

# AP COMPUTER SCIENCE A

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**Ms. Jess Gabrielson**

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<b>Twitter:</b>	<b>Email:</b>	<b>Phone Number:</b>	<b>Room:</b>
@EFHSroom118	jgabrielson@go-efsd.net	412.896.2300 ext 7818	118

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## Course Description

This full-year elective course prepares students interested in computer science for the AP Computer Science A College Board test in May 2023. The course emphasizes problem analysis, data structures, algorithm design, and object-oriented programs using the Java programming language. You will be tasked with solving problems and completing labs, as well as some larger projects. At least 30 hours of classroom time will be spent programming individually or with a small team. The curriculum covers all the topics described in the AP Computer Science A Course Description.

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## Class Aspects

### 1. AP Test Information:

- The AP test is May 3rd, 2023. Registration is in November of this year. If you register but do not take the test, there is a cancellation fee. If you do not register on time, there is a late fee.
- The test features multiple-choice questions and four free response questions that are hand written. We will discuss in more detail in the class how the text is formatted.

### 2. A Day in the Class...

- Some days we will code as a whole class and discuss new coding topics.
- Most days you will be coding! We will use the IDE called Eclipse to write our programs. Most of our programs will be text-based (no graphics).
- Other days we will practice multiple choice or free-response questions to prepare for the AP test.

### 3. Resources:

- Textbook: *Starting Out with Java From Control Structures Through Objects*. 6th edition. Addison-Wesley: Pearson, 2015. (class set, may be signed-out)
- Online Textbook: *runestone.academy* (we will set this up together soon!)
- Notes and examples taken in class and exercises worked on and posted on Canvas.

### 4. Assignments

- Exercises: you will be assigned small coding challenges/exercises. These will be completed in class and are usually short and help you review the most recent new topic we have covered.
- Larger labs/games: even though we are going to be creating mostly text-based programs, we will still be making interesting applications and games! For example, in the past we have made Hangman, a slot machine, a text adventure game, and a text-based Pokemon game! You will be given many days in class to just work on your large projects.
- Tests/quizzes: We will have assessments periodically. These will reflect the structure of the AP test. They will always be announced and a review page of what topics will be covered on the exam will be provided. The major test days for this class are Mondays and Wednesdays.
- There may be a few other types of assignments like Free Response practice, homework, and other activities.

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## Classroom Materials

You will need for this class:

1. Access to Canvas (on school iPad)
2. You may want a folder for the class. You will get some resources on paper, and some assignments will be on paper to model the format of the AP test.
3. You do not need a computer at home, but you may find it helpful for extra time on assignments. If you don't have one, make sure to talk with Ms. G. to make a plan on how to code at home. Also, with permission, you are welcome to come to room 118 for extra time.

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## Technology Rules

- We will be using the laptops in this room to complete our assignments. You cannot take the laptops out of the room without permission. Make sure to use them appropriately and take good care of them.
- We will use iPads, specifically Canvas. Make sure to bring it each day.
- With teacher permission, you are welcome to come to Room 118 to work on assignments.

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## Classroom Rules

You are expected to follow all school procedures and will be held to high standards regarding how you treat your peers. Disrespectfulness will not be tolerated. Make sure to always be a BRAVE Warrior!

**B**e safe (Listen to staff, maintain personal space)

**R**espectful (Be on time, polite, use appropriate language and tone)

**A**ccountable (Be prepared, honest, do your own work, use devices when permitted)

**V**ictorious (Do your best work, celebrate academic success)

**E**nthusiastic (Have a positive attitude, take ownership of learning)

If you are **absent**, you are responsible for making up and completing any missed work. According to school policies, you will receive a zero on any missed work if your absence was unexcused.

Some assignments can be turned in at a **later** date, but will have a penalty to your grade. Late assignments will only be accepted for up to one week after the due date. If you notice a missing grade in the gradebook, approach Ms. G. ASAP.

I love when students discuss the problems that we solve in class. But, you need to follow these two guidelines when you work together:

1. You cannot show someone your code
2. You cannot read your code aloud

It is plagiarism to copy-and-paste code that is found on the internet or from a peer. All plagiarism will be dealt with according to the student handbook.

The golden rules to success:

**BE KIND.**

**DO YOUR BEST.**

If you adhere to these two rules, we will have a great time in Room 118!