AP Computer Science A

**Syllabus - Fall 2019/2020**

# **Course Description:**

AP Computer Science is an introductory college-level computer science course. Students cultivate their understanding of coding through analyzing, writing, and testing code as they explore concepts like modularity, variables, and control structures.

# **Course Objectives:**

Upon completion of this course, students will be able to:

• Apply and implement commonly-used algorithms and data structures.

• Develop and select appropriate algorithms and data structures to solve problems.

• Identify the major hardware and software components of a computer system

# **Grading**

|  |  |  |
| --- | --- | --- |
| **Title** | **% of grade** | **Week** |
| Participation | 15% |  |
| Homework | 15% |  |
| Mid-Term Exam | 20% |  |
| Final Exam | 30% |  |
| Projects\* | 20% |  |
| **TOTAL** | 100% |  |

# **Policies**

*All students will follow Student policies throughout this course. Below is a reminder of some key policies related to our class:*

|  |  |
| --- | --- |
| **Policy** | **Comments** |
| **Attendance** | Students will be marked present, excused, unexcused, or late for class. Students who know they will miss class in advance will contact the teacher one week before the absence, or risk penalty. Students are allowed to have only 3 excused absence for the whole semester. |
| **Independent Learners** | Students are expected to be independent learners. This means using time management strategies, asking questions, and taking responsibility for their own learning. It |
| **Academic Language Proficiency** | We’ll continue to use English in the classroom. The use of Chinese—unless explicitly asked for by the teacher—will result in a lower “class participation score”. |
| **Academic Honesty** | Students will demonstrate compliance with plagiarism and cheating policies for any work submitted to the teacher for grading. Further, students will follow testing conditions as described by the teacher for all quizzes and tests. |
| **Technology** | Students can only use their computer when the teacher asks them to. It is every student’s responsibility to use technology responsibly and for academic purposes. Video games, shopping, and technology use for purposes other than learning are not allowed. Misuse of technology in class will lead to certain consequences. |

**Temporary Course Schedule**

Please check the Academic Calendar for key dates - mid-term, finals and holidays.

\* Fall semester- 18 weeks Mid-term: Week 9 - Final exam week: Week 18

**Sample:**

|  |  |  |  |
| --- | --- | --- | --- |
| **WEEK** | **DATE** | page2image3733664**SECTION** | **TOPIC** |
| 1 | 26-30 Aug |  | Code, variables, conditionals and logic |
| 2 | 2-6 Sept |  | Loops and basics of methods |
| 3 | 9-12 Sept |  | Methods and ArrayList |
| 4 | 16-20 Sept |  | Basics of objects |
| 5 | 23-27 Sept |  | Further on objects |
| 6 | 8-11 Oct |  | Tables, searching and sorting |
| 7 | 14-18 Oct |  | Mid-term preparation and mid-term project |
| 8 | 21-25 Oct |  | **MID-TERM EXAM** |
| 9 | 28 Oct - 1 Nov |  | HashMap |
| 10 | 4-8 Nov |  | Interfaces |
| 11 | 11-15 Nov |  | Exceptions and reading from files |
| 12 | 18-22 Nov |  | Inheritance |
| 13 | 25-29 Nov |  | Writing into files and GUI |
| 14 | 2-6 Dec |  | Regex, iterators, enum |
| 15 | 9-13 Dec |  | **FINAL PROJECT** |
| 16 | 16-20 Dec |  | **FINAL PROJECT** |
| 17 | 2-10 Jan |  | Final Exam preparation |
| 18 | 15-16 Jan |  | **FINAL EXAM** |