

BALTIMORE COUNTY PUBLIC SCHOOLS

DATE: November 9, 2010

TO: **BOARD OF EDUCATION**

FROM: Dr. Joe A. Hairston, Superintendent

SUBJECT: **CONSIDERATION OF PRE-COLLEGE SCIENCE CURRICULUM E-TEXTBOOK DEVELOPMENT**

ORIGINATOR: John Quinn, Acting Associate Superintendent, Curriculum and Instruction

RESOURCE PERSON(S) Patricia Baltzley, Acting Executive Director, Department of STEM
George Newberry, Director, Office of Science PreK-12
Della Curtis, Coordinator, Library Information Services

RECOMMENDATION

That the Board of Education approves, as reviewed by the Board's Curriculum Committee, the Pre-College Science Curriculum e-Textbook for student use beginning in mid-January 2011.

Attachment I – Executive Summary for Pre-College Science Curriculum e-Textbook Development

Executive Summary

Pre-College Science Curriculum and e-Textbook Development

The Pre-College Science course has been developed to prepare students for college-level science classes. The course was developed in collaboration with the science faculty at CCBC and has been specifically designed for the student who has not previously considered college in his/her science course selections and who may not be eligible for AP-level science classes. It is designed to teach and review concepts of science as well as develop skills and attitudes that students will need to be successful in college. The Pre-College Science curriculum offers a challenging, inquiry-oriented curriculum presented from a historical perspective. It provides students with a wide variety of engaging activities that include open and closed laboratory investigations, library research, report and expository writing, and participation in discussions, seminars, and debates. Additionally, because of the topics it addresses and its implications for self-discovery, the course will open doors and help encourage students to pursue careers in the STEM fields.

In the course, students will examine the historical development of the thinking and experimentation that have led to significant scientific discoveries in the fields of Biology, Chemistry, and Physics. Where possible, students will recreate and analyze original experiments and then apply that learning to broaden their understanding, often to examine contemporary issues or solve real-world problems. Pre-College Science will be piloted in the second semester with classes at Patapsco and Catonsville high schools.

Because of its breadth and unique approach to learning, there is no one textbook available to serve as curriculum support, therefore, collaboration with the BCPS Office of Library Information Services, teachers, and curriculum writers has resulted in the development of a course-specific electronic textbook (e-textbook) to address the unique topics and information required for the course.

An e-textbook is simply a textbook in electronic format. It can be downloaded to a desktop computer, laptop, PDA, cell phone, or any other personal computing device and then displayed on the screen. The e-textbook will have all of the components of a typical printed text, including numbered pages, table of contents, pictures, graphics, captions, and special features or articles, etc. Students do not need to be connected to the Internet in order to read the e-textbook. This is a prolific remedy for the student who does not have Internet access at home. If he/she wishes to have a printed copy, they need only to click on the print button in the e-textbook to print it and read it like any other standard textbook. Unlike a printed textbook, an e-textbook:

- Shows links for easy access to more information and related Web sites.
- Is searchable. Students can easily search for information in an e-textbook instead of turning page after page.
- Is interactive. It can also contain audio, video, and animations that enhance the learning experience for students.

Executive Summary
Pre-College Science Curriculum and e-Textbook Development
Page 2

- Has the potential to embed discussion and inter-activity. Teacher and students can annotate the text, add comments, ask questions, and reflect on the meaning of new learning.
- Can be differentiated to meet the individual learning needs of each student.
- Contains the most up-to-date information because it can be revised instantly as new information becomes available.
- Is created from rich, authoritative, timely, digital content from encyclopedias, journals, magazines, and many other resources to which Baltimore County Public Schools already subscribes (see <http://www.bcps.org/offices/lis/feebased/>), therefore there is no additional cost.

Development of an e-textbook for Pre-College Science will provide a rich repository of resources tailor-made to address the content and unique perspective of the course. In addition, the development process will serve as a template and pilot for creation of e-textbooks for future courses in science as well as other content areas. The development of the e-textbook for Pre-College Science began at the end of September 2010 and the first draft, ready for use by students, will be available in mid-January 2011.