AP Computer Science A

Mrs. Jillian Maher   Room CC2
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Phone: (859)384-5040 x.15145
Website: http://mahersclass.yolasite.com
Availability: 6th Period 1:45pm – 2:20pm
                                   2:30pm – 3:00pm

Course Expectations

You are expected to work, study, and collaborate in this classroom in a professional manner. We will use JAG SWAG to help be the best professionals through this course. These are by no means the limit of expectations, only the benchmark. Please remember all district and school rules apply to this classroom as well.

1. **Be Safe.** Absolutely NO food and drink in the lab. Remain in your seat throughout class. Do not block exits before, during or after class. Clean up the area around you before dismissal.
2. **Have Work Ethic.** Use your time in class from bell to bell. Work efficiently through slides, through notes, through classwork, ALWAYS!
3. **Be Accountable.** Enter the classroom prepared and be in your seat before the start. Turn in all assignments on time. Gather makeup work and complete in appropriate time. Ask questions and get help immediately.
4. **Give Respect.** You are only in charge of one person. Be the best person you can be. Treat others as you expect to be treated.

Course Text

Java Software Solutions for AP Computer Science. Lewis, Loftus, and Cocking.

This textbook is yours for the duration of the course. You will check it out at the beginning of the course and you are expected to turn it in at the end of the course in great condition.

The course will also use the Eclipse IDE. While not required, instructions are on my website to download free on your home computer.

Course Materials

The classroom this year will be designed as paperless as possible. All files will be retrievable online at the class Canvas website. Homework will be submitted primarily through Canvas. It may be necessary to keep a folder for occasional flyers and a personal flash drive.

Grading
An average of the four quarter grades accounts for 90% of your final grade. A final exam will account for the remaining 10% of your grade. For each quarter's grade, there are three categories.

Labs are 30% of your quarter grade. To show programming mastery, it is essential that you create, reconstruct, or manipulate programs. Each unit will contain one large programming project lab. Labs will be graded using a rubric for each assignment, posted each time.

Assessments are 40% of your quarter grade. You will be assessed on your ability to read and write code through unit tests, quizzes, and constructed response problems.

Coursework is 30% of your quarter grade. Assignments in this category vary. We will have Article Summaries, Mini Labs, research, and various worksheets necessary to gain skills prior to completing a lab.

Academic Integrity Policy
Due to the high accessibility to online content in this course, you will be monitored daily for appropriate computer use. Coding a computer is just like hand-writing, it is unique to each individual. Turing in another author's code is strictly prohibited. Using the computers to access information during a test is prohibited as well. You can use page 34 in your Student Handbook in your Agenda to review the consequences.

Late Work Policy
Being tardy in assignments can hinder the learning process. It is essential that you, the student, complete all assignments in a timely manner. However, late assignments will be accepted since the goal of this course is to attain mastery of content. Any late work is accepted at half credit.

There will be a final date of acceptance so grades may be posted in an appropriate time.

Absence Policy
If you are absent, collect any missing assignments from the website. You are given the number of days you were absent to return missed work. You are still responsible for work due on the day you were absent, it is to be turned in the day of your return.

Credit on missed work is based on the type of absence and the amount of time taken to return the work. If the absence in excused, and the work is returned according to the amount of time missed, it will be accepted as full credit. If the absence is unexcused, the work is accepted for half credit. If you are absent for a unit test, quiz, or other assessment, you will have one week from your return to complete the assignment in your own time (before or after school).

Course Outline

TOPIC 1: Hello World
      Unit 0: Lab Intro
      Unit 1: Input and Methods

TOPIC 2: Object Introduction
      Unit 2: Classes, OOP
      Unit 3: Math Operations
      Unit 4: Strings

TOPIC 3: Conditionals
      Unit 5: If Condition
      Unit 6: If Else and If Else If
      Unit 7: Switch Case

TOPIC 4: Iteration
      Unit 8: For Loop
      Unit 9: While Loop

TOPIC 5: Logic
      Unit 10: Boolean Logic and Laws
      Unit 11: Nested Loops

TOPIC 6: Strings Continued
      Unit 12: Chopping Strings
      Unit 13: File Input

TOPIC 7: Arrays
      Unit 14: Array Introduction
      Unit 15: Arrays, OOP
      Unit 16: ArrayList

TOPIC 8: References
      Unit 17: References and Parameters
      Unit 18: Array of References, OOP

TOPIC 9: Abstract Programming
      Unit 19: Interfaces
      Unit 20: Inheritance
      Unit 21: Abstract Classes

TOPIC 10: Arrays Continued
      Unit 22: Matrices
      Unit 23: Recursion
      Unit 24: Sorting and Searching

The course will end with 8 weeks of AP Review Time. This will include guided practice of the past years' free response and multiple-choice questions, work with the AP CS A Labs – Magpie, Elevens, and PictureLab – and readings.

After the AP Exam: All students will be participating in a Final Exam Project.