - Interfaces
  - Polymorphism
- More advanced programming concepts and elementary data structures
  - Sorting
  - Recursion
  - Arrays
  - Linked Lists
  - Stacks
  - Queues
  - Binary trees

Course Requirements

- Weekly assignments (primarily programming)
- Weekly labs
- Final programming project
- One in-class midterm exam
- A self-scheduled final exam in the final exam period

Grading

- Assignments: 30%
- Labs: 5%
- Final project: 12.5%
- Midterm exam: 15%
- Final exam: 25%
- MaGE participation: 5%
- Class participation: 7.5%

General Grading Guidelines

- Assignments will generally be given out on Monday, due the following Sunday at 11:59pm.
- There will be seven or eight homework assignments (not including HW0).
- The lowest grade recieved for a *submitted assignment* will be dropped, i.e., not included in your final grade calculations.
- You must have comments in your code! Poor commenting will result in a deduction of up to 10%.
- Your program must compile! Non-compiling code will result in an automatic deduction of 20%.
- It is better to submit a program that works but does not satisfy all required behavior than a program that attempted to do everything, but does not run!
- Including a README text file is optional, but encouraged. If you've done something differently from the requirements, or are not sure about a choice you made, or have a known bug, talking about it in your readme can positively affect your grade. Otherwise, the instructor has no way to know if unexpected behavior is an error or a feature.

Late Policy

- There are no late days and late assignments will not be accepted.

Access to CS Lab and Network

- You will be given:
  - An account on the Computer Science network, with the same username and password as you MHC account
  - Access to the Clapp 202 and Kendade 307 labs, which are equipped with Macs on the Computer Science network
- Remote Access to CS Network
  - If you wish to work on a computer not in the lab (e.g., your personal computer or a LITS machine), you are responsible for transferring your files to the CS network for submission or when asking for debugging assistance.
  - To access and change your files from a your own computer, follow these instructions.
  - To access the network from off-campus, connect via these instructions first, then follow the instructions above.
- See the CS help site for more information

Attendance

Class and lab attendance is extremely important and counts towards the participation component of the course grade. You are responsible for material presented in class and lab; be sure to ask questions if there are concepts you do not understand. If you miss a class or lab, please ask a classmate for notes. You may see me or the lab instructor with any subsequent questions on covered material, but do not come to office hours and ask me what you missed in class. If you have an emergency that results in missing more than one class, you should let me know as soon as is possible.

Classroom Expectations

Cell phones should not be out during lectures. Laptop computers and tablets are allowed only for taking notes or following along with course materials. If you choose to use a laptop or tablet, you must to sit in the front row(s) of the classroom. Violations of these policies will affect the participation component of your final grade.

Accommodations

If you have a disability for which you require accommodations, please make an appointment to see the instructor within the first two weeks of classes so that we can make appropriate arrangements. You will need to have a letter from the AccessAbility Services Office, located in Mary Lyon Hall, 3rd Floor (phone: 413-538-2634, Accessability-services@mtholyoke.edu).

Honor Code

Mount Holyoke College Computer Science Department Honor Code Statement
The Computer Science Department follows the Mount Holyoke College Honor Code. Work submitted for grading must be entirely your own, unless you were instructed to work in groups. The purpose of course

assignments is to practice skills, gain a deeper understanding of the course material, and apply that knowledge to new situations. Assignments are designed to challenge you, stimulate critical thinking, and help you understand the concepts related to the course. Your grade is a reflection of your understanding of the material. We recognize that collaboration can help you master course material. In fact, there are certain ways in which we will encourage you to collaborate. These include: discussing course content at a high level, getting hints or debugging help, talking about problem-solving strategies, and discussing ideas together. However, you must do **all coding and write-ups on your own**. Writing code and solutions on your own will test and demonstrate your mastery of course material. **Looking at solutions from other students or any other source (including the web), or collaborating to write solutions to individual work, is considered a violation of the honor code**. All suspected violations will be referred to the academic honor board. If you are uncertain whether something is allowed, it is your responsibility to ask.

If you have engaged in any of the above acceptable collaboration activities for an assignment, you MUST acknowledge the classmates or TAs with whom you spoke – this should be done in a comment at the top of your main submission file.

Note that the Association for Computing Machinery has a strong Code of Ethics and Professional Conduct. At this site you can read the new 2018 version.

Internet sources:
The internet is a useful resource when learning to solve computer science problems, and in some cases you will be expected to use reference material found online (e.g., documentation for a programming language or library). In general, it's OK to look at resources for a broad topic such as a programming language, but it is not OK to look at solutions for specific programming or written problems. If you are unsure whether something is allowed, ask. **You must cite all online sources used while working on an assignment**. Instructors will clarify more specific expectations or deviations from this policy, but it is always the student's responsibility to ask if they are unsure.

Dos and Don'ts:
These lists are intended to clarify what types of behaviors are and are not generally permissible. Follow these guidelines unless specifically directed otherwise. (clarify if uncertain)

Do:

- Organize study groups.
- Clarify ambiguities or vague points in class handouts, textbooks, assignments, and labs.
- Discuss assignments at a high level to understand what is being asked for, and to discuss related concepts and the high-level approach.
- Refine high-level ideas/concepts for projects (i.e., brainstorming).
- Outline solutions to assignments with others using diagrams or pseudocode, but not actual code.
- Walk away from the computer or write-up to discuss conceptual issues if you get stuck.
- Get or give help on how to operate the computer, terminal, or course software.
- Get or give limited debugging help. Debugging includes identifying a syntax or logical error but not helping to write or rewrite code.
- Submit the result of collaborative coding work if and only if group work is explicitly permitted (or required).

Don't:

- Look at another student's solutions.
- Use solutions to same or similar problems found online or elsewhere.
- Search for homework solutions online.
- Turn in any part of someone else's work as your own (with or without their knowledge).
- Share your code or written solutions with another student.
- Share your code or snippets of your own code online.

- Allow someone else to turn in your work as their own. (Be sure to disconnect your network drive when you logout and remove any printouts promptly from printers.)
- Collaborate while writing programs or solutions to written problems. (But see above about specific ways to give or get debugging help.) Write homework assignments together unless it is specified as a group assignment.
- Collaborate with anyone outside your group for a group assignment.
- Use resources during a quiz or exam beyond those explicitly allowed in the quiz/exam instructions. (If it is not listed, don't use it. Ask if you are unsure.)
- Submit the same or similar work in more than one course. (Always ask the instructor if it is OK to reuse any part of a different project in their course.)

Specific guidelines for CS201

- You MUST acknowledge classmates or TAs that you worked with for each assignment – this should be done in a comment at the top of your main source code file.
- All the homework assignments that you submit must be yours: **it is against the honor code to have somebody else do the assignment for you (including TAs or tutors) or to copy it from somewhere else (including books or the internet).**
- We will be automatically comparing code submissions to other submissions from this semester and past semesters.
- We understand that a great way to learn is by adapting code snippets found online; however, this enters very sensitive territory! For most of the assignments, you should not be adapting code you've found online; you may, of course, adapt code from the course web site or textbook. In some rare situations, there will be cases where it is appropriate to use other online resources (e.g., external libraries we have not explicitly worked through in class or lab). **Any code that you have adapted MUST be properly referenced (e.g., give the URL of the site you obtained the original from).** We expect to see comments where you have modified the original code. If you are at all unsure about what is acceptable, contact one of the instructors.