AP Computer Science

Syllabus

Teacher: Len Pelletier

Room: A322

Website: http://lordbyng.net/compsci

Contact: lpelletier@vsb.bc.ca

Welcome to AP 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

1. Basics of Computer Software
2. Java Fundamentals
3. Strings
4. Data Structures
5. Object Oriented Programming
6. Inheritance and Polymorphism
7. Recursion and Algorithms
8. Exam Preparation and 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 written response questions and programming puzzles to solve, some of which will require you to write code. Like the AP exam, all exams in this class are done on paper away from the computer.

Labs will be conducted throughout each unit and will be what we spend most of our time doing in class. These are the projects and assignments during which you will learn how to code. There will also be written assignments and multiple choice packages that will help you understand the theory behind the programming.

Participation is based on how well you use your time in class, as well as your initiative and engagement. If you work hard and ask lots of questions, you will likely achieve high marks on tests, labs, and participation.

2. What textbook are we using?

In the past, we used the book *Java Methods, 2nd AP Edition with Gridworld*, by Maria and Gary Litvin. It is a good book that is specific to the AP Compsci Curriculum, but honestly very few students have found the book very useful. However, if you are the kind of student who would like a textbook to supplement in-class notes, there will be some available to use in-class and to sign out overnight. Signed-out textbooks should always be returned the next class.

3. Should I get the Baron's Guide?

Yes. This book is full of AP-caliber multiple choice questions and concise notes on all of the topics on the exam. If you want to do your best on the AP Exam, the Baron's Guide is very helpful. The current edition is 7th Edition, and they cost around $16. I usually do a group order in class through Amazon to save on shipping and handling, but feel free to buy your own.

4. When is the AP Computer Science exam? What fees do I have to pay?

Your AP exam will be held at 12pm (noon) on Friday, May 17, 2019. The cost for the 2018 exam was $140. More information about registering the exam will happen as we get closer to the exam date.

5. I have an IEP that outlines adaptations that allow me to have extra time / calculators / readers on tests. Do I get these adaptations on the AP Exam?

Yes you can get these same adaptations, but you have to register them. The deadline to register for these adaptations is February 22, 2019. See Mr. Tuerlings for more information.

6. What is the exam like?

The 3 hour exam consists of 2 equally-weighted parts:

- The multiple choice section consists of 40 multiple choice questions that sample from topics across the whole course, but focuses on programming fundamentals and theory. (1.5 hours)
- The written response section consists of 4 multi-part long answer questions that require you to read and write code using a pencil. Each written response question is worth 9 points, and partial credit is awarded where applicable. These questions usually require you to work with object oriented programming and data structures in addition to programming fundamentals. (1.5 hours)

7. How is the AP Exam marked?

Multiple choice questions are marked by a machine, and written response questions are marked by hand by AP teachers and college faculty. Your score is averaged, weighted on a curve, and then converted into a mark of 5, 4, 3, 2, or 1.

Score	Recommendation
5	Extremely well qualified
4	Well qualified
3	Qualified
2	Possibly Qualified
1	No recommendation

8. Do I have to take the exam?

The May exam is optional. It has no effect on your in-class mark. 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.

Please be aware that we, as a class, will be focusing on preparing for the exam. So, even if you choose not to take the test, you will still have to do the review activities with us.

9. When can I come for extra help?

Monday and Tuesday after school are good days to come see me 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.

10. Is there a website for this course?

Yes! http://lordbyng.net/compsci is my course page. In addition, we have a terrific private Facebook group called **Lord Byng Senior Computer Science.** As of the start of this course, the group has 109 members, most of whom are Lord Byng graduates that have gone on to do Compsci and Engineering at University. They are AMAZING at answering questions. If you ask a Java question there, you will get a response in a few hours max. Also, it is great to ask questions about universities, entrance requirements, applications, and more. Consider signing up for this Facebook group mandatory.

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

After the exam, we will have a celebratory day, but there are still a month of class time left in the year. We will spend this time doing fun programming activities.

12. 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.

13. 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 8u101 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.

14. What do I do if I miss a class or test?

If you have an excused absence as defined on page 8 the student agenda, you should let me know immediately. You can call the school, send an email, or post on the Facebook group. Often times, the work will be posted to the course website and you will be able to look it up and work from home to keep from getting behind.

If you are away on the day of the test or due date of a major project, you need to contact me immediately to let me know what is going on and make arrangements to do the test or hand in the project. Failure to do so may mean you get zero on the assessment.