

## CLASS SYLLABUS

**COURSE TITLE:**  
**COURSE #:**

**AP Computer Science A with Java**  
**11.0160010**

**COURSE DESCRIPTION:**



Computer science embraces problem solving, hardware, algorithms, and perspectives that help people utilize computers to address real-world problems in contemporary life. As the study of computer science is evolving, the careful design of the AP Computer Science A course and exam continues to strive to engage a diverse student population, including female and underrepresented students, with the rigorous and rewarding concepts of computer science. Students who take the AP Computer Science A course and exam are well prepared to continue their study of computer science and its integration into a wide array of computing and STEM-related fields.

The AP Computer Science A curriculum provides resources, such as application-related labs, that connect with students with diverse interests, particularly female and under-represented student populations. The course is engaging and underscores the importance of communicating solutions appropriately and in ways that are relevant to current societal needs. Thus, a well-designed, modern AP Computer Science A course can help address traditional issues of equity, access, and broadening participation in computing while providing a strong and engaging introduction to fundamental areas of the discipline.

The AP Computer Science A course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems.

The AP Computer Science A course curriculum is compatible with many CS1 courses in colleges and universities. Some colleges and universities may organize their curricula in alternative ways, so that the topics of the AP Computer Science A course are spread over several college courses, with other topics from computer science interspersed.

**INSTRUCTOR:**

**Mr. Kenneth Lee**

**PREREQUISITES:**

A grade of B or higher in Algebra 2

**PROGRAM CONCENTRATION:**

Business Education & Computing

**PROGRAM PATHWAY:**

Computer Science

**CAREER OPPORTUNITIES:**

Programmer, Applications Programmer, Applications Designer, Systems Analyst, IT Consultant, Software Developer, etc.

**TEXTBOOK(s):**

Java Software Solutions for AP Computer Science A, 2<sup>nd</sup> Edition– Lewis, Loftus, and Cocking (\$69.95 replacement cost if damaged or removed)  
Barron's AP Computer Science Levels A and AB, 2008 or later (student must purchase)



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|--------------------------------|--|
| <b>SOFTWARE:</b>               | Dr. Java, J-Creator, and the Sun JDK Compiler which must be installed prior to other Java software. You may want to install the software for your use at home.   |
| <b>METHODS OF INSTRUCTION:</b> | Class lecture/demonstration, question/answer, individual and group work, on-line work, computer lab instruction, audio-visual aids, student reports/projects, case studies, and guest speakers.  |
| <b>COUNTY RECOVERY POLICY:</b> | Opportunities designed to allow students to recover from a low or failing cumulative grade will be allowed when all work required to date has been completed and when the student has demonstrated a legitimate effort to meet all course requirements including attendance. Students should contact the teacher concerning recovery opportunities. Teachers are expected to establish a reasonable time period for recovery work to be completed during the semester. All recovery work must be directly related to course objectives and must be completed ten school days prior to the end of the semester. |
| <b>ROSWELL RECOVERY POLICY</b> | When a student's overall grade falls below 70, he/she will be allowed the opportunity to re-take major assessments, earning no more than 75% of the original max score. Prior to attempting recovery, student should have demonstrated legitimate effort in remediation (reviewing previous assessment with teacher, attending extra help sessions, etc.) Students should initiate the recovery process by letting teachers know that they want to do recovery within 5 days of grade being posted in Home Access. All recovery must be completed 10 days before the end of each semester.                     |
| <b>SUPPLIES:</b>               | Student Agenda, Binder / Notebook, Pen / Pencils, Box of Tissues (requested), one ream of 8.5x11 printer paper (requested), one USB port flash drive (recommended)   |
| <b>TEACHER CONTACT:</b>        | The best way to reach me is via email at <a href="mailto:Lee@fultonschools.org">Lee@fultonschools.org</a><br>I encourage all students who have questions to see me for extra help as soon as they need it! Office hours can be found on my web site at the address below.  |
| <b>TEACHER WEB SITE:</b>       | Course information can be found at <a href="http://www.MrLeeComputing.org">www.MrLeeComputing.org</a>  |

### Fall Semester

- Ch 0** Computer Ethics  
History of Computing  
Colleges and Careers
- Ch 1** Computer Systems
- Ch 2** Objects and Primitive Data
- Ch 3** Program Statements
- Ch 4** Writing Classes
- Ch 6** Arrays and ArrayLists

### Spring Semester

- Ch 6** Searching and Sorting
  - Ch 8** Recursion
  - Ch 7** Inheritance/Polymorphism
  - Ch 5** Enhancing Classes
- Case Study Preparation && Practice throughout...  
AP Test Preparation

### AP TEST DATE

The AP Computer Science A exam is administered during the first week in May of AP testing. Report time is typically 7:45am. This exam does not conflict with any other AP subject tests except for Spanish Language. If you are enrolled in AP Spanish, please let me know as soon as possible so that alternate testing arrangements can be made.

A detailed course description can be found at

<http://media.collegeboard.com/digitalServices/pdf/ap/ap-computer-science-a-course-description-2014.pdf>

## AP Exam Credit Information

Please visit <https://apstudent.collegeboard.org/creditandplacement> to learn if the colleges and universities you are considering grant credit for a passing grade on the AP Computer Science A level exam.

## NOTEBOOK

Students are expected to keep all work for this course in a 3-ring binder. The notebook should be divided into five sections, which should be labeled as follows:

- Notes / Handouts
- Homework / Classwork
- Programming Assignments
- Quizzes / Tests
- Reference / Exam Prep

## EVALUATION

**Tests** – Tests help to prepare students for the AP examination by using both multiple-choice and free-response questions. There will be one test administered for each chapter. Each test will be announced in advance. Any student absent the day of the review will be expected to take the test with the class on the scheduled day.

**Major Programming Projects** – A major programming assignment is one that combines a series of concepts into one challenging program. This assignment may require both in-school and out-of-school effort. There will be several major labs assigned each semester. For each assignment, you will be required to turn in a hard copy AND save the assignment to the appropriate folder on the shared drive. Labs are intended to be individual work. You will receive limited assistance from me and a set amount of time to complete the assignment. You must adhere to the class policies of ethics in creating code. Failure to do so will result in the issuing of an Honor Code Violation and a zero on the assignment.

**Lab Exercises, Programming Problems, Homework, and Quizzes** – All are assigned at the teacher's discretion. No late work will be accepted!!! Lab exercises are programming assignments or worksheets that focus on a single new concept as well as previous material. Quizzes are designed to determine whether students are keeping up with their assigned reading and will most likely be unannounced.

**Final Exam** – The comprehensive final exam administered at the end of each semester will be worth 15% of the semester grade. No exemptions for Honors or Advanced Placement courses will be granted.

## Make-up Work Policy

Attendance is very important. Excessive absences will likely prevent students from successfully completing the course. It is solely the student's responsibility to make contact with the teacher to initiate all make-up work. I encourage you to obtain at least two phone numbers of other classmates who can be contacted for make-up work or assistance with assignments. Please read and follow the Roswell High School policy on make-up work as printed in your student agenda. Students are expected to make up missed tests and quizzes as soon as possible and they only may be made up before or after school during the times designated in the beginning of this document. According to school policy, work made up due to an unexcused absence will receive a 10% grade reduction.

## AP Computer Science Plagiarism Statement

Plagiarism is the act of copying someone else's work without permission. Plagiarism can refer to the replication of a written work verbatim, or merely the reproduction of someone else's ideas. Acts of plagiarism might include, but are not limited to 1) copying a classmate's code; 2) using code from a published source without proper documentation; 3) using excessive editing suggestions of another student, parent, or tutor. Plagiarism on any project at Roswell High School will result in a zero for the assignment and an honor code violation. Unless directly stipulated by the teacher, collaboration on computer programs is not acceptable. Cheating on tests will result in a zero for that assignment. For more information on the honor code policy, please refer to the student agenda. Students who willingly provide other students with access to their work are also in violation of the Honor Code.

## Classroom Plagiarism Policy

In the comment section of each program, students will have an opportunity to list sources of assistance they have received (including web addresses, parents, other students, etc.) This line is required, and students, by leaving it blank, are stating that they received no assistance in writing the program.

## Computer Usage Policy

1. I will limit my use of technology in school to the educational objectives established by my teachers;
2. I will not retrieve or send unethical, illegal, immoral, inappropriate or unacceptable information;
3. I will follow the rules on network etiquette, which includes the use of appropriate language and polite responses. I will not use abusive language of any type, including swearing and name-calling;
4. I will not share my home address or phone number with another user for any purpose;
5. I understand that information received on-line is private property, unless specified. I will not plagiarize information received in any form;
6. I will not use or access another person's account, and I will not share my password with anyone else;
7. I will not attempt to bypass the security built into the system or network, and I recognize that doing so will result in immediate cancellation of my privileges as well as disciplinary measures dictated by this school's administration;
8. I will not interfere with or disrupt network users, services or equipment. Disruptions include, but are not limited to, distribution of unsolicited advertising, propagation of computer viruses, and using a network to make unauthorized entry to any other machine accessible via a network;
9. I will not use technology access provided by Fulton County Schools for illegal purposes of any kind;
10. I will not use technology access to transmit threatening, obscene, or harassing materials
11. I will not engage in any on-line chat rooms nor play any on-line games unless specifically authorized to do so by my teacher for educational purposes;
12. By signing this waiver and consent, I understand and agree that Fulton County Schools will not be held responsible if I participate in any such activities;
13. I understand my responsibility as a user of telecommunications. I have read the above rules and realize that any infraction will cancel my user privileges and may result in further disciplinary action, including suspension from school.
14. I agree to adhere to any additional computer usage policies as set forth in the school agenda.

## Class Participation – Professional Development with SkillsUSA

Students must accrue 100 Professional Development points per semester. They may gain these points in the following ways:

- Joining Skills USA= 30 points!
- Attending a Skills USA Meeting (as a member) 10 points
- Participating in a Skills USA Day of Service 20 points
- Participating in a Skills USA Field Trip or Competition 20 points per day
- Helping to create/ update Skills USA Bulletin Board 10 points
- Write a Summary and Critique of a relevant computer science white paper/article (minimum 2 pages – single spaced) Topic must be approved by Mr. Lee. 20 points



--- FOR PARENTS ONLY ---

**Student Work/Picture/Print Release Form for Minors**

\*Please initial and sign below if you grant permission.

(initials) \_\_\_\_\_ Roswell High School and the Career & Technical Education Department has my permission to publish my child's work/picture/print material in the media to help promote the school's programs.

(initials) \_\_\_\_\_ You may also use my child's student work/picture/print material on the World Wide Web to help promote the school's programs.

Parent/Guardian's Signature: \_\_\_\_\_ Date \_\_\_\_\_

Parent/Guardian's Name: \_\_\_\_\_

Child's Name: \_\_\_\_\_

**Advisory Council Participation for Parents**

An initiative in place to create a stronger bond between the school, local business, and our community is the creation of a Program Advisory Council for each area of Career & Technical Education including;

- Business Education & Computing
- Cosmetology
- Engineering
- Family & Consumer Science
- Video Broadcast Production

\*Please circle your area of expertise above and then sign below if you would like to join our advisory council and help us create a better connection between school and the community as well as improve instruction within our programs! Thank you!

Parent/Guardian's Signature: \_\_\_\_\_ Date \_\_\_\_\_

Parent/Guardian's Name: \_\_\_\_\_

Job Title & Employer: \_\_\_\_\_

Best Contacted by Phone: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

Email address: \_\_\_\_\_ @ \_\_\_\_\_



# Roswell Membership Form



SkillsUSA is a partnership of students, teachers and industry representatives working together to ensure America has a skilled workforce. SkillsUSA helps each student to excel. SkillsUSA is a national organization serving teachers and high school and college students who are preparing for careers in technical, skilled and service occupations!

SkillsUSA empowers its members to become world-class workers, leaders and responsible American citizens. SkillsUSA improves the quality of America's skilled workforce through a structured program of citizenship, leadership, employability, technical and professional skills training. SkillsUSA enhances the lives and careers of students, instructors and industry representatives as they strive to be champions at work.

More than 300,000 students join SkillsUSA annually!

Student ID: \_\_\_\_\_ School Year: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Grade: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Home Phone: \_\_\_\_\_

Student Cell Phone: \_\_\_\_\_

Student Email Address: \_\_\_\_\_

Parents' Names: \_\_\_\_\_

Parents' Phone: \_\_\_\_\_

Schedule:

| Teacher | Subject | Teacher                          | Subject |
|---------|---------|----------------------------------|---------|
| 1st     |         | 5th                              |         |
| 2nd     |         | 6th                              |         |
| 3rd     |         |                                  |         |
| 4th     |         | Lunch Period: A B C D Circle one |         |

Membership fee enclosed

I was a member last year

\*\*\*\*\* **THIS MEMBERSHIP IS WORTH 30 CLASS PARTICIPATION POINTS!** \*\*\*\*\*

THE MEMBERSHIP FEE INCLUDES A T-SHIRT !

JOIN US FOR THE SKILLS USA MEMBER COOKOUT! FREE FOR ANYONE THAT JOINS!  
OUR GOAL IS TO GROW MEMBERSHIP SO INVITE A FRIEND!!!  
THANKS FOR YOUR SUPPORT ☺