AP Computer Science A – 2019-20
Midway Campus Room 2153B

Parish Computer Science

Instructor: Mr. Montana
Office: Midway Room 2153B
Phone: 972.239.8011 x.2344
Email: bmontana@parishepiscopal.org

Course Description

I enjoy teaching AP Computer Science A because it is such a valuable course for students. It enhances students' problem-solving and abstraction abilities. They build analytical skills that are valuable in computer science, in other courses, and in life. Of course, students also increase their computer science and programming skills, skills that are needed in an ever-increasing array of college courses and workplaces. It's wonderful to share in their joy as they solve programming exercises.

The content and objectives of my AP Computer Science A course include the course objectives for AP Computer Science A as described in the AP Computer Science Course Description. This course focuses on an object-oriented approach to problem solving using Java. It includes the study of common algorithms and the use of some of Java's built-in classes and interfaces for basic data structures.

Students and I work hard during the year to assure that each student has an opportunity to achieve a qualifying score on the exam. Students' course grades correlate strongly with their AP Examination grades.

Teaching Strategies

General Approach

AP Computer Science A is a substantial course that requires a meticulous approach from both my students and me. The limited class time is fully utilized for discussion and activities, labs, quizzes, review, and multiple choice tests. Outside class reading and homework is critical to students' understanding of the material. Reading and comprehending technical material is a new skill for most students. They need to learn active reading techniques, including how to take notes.

I typically begin each new unit of material with reading and homework assignments. This is followed by classroom discussion, related activities, and often additional homework such as worksheets. Students complete one or more related lab (programming) assignments. Finally, I have a review and a multiple choice test.

Tutoring

In order to be successful in AP Computer Science A, it's critical that students learn the material in a timely fashion. Students who don't grasp earlier material don't have the foundation necessary for later material. I am available for tutoring before and after school, and during office hours. All times are by appointment only.

Review

After completing the course material, I give and review a practice AP Computer Science A exam. Then I conduct a comprehensive review during the last few weeks prior to the AP Exam. Students work through the reading and multiple choice questions in Barron's AP Computer Science A as homework. We then discuss this reading and multiple choice questions in class.

Lab Component

Writing computer programs is critical to understanding the course material. I assign at least one lab per unit. These assignments are typically completed on an individual basis. A great deal of class time is given for lab work. Students may also come to the computer lab (Design Den Classroom 3) before and after school, and during times when I'm not teaching. See myPARISH AP Computer Science A Bulletin Board for those days and times. The VRaD Commons is always available for students to work on computer science work.

Text

CS Awesome!, Barb Ericson
A+ Computer Science: Computer Science Curriculum Solutions, Stacey Armstrong
New AP CS A Labs – Magpie, Elevens, PictureLab, College Board
Barron's AP Computer Science A , 8th ed., Roselyn Teukolsky
Big Java: Early Objects, 6th ed., Cay Horstmann

Required Materials

Laptop
Pencil & eraser
Paper

Grading Policy

A points system (as opposed to percentages) is used for scoring. Each assignment is worth a number of points relative to the level of assignment and number of elements in the assignment.

Competency Statement

Learning a programming language is progressive. The ability to correctly use later concepts depends on competency with earlier concepts. Timeframes are given with assignments to help students with pacing. However, absolute deadlines are not imposed. I am interested in steady progression throughout the course. The expectation is for students to do their best work in a timely fashion.

Cheating/Plagiarism:

Cheating and/or any form of plagiarism will not be tolerated and will result in appropriate disciplinary action. Copying off of your own past projects (anything completed before the start of this course) can be a form of plagiarism if not cited, and it will not be tolerated.

iMpact Instructor Expectations for Students

- Be respectful of self, peers, school faculty and staff, technology, school spaces.
- Demonstrate ***attentiveness*** daily and ***collaborate*** effectively with peers.
- Exhibit ***personal responsibility*** in all aspects: self, technological use, materials, time.
- Demonstrate ***tenacity*** in solving problems with coding.
- Be ***independent*** in and out of class, and communicate efficiently. Student is patient but genuine and considers time management regarding deadlines and in needing aid.

Classroom Procedures

Independence & Attentiveness

- There is to be no food or drink in the computer lab at any time. You may have water bottle (with a lid) – containing water only – in the computer lab.
- Book bags should remain tucked under the middle of the tables at all times.
- Time outside of this class will be necessary in order to complete assignments in a timely manner. Please expect to be spending some time coding outside of class. The time required for coding assignments is different for everyone. Start early!