



## **Marine Science Magnet High School**

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[www.msmhs.com](http://www.msmhs.com)

### **SCI0909-AP Computer Science Principles 2024-2025**

#### **Required Texts/Readings:**

Additional readings may be assigned by the teacher.

**Course Description:** AP Computer Science Principles introduces students to the central ideas of computer science, fostering computational thinking and inviting students to understand how computing changes the world. Students are encouraged to apply creative processes when developing computational artifacts and while using simulations to explore questions of interest. There is a focus on using technology and programming as a means to solve problems. This course highlights the relevance of computer science by emphasizing the vital impact advances in computing have on people and society.

#### **Materials Needed:**

Designated Notebook/Binder, Pens/Pencils, Paper, Highlighters, MSMHS Laptop, Flash-drive, headphones

#### **Advanced Academic Programs**

The Advanced Placement (AP) Program and the Early College Experience (ECE) program at the Marine Science Magnet High School are intended to challenge and prepare students for the rigors of college. Students enrolled in courses designated as both AP and ECE must be enrolled in both programs and pay both fees associated with the courses to receive MSMHS credit. AP and ECE classes are assigned a higher weight to the GPA scale, assist students with earning college credit, and strengthen student transcripts during the college admissions process. In order to receive these added academic benefits, it is expected that students will subscribe to the understanding that the academic rigor and teacher expectations will be higher than that of the Honors level.

#### **Advanced Placement (AP) Program**

Students who are enrolled in an AP class must register and take the Advanced Placement Exam in the spring; exceptions to this will be made on a case by case basis by administration. Payment for the AP tests

must be completed by the first week of September, 2024. After October 1<sup>st</sup>, there will be no refunds for the courses taken within the program.

### **Retake / Revision Policy**

- All students will be allowed to retake/revise all interim and unit summative assessments (with the possible exception of ECE assessments).
- Retakes/revisions on any summative assessments must be completed within **2 weeks of when the assessment was returned to the student** or before the end of the quarter, whichever comes first.
- Students who want the opportunity to retake/revise a unit summative assessment must have completed all **scored** and **graded** assignments before taking the original summative assessment or the end of the quarter, whichever comes first. In addition, any part of a unit summative that is done outside of class, must be complete and turned in on time in order to be eligible for a retake/revision.
- Retakes/revisions are re-evaluations of learning; therefore, students earn the new grade not an average of the two grades, regardless of whether the new grade is higher or lower than the original.

\*Note: There are no retakes/revisions for Midterms or Finals. Students with IEP or 504 accommodations for extended time should work with their teacher and/or case manager to determine appropriate application of their accommodations to this policy.

### **Late Work**

Missing graded work/formative assessments must be completed, fully and accurately, before the unit summative assessment due date or the end of the quarter, whichever comes first, in order to receive credit. Any missing work will receive a 0 in PowerSchool until it is turned in before the summative assessment. After a unit summative assessment, work cannot be made up and will remain a 0 in PowerSchool.

### **Extra Help:**

Students interested in receiving extra help from teachers, or in meeting with their teacher before or after school, need to schedule a mutually agreed upon time to meet with their teacher. Teachers may require specific procedures for requesting appointments for extra help. Please know that teachers will be unable to meet with students on Wednesdays due to regularly scheduled faculty meetings.

### **Cell Phones**

Students are permitted to bring cell phones to school, however, they must be stored in the designated location in each classroom throughout the block, including study hall. Students may not bring cell phones with them when they leave the classroom for any reason. Students may also be required to turn smart watches or other devices to designated locations during class at the request of the teacher. Students found to have violated these expectations will be required to turn their cell phone into school administration. Repeated offenses may result in escalated consequences. Cell phones may not be used in restrooms for any reason. Cell phones may be used before, during lunch, or after school hours.

### **Grade/Grade Reporting:**

Overall evaluation in a course is measured in a number of ways in the form of formative and summative assessments.

MSMHS uses the following language for communicating how assignments will be scored and represented in PowerSchool:

- “Graded” – The assignment is evaluated for accuracy (not completion), is given a numeric score, is entered in PowerSchool and is included in the quarter average.
- “Scored” – The assignment is evaluated for accuracy (not completion), is given a numeric score, may be entered into PowerSchool, but is not included in quarter average.
- “Recorded” – The assignment is marked as completed or not completed, not given a numeric score, may be entered into PowerSchool, but is not included in quarter average.

Course grades are calculated by using the following percentages:

Q1 = 20%

Q2 = 20%

Midterms = 10%

Q3 = 20%

Q4 = 20%

Finals = 10%

The following table shows the letter grades equivalent to numerical grades and GPA.

| Letter | Numerical Equivalent | GPA Equivalent | Honors Weighting | AP/ECE Weighting |
|--------|----------------------|----------------|------------------|------------------|
| A+     | 97-100               | 4.3            | 4.52             | 4.73             |
| A      | 93-96                | 4.0            | 4.20             | 4.40             |
| A-     | 90-92                | 3.7            | 3.89             | 4.07             |
| B+     | 87-89                | 3.3            | 3.47             | 3.63             |
| B      | 83-86                | 3.0            | 3.15             | 3.30             |
| B-     | 80-82                | 2.7            | 2.84             | 2.97             |
| C+     | 77-79                | 2.3            | 2.42             | 2.53             |
| C      | 73-76                | 2.0            | 2.10             | 2.20             |
| C-     | 70-72                | 1.7            | 1.79             | 1.87             |
| D+     | 67-69                | 1.3            | 1.37             | 1.43             |
| D      | 63-66                | 1.0            | 1.05             | 1.10             |
| D-     | 60-62                | 0.7            | 0.74             | 0.77             |
| F      | 50-59                | 0.0            | 0.0              | 0.0              |

### **Academic Integrity:**

All work submitted by students should be a true reflection of their effort and ability. If submitted work or tests are not, then the student has manifested unacceptable academic behavior.

### **Plagiarism**

Plagiarism is defined as intentionally or unintentionally presenting another's work as your own. Any source material (electronic, written, verbal) accessed to complete an assignment must be cited. Plagiarism includes the following:

- Copying verbatim or blending source material with your own without proper attribution,
- Paraphrasing source materials or borrowing ideas, terms, or concepts without acknowledging the source,
- Inventing sources or false attributions for sources,

- Supplying/selling your work to another or purchasing/copying another's work.

### **Cheating**

Cheating is defined as copying all or part of an assignment or assessment or allowing another to copy your work. It is also doing someone's work or having someone else do your work. Cheating includes the following:

- Using unauthorized materials, devices, or assistance of any kind to complete your work or assessment, including on-line transfers,
- Collaborating on a task without the teacher's authorization, as well as providing or receiving information so as to give/gain an unfair advantage,
- Aiding another in cheating.

### **Other Academic Misconduct**

Other forms of serious academic misconduct include:

- Altering grades,
- Stealing or obtaining test/assessment materials or answers,
- Submitting the same (or nearly the same) work for more than one class without disclosure or approval,
- Falsifying information on school related documents and forms.

ANY behavior that can be defined as cheating/plagiarism represents a violation of mutual trust and respect essential to education at MSMHS. Students suspected of cheating should expect to be questioned by their teacher. Students violating this rule are subject to the following penalties:

- Re-do of the assignment, notification to parents/caretakers; disciplinary consequence, written summary of event and action taken given to administration.
- If a student is found to have cheated/plagiarized a second time or is involved in a particularly serious act of cheating/plagiarism, the student will be referred to administration for appropriate penalties beyond those listed above. Additional penalties include such consequences as notification to award and scholarship committees; suspension from class or school and notification to the student's prospective colleges; loss of or disqualification from honors/privileges and positions (e.g. NHS, school leadership position).

## **Course Unit Outline - Enduring Understandings and Tentative Dates:**

*Note: Teacher has discretion to change throughout the year.*

### **Unit I – Introduction to Mobile Apps and Programming**

September 2024

#### **Enduring Understandings**

- Computing enhances communication and interactions, but also had global effects, both beneficial and harmful on people and society
- Programs can be developed to solve problems for creative expression, to satisfy personal curiosity, or to create new knowledge

### **Unit II – Algorithms**

October - November 2024

#### **Enduring Understandings**

- Algorithms are precise sequences of instructions for processes that can be executed by a computer and are implemented using programming languages
- Programs are written to execute algorithms and are developed, maintained, and used by people for different purposes

### **Unit III – Digital Graphics and Images**

November-December 2024

#### **Enduring Understandings**

- Computer programs process information to gain insight and knowledge, however there are tradeoffs when representing information as digital data
- Models and simulations use abstractions to generate new understandings and knowledge

### **Unit IV – Procedural Abstractions**

January 2025

#### **Enduring Understandings**

- Multiple levels of abstraction are used to write programs to solve a variety of problems
- Programs can be developed to solve problems, however there do exist limits to what computers can solve

### **Unit V – Communication Through the Internet**

February 2025

#### **Enduring Understandings**

- The internet is a network of autonomous systems that is ever changing
- Cyber security is an important concern for the internet and the systems built on it

### **Unit VI– Big Data**

March-April 2025

#### **Enduring Understandings**

- Computing large amounts of data facilitates the exploration and the discovery of connections throughout information
- There are a variety of ways that data can be used, manipulated and represented within mobile apps and across the internet

### **Unit VII – Computer Science Innovations**

April - June 2025

#### **Enduring Understandings**

- Computer Science is a growing field that is in need of talented and creative problem solvers who are looking to innovate with technology
- Programming is only limited by the effort put forth by the programmer