



**Information Technology Audition: January 16, 2010 Auditions by appointment**

Applicants will be advised of their appointments by postcard. Please arrive 15 minutes prior to the scheduled time. Students will register for the audition in the front lobby with the required materials. Students who are more than 10 minutes late may not be admitted into the audition. **Students who do not bring required materials with them will not be permitted to audition.** On average, the entire audition takes approximately 2 hours. Due to personnel and time constraints, auditions may not be rescheduled. Parents may stay in the main lobby during the audition, or return to the school within 2 hours. Due to the high volume of applicants, there will be no seating available in the school for parents/guardians.

***Failure to attend an audition WILL result in disqualification.***

**Inclement Weather:** In the event that schools are closed due to inclement weather, weeknight magnet assessments will be postponed. Weekend magnet assessments will be postponed if the snow emergency plan is put into effect for Baltimore County. Postponed assessments will occur on the designated inclement weather date, January 23, 2010.

**Inclement Weather Date:** January 23, 2010

**Directions to George Washington Carver Center for Arts and Technology:**

**From West:**

1. Merge onto **I-695 N** via the ramp to **Towson**
2. Take exit **26A** toward **Towson/York Rd**
3. Turn **left** at **West Rd** (signs for **Towson/York Rd**)
4. Take the 1st **right** onto **York Rd**  
Make a right at the next light, Fairmount Ave.

**From East:**

1. Take the ramp onto **I-695 W**
2. Take exit **26** toward **Towson**
3. Turn **left** at **MD-45/York Rd**  
Make a right at the next light, Fairmount Ave.

## Information Technology Audition Information

### Prior to the Audition

The following must be completed prior to coming to the audition. **Applicants who come to the audition without the display board will receive zero points out of 26 for the Display and Presentation portion of the audition and will automatically be disqualified.**

**Research and Create a Display:** Prior to coming to the audition, applicants should research **one** of the following three topics and **create a display** on a tri-fold display board or a poster board that shows the results of the research. At a minimum applicants should address the bulleted items listed. Applicants may use any type of reference (book, individual, or Internet) but must cite sources. All information can be found by searching the Internet.

<b>Topic I: Computer Programming</b>	<b>Topic II: Video Game Company Jobs</b>	<b>Topic III: HyperText Markup Language (HTML)</b>
<ul style="list-style-type: none"> <li>• Explain what a <i>Computer Programmer</i> does.</li> <li>• List the typical salary for a <i>Computer Programmer</i>.</li> <li>• Explain what a <i>programming language</i> is.</li> <li>• List examples of programming languages.</li> </ul>	<ul style="list-style-type: none"> <li>• List the primary jobs at a video game company.</li> <li>• Explain the main responsibilities for these jobs.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain what HTML is and what it is used for.</li> <li>• Explain what an HTML tag is and provide examples of tags.</li> <li>• Provide an example of how HTML is used.</li> </ul>

## **On the Day of the Audition**

**The audition takes approximately 2 hours.**

Students should dress professionally. Males should wear either: (1) business suit with collar, dress shirt, and neck tie, or (2) sport coat, dress slacks, collar shirt, and neck tie, or (3) a collar shirt or sweater with khaki-style pants. Females should wear either: (1) a business suit with a blouse, or (2) a business pantsuit with a blouse, or (3) a skirt (knee length) or dress pants with blouse or sweater.

1. **Display and Presentation (26 points)**: Using the display they created, applicants will present the results of their research in a small group setting. The presentation must be less than 2 minutes. Applicants will be evaluated on their ability to follow directions, the quality of the display, the accuracy of the work, and the professionalism of the presentation.
2. **Math Test (60 points)**: Applicants will take a 20 minute, timed assessment in mathematics. Skills evaluated will include basic knowledge of fractions and percents, equations, slope, and solution of word problems. Applicants will be permitted to use the calculators that are in the computer. Students are strongly encouraged to review the sample questions to prepare.
3. **Interview (14 points)**: Applicants will participate in an interview where their interest in programming and their ability to communicate will be assessed.

**Applicants must score an 80% or higher to qualify for admission.**

# Information Technology - Programming Course of Study

Students will learn to design, develop, and test software solutions using a variety of programming languages. Typical projects include simple video games, websites, and programs for business applications. Students will be required to complete the four required classes listed below including AP Computer Science, which is the equivalent of an introductory college course. Students will also be required to complete two additional classes from the list of electives below. Students may have the opportunity to take an advanced elective in video game design and development. Additionally students may have the opportunity to be involved in an internship or work-based learning experience.

## Required Classes (4 credits)

**HTML & JavaScript:** This course introduces the HyperText Markup Language (HTML) used in the creation of web pages. Students will also learn the fundamentals of JavaScript to give their web pages added functionality such as slide shows and rollovers.

**Visual Basic:** Visual Basic is a programming language that allows programmers to quickly create applications with graphical user interfaces. Students will analyze, synthesize, and evaluate situations at home, school, or work and write programs to complete tasks efficiently and effectively.

**AP Computer Science A:** This course is designed to provide students with a learning experience equivalent to that of an introductory college course in Computer Science. It emphasizes object oriented programming methodology with a concentration on problem-solving and algorithm development, and includes the study of data structures, design, and abstraction.

**C++:** Students will learn the fundamentals of the C++ computer language along with more advanced concepts such as object-oriented programming, pointers, and data structures.

## Possible Electives (2 credits required)

**All of these classes will NOT be offered. Class availability will depend on staffing, enrollment, and guidelines established by the Baltimore County Public Schools (BCPS) and the Maryland State Department of Education (MSDE).**

- Advanced Simulation and Gaming
- Principles of Arts, Media, and Communication
- Interactive Multimedia Production
- Accounting
- Principles of Business, Administration, and Management
- Financial Management Using Software Applications Marketing Management
- Marketing Essentials
- E-business Technology
- E-business Management
- Information Systems Management

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### Articulation Agreement

Students who earn a grade of B or better in select courses may be able to transfer those courses to the Community College of Baltimore County and receive credit for them.

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### Future Business Leaders of America (FBLA)

Carver Center has an active chapter of FBLA. The FBLA Mission is to bring business and education together in a positive working relationship through innovative leadership and career development programs. Students are able to compete in a variety of business-related events at regional, state, and national competitions.

**\*Please be advised courses may be subject to change.**

## Information Technology - Programming Sample Math Questions

Candidates will be able to use the calculators in the computers.

1. Change .07% to a decimal
2. Change 0.50 to a percent
3. Solve  $\frac{1}{4} + \frac{1}{2}$  and write as a fraction
4. Evaluate  $\$300 * 106\%$
5. Evaluate  $3 + 27/3^2 - (7 - 5)$
6. Evaluate  $a^2 + 7b$  where  $a = 2$  and  $b = 4$
7. Solve for  $x$ :  $2x + 3 = 23$
8. Find the slope for the line defined by the two points:  $(-5,4)$  and  $(0,-3)$
9. Identify the slope and the y-intercept for the following:  $y = -2x + 10$
10. Complete the following using the formula  $\text{Cost} + \text{Mark Up} = \text{Selling Price}$ . Melville Sisters, Inc. obtains an outdoor fountain at a cost of \$871.50. They decide upon a 17% markup. What is the selling price?
11. An advertisement indicated that a new computer priced at \$600.00 could be purchased by putting \$102.00 down. What percent of the price is the down payment?
12. Sharon is a salesperson at a shoe store. Yesterday, she sold \$865.00 of merchandise. Sharon stated that this was 119 percent of the amount that she sold on Tuesday. How much did Sharon sell on Tuesday.
13. Baxter Associates has a workers' compensation premium that is 73% of wages. Gene is paid \$16 per hour as a skilled worker. What is the cost of the worker's compensation insurance per hour for Gene?
14. A group of five people are all working on the same mathematics problem. On the night before it is due, they all call each other to discuss their work. Each person talks to all the other people at least once. What is the fewest number of telephone calls that could be made?
15. Your neighbor wants to hire your younger sister to baby-sit. The neighbor will pay your sister \$4 each day; or \$1 on the first day, \$2 on the second day, \$3 on the third day and so on; or \$.10 on the first day, \$.20 on the second day, then \$.40, then \$.8, and so on. Which pay plan should your sister select? Should she know how many days she is going to baby-sit before selecting her pay plan?
16. A kitten fell into a well 9.5 feet deep. Each day the kitten manages to climb 3 feet up the side of the well, but each night the kitten slips back 2 feet. In how many days will the kitten climb out of the well?