AP Computer Science

Lord Byng Secondary Syllabus

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Welcome to Advanced Placement Computer Science! The Advanced Placement (AP) program is a worldwide curriculum which offers standardized courses to high school students that are generally recognized to be equivalent to undergraduate courses in University. Participating Universities grant credit to students who obtained high enough scores on the exams to qualify.

Because Advanced Placement courses are considered equivalent to University courses, they are more intensive and challenging than regular high school classes. If you want to succeed in this class, be prepared to work hard!

TOPICS OF STUDY FOR THE AP EXAM

Unit	Text Chapter
1. Karel J Robot	-
2. Basics of Computer Software	-
3. Java Fundamentals	5-8
4. Data Structures	10, 12,13
5. Object Oriented Programming	3, 9
6. Inheritence and Polymorphism	11
7. Putting it All Together	-
8. Recursion	4
9. Algorithms	14
10. Exam Preparation & Review	-

FREQUENTLY ASKED QUESTIONS

1. What is the mark breakdown for this course?

60% Unit Exams

30% Labs & Homework

10% Participation

Each unit will conclude with a Unit Exam that will include multiple choice questions and programming puzzles to solve, which will require you to write code. I will accept corrections to raise your mark. Labs will be conducted throughout the unit and will be what we spend most of our time doing in class. Participation is based on how well you use your time in class and your initiative and engagement in this class.

2. What textbook are we using?

We will be using the book Java Methods, 2nd AP Edition with Gridworld, by Maria and Gary Litvin. I am very pleased to be able to offer you such a well written and comprehensive book to study from. You will not be issued your own textbook; instead the books will live in the computer lab and students will sign them out when needed.

3. When is the AP Computer Science exam?

Your AP exam will be held at 8am on May 3, 2016.

4. What is the exam like?

If you looked at an AP Compsci exam right now, it likely wouldn't make much sense because you haven't learned a lot about the course yet. Rest assured that throughout the entire course, we will be doing tonnes of questions from old AP Compsci Exams. Our in-class tests will resemble AP tests and will be marked in the same way. Therefore, nothing on the exam should surprise you.

In addition, in the weeks leading up to the exam we will spend a lot of time looking at old exams and getting you ready to write.

5. Do I have to take the exam?

The May exam is optional. You can simply take this course because you want to learn about advanced computer programming concepts. However, you cannot get credit from Universities for having taken an AP course if you do not write the exam.

6. When can I come for extra help?

Come visit me any day before school or any day after school except Monday and Wednesday if you are having trouble with any of the material in the course. It is best to let me know you are coming in so that I don't schedule meetings or appointments for that time.

7. What do we do after the exam is over?

After the exam, we will have a celebratory day, but there are still 2 months of class time left in the year. We will spend this time doing fun programming activities like programming AI for virtual tanks and have them fight against each other in a battle arena (Robocode). If students have their own awesome idea for a project, they are welcome to work on that instead.

8. How much work am I going to have to put into this course?

AP courses are legendary for their challenge factor. You will have class time to work on labs, but if you do not finish, you will have to do so for homework. You will be expected to do regular studying throughout the whole course, and always asking questions when you feel you don't understand a topic fully. In addition, starting in January, I strongly suggest you begin preparing in earnest for the May exam in addition to your regular course load.

9. How can I download Java at home?

You will need to install 2 things in this order:

1. The Java JDK. The current version is 8u60 and is available here. Note that Mac users can skip this step as

Java comes with OS X.

2. The BlueJ editor. This is the editor we will be using in class, although technically you can use whatever editor you prefer. BlueJ is great for learning Java and I highly recommend it. You can download it here.