

BALTIMORE COUNTY PUBLIC SCHOOLS

DATE: August 7, 2012

TO: **BOARD OF EDUCATION**

FROM: S. Dallas Dance, Ph.D., Superintendent

SUBJECT: **CONSIDERATION OF THE CURRICULA PILOTS FROM 2011-2012
FOR SYSTEMWIDE IMPLEMENTATION IN 2012-2013**

ORIGINATOR: Kevin A. Hobbs, Deputy Superintendent

**RESOURCE
PERSON(S):** Roger Plunkett, Assistant Superintendent, Curriculum and Instruction
Kathleen McMahon, Executive Director, Special Programs
Dr. John Quinn, Executive Director, STEM

RECOMMENDATION

That the Board of Education approves full implementation of the following piloted curricula for school year 2012–2013 as presented to the Board’s Curriculum Committee:

Honors Economics and Public Issues
Gifted and Talented 6 Mathematics
Calculus
Pre-College Science
Project Innovation
Magnet Computer Science 1 and 2
Administration of Justice I
Administration of Justice II
Homeland Security Science
Homeland Security Science Research Methods & Applications

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Attachment I:	2012-2013 Curricula Pilots from 2011-2012 for Systemwide Implementation (Chart)
Attachment II:	Curriculum Pilot Evaluation, <i>Honors Economics and Public Issues</i>
Attachment III:	Curriculum Pilot Evaluation, <i>Gifted and Talented 6 Mathematics</i>
Attachment IV:	Curriculum Pilot Evaluation, <i>Calculus</i>
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Curricula Pilots from 2011-12 for Systemwide Implementation

Content Office	Curriculum Project Name	Classification: Minor Revision Major Revision New	Rationale: Why Pilot is Needed
LIBERAL ARTS			
World Languages	Chinese 4	New	Continuation of sequence of Chinese language and culture. Using the AP exam as a point from which to backward map, activities have been written to align with national standards. Piloted during the 2011-2012 school year with full implementation planned for 2012-2013. Professional development activities were planned and delivered for all BCPS Chinese teachers monthly during the school year.
World Languages	Latin 1, 2, 3	Major Revision	Revised: Activities have been revised and aligned with the national standards for world languages teaching and the current practice of teaching Latin as a living language. Piloted during the 2011-2012 school year with full implementation planned for 2012-2013. Monthly professional development sessions were provided for all Latin teachers to prepare them to implement the new curricula.
RELA	PreK-12	Minor Revision	As part of raising teacher awareness of the CCSS and to expose them to argumentative writing, created activities/essays for argument that could be implemented with the existing curriculum.
Social Studies	High School Economics and Public Issues Honors	Major Revision	Course rewritten to include financial literacy unit that ensures that all BCPS students meet high school financial literacy requirements outlined in COMAR.
SPECIAL PROGRAMS			
Music	High School Music for Life	Minor Revision	Curriculum activities were revised to update dated curriculum (©1999); to modify lesson delivery and implementation strategies; to infuse technology and 21st Century skills; and to reflect connection to local, state and national music education standards.
Visual Arts	High School The Visual Arts Photography Program	Minor Revision	Revision - include digital photography studio experiences, update format and framework
STEM			
Math	GT 6 Mathematics	Major Revision	Changes to objectives and KSI's in AIM and activities in anticipation of systemwide implementation of GT6 Mathematics in 2012-2013. Piloted for two years due to additional revisions needed to draft curriculum.

Curricula Pilots from 2011-12 for Systemwide Implementation

Content Office	Curriculum Project Name	Classification: Minor Revision Major Revision New	Rationale: Why Pilot is Needed
Math	Calculus	Major Revision	Changes to objectives and activities to align to common core and in anticipation of systemwide implementation. Curriculum revisions to the Calculus curriculum guide were made during a summer 2011 curriculum workshop. The purpose of revising the Calculus curriculum was to produce one curriculum guide, differentiated for Honors AP Calculus 1/2 AB, and AP Calculus 3 BC. This revised draft guide provides alignment to the new topics from College Board and also aligns course offerings to the University of Maryland Calculus sequence.
Math	Kindergarten Mathematics	Minor Revision.	This curriculum has been revised to align to the Maryland Common Core State Curriculum. One minor change was made to align to the Maryland CCSC.
Math	Alternative Education Algebra 1 Self-Paced Curr. Project	Minor Revision	Reformatted the lessons in the existing curriculum to be delivered in 60 to 64 2-h sessions (which is the timeframe available in the Evening High School program).
Science	Pre College Science	New	This science curriculum is designed to help students prepare to enter CCBC ready to take credit bearing coursework
Technology	Project Innovation	New	Curriculum that is designed to help students interested in STEM take a creative idea from design to patent. In course one students help create APPs that educate. In course two they work on their own ideas
CTE	GT Engineering Technology	Minor Revision	Update of activities.
CTE	Computer Science Magnet Program	New	Magnet Course. Course Approval forms have been submitted.
CTE	Adm. of Justice I	New	CTE Course
CTE	Adm of Justice II	New	CTE Course
CTE	Homeland Security Science	New	CTE Course

Curricula Pilots from 2011-12 for Systemwide Implementation

Content Office	Curriculum Project Name	Classification: Minor Revision Major Revision New	Rationale: Why Pilot is Needed
CTE	Homeland Security Science Research Methods Application	New	CTE Course
CTE	MS Mass Communications	Minor Revision	To prepare students to enter a CTE or magnet program in Interactive Media Production or Broadcast Communication in high school
CTE	Child and Adolescent Development	Minor Revision	Update of activities.
CTE	MS Agri-Science Curriculum	Minor Revision	Update of activities. Prepare students for HS Agri-Science program

Curricula Pilots from 2011-12 for Systemwide Implementation

Participating Schools
Dulaney High School, Towson High School, Hereford High School, Perry Hall High School
Dulaney High School, Towson High School, Hereford High School, Dumbarton Middle School, Ridgely Middle School, Eastern Tech High School, Sparrows Point High School,
Gave to all schools. Used feedback from department chairs and through input received by resource teachers to make adjustments.
Kenwood, Loch Raven, Parkville, Patapsco, Pikesville, Western, Woodlawn
Dundalk HS, Patapsco HS, Randallstown HS, New Town HS, Parkville HS, Woodlawn HS
Parkville High, Catonsville High, Owings Mills High, Perry Hall High, Loch Raven High
Loch Raven Academy Pikesville MS Parkville MS Stemmers Run MS Dundalk MS Sparrows Point MS Perry Hall MS (2 teachers) General Stricker MS (2 teachers) Arbutus MS (2 teachers)

Curricula Pilots from 2011-12 for Systemwide Implementation

Participating Schools
Owings Mills High School, Franklin High School, Kenwood High School, Parkville High School, and Catonsville High School
Kindergarten teachers at all elementary schools piloted the one change during 2011-2012. This revised guide reflects the addition of this change.
Dundalk Evening High School Woodlawn Evening High School
Catonsville High School, Patapsco High School
Chesapeake High School
Catonsville High; Loch Raven High; Towson High
Parkville High
Dundalk HS
Dundalk HS
Dundalk HS

Curricula Pilots from 2011-12 for Systemwide Implementation

Participating Schools
Dundalk HS
Deer Park Middle; Parkville Middle
Dundalk HS; Eastern Technical HS
Hereford Middle

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Curriculum Pilot Evaluation

Guide Name: *Honors Economics and Public Issues*

Executive Summary:

During the 2006-2007 school year, all social studies curriculum guides were reviewed by auditors from Phi Delta Kappa (PDK). Curriculum personnel from the Offices of Elementary Social Studies and Secondary Social Studies reviewed the PDK audit findings carefully to determine the areas for each curriculum guide that needed to be strengthened or supplemented. These findings guided curricular revisions so that all components identified as receiving a score less than maximum were addressed. The revision of *Economics and Public Issues* was accepted by the Board of Education, with the charge to develop a companion guide designed for honors level students.

Economics and Public Issues is a ½ credit course and meets the ½ credit graduation requirement for economics. Upon completion of *Honors Economics and Public Issues*, students will have acquired and processed knowledge regarding personal financial decision making, market operations, economic roles assumed by government, and the global economy. They will have also mastered the high school requirements of the *Maryland Personal Financial Literacy Standards*.

The revised *Honors Economics and Public Issues* includes opportunities for students to reflect upon and take responsibility for their learning, apply higher-level thinking skills to evaluate and propose solutions to real-world problems, employ college preparatory strategies, address recurring themes that provide a framework for studying economics, and apply meta-cognitive skills. Instructors are provided with teaching suggestions that address a variety of learning preferences and offer alternatives for purposes of differentiation. In addition to requiring students to use resources and generate products that are more challenging than those which support the standard program, Honors Economics and Public Issues requires students to complete an additional unit addressing international economics.

The following schools and teachers piloted the revised guide during the spring semester, 2010-11 school year:

Kenwood High, Michael Hopkins	Pikesville High, Michael Barberesi
Loch Raven High, Joan McMahon	Western School of Technology, Jonathan Richmond
Parkville High, Katherine Case	Woodlawn High, Adam Sutton
Patapsco High, Andrew Minisky	

Each teacher and the principals of their schools agreed to participate in the pilot of the revised curriculum, and Ms. Barbara Walker, assistant superintendent of high schools, approved the selection of the pilot schools.

The Office of Secondary Social Studies is seeking approval for the implementation of the *Honors Economics and Public Issues* guide to ensure a more thorough differentiation of the social studies program for all students in Baltimore County Public Schools.

Research Questions:

1. To what extent did the pilot curriculum support The Maryland State Curriculum for Personal Financial Literacy Education?
2. How did the pilot curriculum impact the approach to content instruction?
3. What was the impact of the pilot curriculum on student achievement?

Research Question 1

To what extent did the pilot curriculum support The Maryland State Curriculum for Personal Financial Literacy Education?

Outcome	Criteria	Measures Used
Teachers will complete the Personal Finance Unit.	Teachers will describe successes and challenges of meeting indicators and objectives.	Teacher Feedback Teacher Focus Group

Findings:

- Teachers reported that students readily identified the relevance of the content and skills within the course. Consequently, students were engaged and interested.
- Teachers reported that students were highly responsive to scenarios that required decision-making skills, opportunities to compare products and services, opportunities to calculate the costs of borrowing, and role playing such as determining credit worthiness. Students found the examples of contracts they are likely to see in the near future as especially useful.
- Teachers reported that some links did not connect properly.
- Overall, teachers reported that the content was relevant and supportive of the financial literacy standards. They did report some connection problems with several Internet sites. Teachers agreed that the number of activities could be reduced without losing any effectiveness of the program. They also agreed that some activities would clearly distinguish an honors level class from a standard level class.
- Teachers suggested that the study of international trade should be used to distinguish the honors and standard levels. Honors students would address more challenging issues and concepts of international trade through a full unit of study. Standard students would analyze basic issues of trade within the study of government influence and control of the economy.

Research Question 2

How did the pilot curriculum impact the approach to content instruction?

Outcome	Criteria	Measures Used
Teachers will implement teaching suggestions and assessments as written in the pilot guide.	Teachers will evaluate effectiveness of teaching suggestions and assessments.	Teacher Feedback Teacher Focus Group

Findings:

- Teachers reported that the activities required students to apply thinking skills to authentic, real-world problems.
- Teachers reported that the text and most supplementary readings appropriately support coursework.

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- Teachers reported that students consistently applied higher-level thinking skills and sought enrichment through student-generated questions.
- Overall, teachers reported that the teaching suggestions supported effective implementation. Teachers did identify minor issues regarding sequencing of activities and suggested elimination of some activities.

Research Question 3

What was the impact of the pilot curriculum on student achievement?

Outcome	Criteria	Measures Used
Students will satisfy the requirements of course indicators and objectives.	Students will demonstrate success on assessments.	Teacher Feedback Teacher Focus Group Final Examination Data

Findings

1. Teachers reported that the assessments were aligned to the course objectives.
2. Teachers reported that there were ample opportunities within the guide to administer formative and summative assessments.
3. Teachers reported that there were a variety of assessments, but several teachers questioned the frequent use of essays.

Final Exam Data

Indicator	Items	% age of students responding correctly
1. Fundamental economic concepts	16, 20	78%
2 & 3. Earning potential and financial decisions	6, 11	88%
4 & 5. Money management	17, 18, 19, 27	57%
6 & 7. Credit	2, 3, 25, 30, CR1	71%
8. Economic systems	10, 15	61%
9 & 10. Market forces	1, 5, 7, 21, 26, 28, 29	63%
11. Economic growth	4, 22, CR2	70%
12. Fiscal and monetary policy	8, 9	41%
13. Substance abuse	23, 24	51%
14. Trade	12, 13, 14, CR3	60%

Final exam data demonstrates that students more successfully acquired and processed knowledge related to personal financial literacy as demonstrated by scores for indicators 1, 2, and 3. The next highest sets of scores appear in topics that demonstrate real-world applications of economic concepts such as credit and economic growth. Students were relatively successful with abstractions such as economic systems, market forces, and trade, probably due to the ability to relate those abstractions to economic behaviors. Students struggled with fiscal and monetary policies which require complex understandings of marginal analysis and the dynamics of supply and demand.

Next Steps:

The revision of the curriculum guide for the standard level of *Economics and Public Issues* will be guided by:

- Peer review of pilot teacher comments on the Pilot Evaluation Form and corresponding modifications within the curriculum guide.
- Reduction of activities to support completion of the entire program of study.
- Eliminating or providing substitutes for Internet sites that did not correct properly.
- Embedding concepts related to trade within the unit, “Managing the Economy”.
- Modifying instruction related to fiscal and monetary policy.

Revisions to the guide were completed by teams of pilot teachers and curriculum writers in June 2011.

Curriculum Pilot Evaluation

Guide Name: Gifted Talented 6 Mathematics

Executive Summary:

The middle school Gifted and Talented Grade 6 (GT6) Mathematics curriculum was last revised in 1999 and is the precursor course for Algebra 1 in Grade 7. Since the development of this guide, there have been changes to the expectations for students preparing for Algebra 1. These changes were not reflected in the current guides. The purpose of revising the GT6 Mathematics curriculum was to not only update this curriculum but also provide alignment to the new Maryland Common Core State Curriculum (CCSS).

Textbooks were piloted during 2009-2010 and the draft curriculum was developed and piloted with the one textbook selected from that pilot to support instruction in GT6 Mathematics. That textbook was approved by the Board of Education and purchased for all schools. Curriculum revisions to the GT6 Mathematics curriculum guides were made during a summer 2010 curriculum workshop and piloted throughout 2010-2011 at nine middle schools (Pikesville (1 teacher), Parkville (1 teacher), Stemmers Run (1 teacher), Dundalk (1 teacher), Sparrows Point (1 teacher), Perry Hall (2 teachers), Gen. John Stricker (2 teachers), Arbutus (1 teacher), and Loch Raven Academy (1 teacher). Based on feedback from the pilot teachers and analysis by the Office of Mathematics, it was determined after the 2010-2011 pilot that the draft curriculum needed additional revisions. The curriculum guide was revised during the summer 2011 and piloted systemwide during 2011-2012. The pilot teachers from the ten original pilot schools met throughout both years either through face-to-face or Webinar opportunities for training on curriculum materials, to examine and analyze student performance data, and to provide anecdotal data relative to content, delivery of instruction, organization, assessment, and the alignment with CCSS. Professional development was also provided to pilot teachers and all GT6 Mathematics teachers by the Office of Mathematics.

Based on feedback, final curriculum revisions were made during the spring of 2012. All GT6 Mathematics teachers were offered opportunities throughout the year to attend two trainings on the revised curriculum. In addition, teachers have been offered the opportunity to attend a 16-hour workshop for training on the revised curriculum during July 2012. Additional professional development will be provided for all teachers throughout the school year. With approval, the GT6 Mathematics Curriculum Guide will be implemented systemwide during 2012-2013. The Office of Mathematics secondary staff will monitor daily instruction and continue to collect anecdotal feedback.

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Research Questions:

1. What are/were the expectations for implementation of the pilot curriculum?
2. How does/did the pilot curriculum impact the approach to content instruction?
3. What is/was the impact of the pilot curriculum on student achievement?

Outcome	Criteria	Measures Used
Pilot teachers will implement the draft written curriculum in daily mathematics instruction. {RQ1}	<p>Pilot teachers will self-report on their use of written curriculum</p> <p>When observed in their classrooms, pilot teachers will include use of instructional strategies from the written curriculum</p>	<p>Surveys of teachers: Curriculum Evaluation, Unit Feedback,</p> <p>Classroom observations</p>
Effective professional development on the written curriculum and on new instructional strategies will be provided for pilot teachers. {RQ1}	Pilot teachers will indicate that the professional development assisted them in implementing the curriculum and new instructional strategies	Surveys of teachers: Professional Development
Curriculum materials will provide pilot teachers with support necessary to implement the written curriculum. {RQ1}	Pilot teachers will indicate that the curriculum materials assisted them in implementing the written curriculum	Surveys of teachers: Curriculum Evaluation
Curriculum materials and professional development will be revised as needed. {RQ1}	Pilot teachers will report all issues/concerns throughout the pilot process	Surveys of teachers: Curriculum Evaluation, Unit Feedback, Professional Development
The pilot curriculum is beneficial to student engagement, teaching and learning. {RQ2}	Pilot teachers indicate that the draft curriculum actively engaged students and provided opportunities for deeper understanding of content.	Surveys of teachers: Curriculum Evaluation
Student achievement will improve as a result of the implementation of the written curriculum. {RQ3}	<p>Student achievement will improve from previous year.</p> <p>Student achievement will improve when compared to national/international norms.</p>	<p>Benchmark Assessments Publisher Unit Assessments</p> <p>Student artifacts</p>

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Findings:

- The pilot curriculum was provided to ten pilot teachers at nine middle schools to implement in their schools for the 2010-2011 and 2011-2012 school years.
- Observations from classroom visits provided information that pilot teachers were using instructional strategies from the draft written curriculum.
- All ten of the pilot teachers returned the curriculum evaluation requested near the end of the pilot during both years. Data collected from this electronic survey show that the majority of the pilot teachers agreed or strongly agreed that the written curriculum supported the implementation of the GT6 Mathematics program as they piloted the curriculum guide.
- Curriculum revisions were made utilizing the feedback provided by the pilot teachers. Comments from the pilot teachers were helpful in identifying revisions for the guide and in the design of the week-long professional development summer session.
- The following provides a summary of the results of the pilot surveys as they relate to the individual research questions.

1. What are/were the expectations for implementation of the pilot curriculum?

Please add any specific comments you might have about the TEACHER'S MATERIALS of this curriculum guide.

- Lots of great materials. Again, next year, I will be more prepared to utilize more of the materials.
- Very accessible.
- There are plenty of resources including assessment tools, scoring rubrics, and online components.
- The curriculum guide clearly makes the use of the textbook and the ancillary materials transparent.
- They are fine.
- One of the best aspects of this new book and guide.

Please add any specific comments you might have about the COMPONENT'S ORGANIZATION of this curriculum guide.

- They are great.
- The bullets read much like a lesson plan.
- The curriculum guide is organized well within each chapter and the overview provides a snapshot of what will be covered and what will be needed to teach the chapter.
- The organization definitely helped.
- Well laid-out.

2. How does/did the pilot curriculum impact the approach to content instruction?

Please add any specific comments you might have about the INSTRUCTIONAL DESIGN of this curriculum guide.

- This year, there didn't seem to be enough time to thoroughly teach some of the concepts; however, we had to implement Skill of the Week this year and ARE which took time away from teaching this curriculum. Hopefully, that will change in the future and we will have enough time to teach everything in the time allotted.

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- The lessons are built around students coming to class with a base of knowledge from prereading. Then the lesson builds on that base to deepen the understanding.
- Looking back on the year, I feel there are lessons that have too many suggestions within the Core Instructional Strategies. That is why I chose "disagree" for question 14. More time would be needed in the school year in order to fully teach all of the bullets/suggestions and finish the curriculum. As it is currently written, I see the ability for teachers to teach, at best, up through Chapter 10. Perhaps my perceptions will change after teaching the material for a second year.
- The design is clear and includes all necessary components to teach a meaningful and engaging lesson every day.
- Layout of lessons is easy to use
- I was definitely behind this year. I think, however, knowing what to expect that next year I will be able to move quicker and hopefully closer to the allotted time frame.

3. What is/was the impact of the pilot curriculum on student achievement?

Please add any specific comments you might have about the ASSESSMENT component of this curriculum guide.

- Each lesson includes assessment questions that are aligned to the Chapter test.
- The assessments often don't give the students enough room to show their work.
- There are still some kinks to work out with pacing. Units appear to take longer than the allotted amount of days in the guide and the recommended pacing in the book.
- Teachers should be advised to use unit assessments found in the materials rather than making their own.
- There is plenty of room for diverse assessments including different forms for every chapter as well as the opportunity to include ATM review and additional examples as informal assessments on a daily basis.
- Assessment involved high degrees application
- I utilized the different assessment components of the guide. The daily assessments were very helpful and supported the objectives as well as what is assessed on the tests.

Please add any specific comments you might have about the EQUITY of this curriculum guide.

- I did not notice any equity issues.
- No problems with equity.
- There are no differentiation strategies for students who are misplaced in the program
- No problems.

General Comments

Please add any specific comments you might have about any other aspect of this curriculum guide.

- Love it!
- It is going to be a wonderful upgrade from the old Transitions book and curriculum guide!
- Nice guide.

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- This is a much more thorough guide than previous. The lessons in the guide are laid out in detail, so a teacher who's brand new at teaching GT can pick up on HOW to teach GT almost immediately. The thinking that's involved with a GT class is at a new and welcomed high.

Curriculum Pilot Evaluation

Guide Name: Calculus Curriculum (Honors Calculus, Calculus 1/2 AB (AP), Calculus 3 BC (AP))

Executive Summary

The guide for Calculus 1/2 AB (AP) and Honors Calculus was last revised in 2000. The guide for Calculus 3 BC (AP) was written in 1988. Since the development of both guides, there have been changes to the College Board expectations for AP Calculus. These changes were not reflected in the current guides. The purpose of revising the *Calculus* curriculum was to produce one curriculum guide, differentiated for Honors, AP Calculus 1/2 AB, and AP Calculus 3 BC. This revised guide provides alignment to the new topics from College Board and also aligns course offerings to the University of Maryland Calculus sequence (BCPS Calculus ½ AB (AP) equates to UM Calculus 1 and BCPS Calculus 3 BC (AP) equates to UM Calculus 2.)

Textbooks were piloted during 2010-2011 and the draft curriculum was developed and piloted with the one textbook selected from that pilot to support instruction in all Calculus courses. That textbook was approved by the Board of Education and purchased for all schools. Curriculum revisions to the *Calculus* curriculum guides were made during a summer 2011 curriculum workshop and piloted throughout 2011-2012 at five high schools (Owings Mills High School, Franklin High School, Kenwood High School, Parkville High School, and Catonsville High School.) Pilot teachers met throughout the year either through face-to-face or webinar opportunities for training on curriculum materials, to examine and analyze student performance data, and to provide anecdotal data relative to content, delivery of instruction, organization, assessment, and the alignment with College Board standards. Professional development was also provided to pilot teachers by the Office of Mathematics.

Based on feedback, final curriculum revisions were made during the spring 2012. All calculus teachers were offered the opportunity to attend a five-day workshop for training on the revised curriculum in July 2012. Additional professional development will be provided for all teachers throughout the school year. With approval for this guide, the Calculus Curriculum Guide will be implemented systemwide during 2012-2013. The Office of Mathematics secondary staff will monitor daily instruction and continue to collect anecdotal feedback.

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Results of Curriculum Pilot Evaluation

Research Questions:

1. What are/were the expectations for implementation of the pilot curriculum?
2. How does/did the pilot curriculum impact the approach to content instruction?
3. What is/was the impact of the pilot curriculum on student achievement?

Outcome	Criteria	Measures Used
Pilot teachers will implement the draft written curriculum in daily mathematics instruction. {RQ1}	<p>Pilot teachers will self-report on their use of written curriculum</p> <p>When observed in their classrooms, pilot teachers will include use of instructional strategies from the written curriculum</p>	<p>Surveys of teachers: Curriculum Evaluation, Unit Feedback,</p> <p>Classroom observations</p>
Effective professional development on the written curriculum and on new instructional strategies will be provided for pilot teachers. {RQ1}	Pilot teachers will indicate that the professional development assisted them in implementing the curriculum and new instructional strategies	Surveys of teachers: Professional Development
Curriculum materials will provide pilot teachers with support necessary to implement the written curriculum. {RQ1}	Pilot teachers will indicate that the curriculum materials assisted them in implementing the written curriculum	Surveys of teachers: Curriculum Evaluation
Curriculum materials and professional development will be revised as needed. {RQ1}	Pilot teachers will report all issues/concerns throughout the pilot process	Surveys of teachers: Curriculum Evaluation, Unit Feedback, Professional Development
The pilot curriculum is beneficial to student engagement, teaching and learning. {RQ2}	Pilot teachers indicate that the draft curriculum actively engaged students and provided opportunities for deeper understanding of content.	<p>Surveys of teachers: Curriculum Evaluation</p> <p>Action Research Project</p>
Student achievement will improve as a result of the implementation of the written curriculum. {RQ3}	<p>Student achievement will improve from previous year.</p> <p>Student achievement will improve when compared to national/international norms.</p>	<p>Final Exam Assessments AP Calculus: AB, BC Exam</p> <p>Student artifacts</p>

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Findings:

- The pilot curriculum was provided to five pilot teachers to implement in their schools for the 2011-2012 school year. These included two Honors Calculus teachers, one AP BC Calculus teachers, one teacher who taught both AP AB Calculus and AP BC Calculus, and one teacher of both Honors Calculus and AP AB Calculus.
- Observations from classroom visits provided information that pilot teachers were using instructional strategies from the draft written curriculum.
- All of the pilot teachers returned the curriculum evaluation near the end of the pilot. Data collected from this electronic survey show that the majority of the pilot teachers agreed or strongly agreed that the written curriculum supported the implementation of the calculus program as they piloted the curriculum guide. The Aggregated Survey Results are provided in a separate attachment (Attachment 2).
- Curriculum revisions were made utilizing the feedback provided by the pilot teachers. Comments from the pilot teachers were helpful in identifying revisions for the guide and in the design of the week long professional development summer session.
- The following provides a summary of the results of the survey as they relate to the individual research questions.

1. What are/were the expectations for implementation of the pilot curriculum?

Please add any specific comments you might have about the TEACHER'S MATERIALS of this curriculum guide.

- I found all of the teacher's materials helpful throughout the course.
- Fairly well written and organized but inconsistent from section to section in the amount of details/suggestions provided.
- My only complaint is that all schools have different resources, so a lot of the resources I used were not included in the curriculum guide.
- Would like all the worksheets in one folder. Could not access some of the applets.

Please add any specific comments you might have about the COMPONENT'S ORGANIZATION of this curriculum guide.

- Very strong.
- As a third-year calculus teacher, I didn't rely on these sections too much, but I think for new calculus teachers, these would be essential for successful implementation.
- Well done.
- Format was very much like other BCPS curriculum guide so it was easy to use.

2. How does/did the pilot curriculum impact the approach to content instruction?

Please add any specific comments you might have about the CONTENT of this curriculum guide.

- The content was appropriate for my honors class and allowed me to extend topics for the students. We were able to use many of the examples in the book and the links provided in the curriculum to make the content relevant to the student's lives.
- I really liked the worksheet pages that were included for computing derivatives, i.e. the chain rule practice page for students.
- Covers all of the Ab and BC content.

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Please add any specific comments you might have about the ALIGNMENT WITH STANDARDS of this curriculum guide.

- There is a strong alignment. Plenty of modeling, variety of tools used, problem solving needs perseverance.
- Curriculum easily connected with AP standards as well as the scope and sequence of Univ of Md Calculus courses.
- The content aligned nicely with what the students were expected to do on the AP Calculus BC test. The students returned from the test feeling quite prepared.

Please add any specific comments you might have about the INSTRUCTIONAL DESIGN of this curriculum guide.

- It is easy to follow.
- Again, I can't comment on the timing, but I think the Core Instructional Strategies gave good suggestions and the students did enjoy some of the supplemental activities. The Foerster book was especially helpful in doing explorations.
- Timeline provided.
- Differentiation strategies provided.
- Resource/worksheets provided links to websites provided teacher resource binder from textbook publisher provided.
- All helped with planning lessons.
- More direction towards the resources available through the course page on collegeboard.com would be useful. There are some extremely great resources on that sight, and they are promoted by the College Board.

3. What is/was the impact of the pilot curriculum on student achievement?

Please add any specific comments you might have about the ASSESSMENT component of this curriculum guide.

- No tests were included in the guide, so I had to make all formal assessments myself. Not a huge deal since I've taught this course previously, but for new teachers, I think it'd be nice to have tests or at least assessment questions available in the guide. Since I teach everyday for 80 minutes all year, I can't comment on the timing of each unit. I teach much slower than most calc courses.
- Assessment for AP levels is clearly defined by College Board. I did have some trouble creating assessments for the honors level that were the appropriate length and breadth.
- The book chosen had a test bank. We have access to the question bank of ACESS. All of College Board materials are available to us to use for assessment.
- I felt the assessment items listed in the guide were often too straight forward. Also, just listing the previous AP reference number made it an extra task to go look the question up.

Please add any specific comments you might have about the EQUITY of this curriculum guide.

- Calculus tends to be equitable.
- It is definitely geared for Honors/AP level students since that is who will take the course. Not sure how "diverse" that is, but it's what makes sense.

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Note that AP results were not available at this time and students taking the AP exams do not take the BCPS final exams.

General comments

Please add any specific comments you might have about any other aspect of this curriculum guide.

- It worked well for my students and I don't have any real suggestions for improvement.
- A really good guide! In Unit D there is confusion between relative and absolute extrema. There are some typos; pg 20 (limit), C-3 partial derivative; C-15 uses integral?
- I could not complete area between two curves nor Volumes of Solids in the given time. But overall the time for course and review was fine.
- Some really nice materials!
- I could not find some of the applets but didn't note which ones!
- I think we should add something about the online text for teachers so they know all of the resources available there for themselves and their students.
- Well done product overall. It should "clean up" nicely through editing and be a very useful tool for teachers at all levels of experience.
- I feel this guide adequately supports any student who is able to make it to Calculus BC.

Curriculum Pilot Evaluation Template

Pilot Name: Pre-College Science

Executive Summary

The Pre-College Science curriculum was developed to prepare students for college-level science classes. The curriculum was developed in collaboration with the science faculty at CCBC. It was 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. These students traditionally have gaps in learning, exposure to, or understanding of scientific concepts. The Pre-College Science curriculum is designed to teach and review concepts of science as well as to develop skills and attitudes that students will need to be successful in college.

The curriculum for Pre-College Science is not a typical science curriculum, but rather a much broader and deeper study of the sciences and the history behind them. It is unique because of its historical approach, variety of curriculum resources, and utilization of primary source readings. The goal of the curriculum is not just to prepare the students to pass a course but also to prepare them for college-level science work. It offers a challenging, inquiry-based approach to learning in which students examine the development of the thinking and experimentation that have led to significant scientific discoveries in the fields of biology, chemistry, and physics. The student is presented with situations and challenges that require the application of factual material and subsequent experimentation to broaden their understanding, examine related contemporary issues, and solve real-world problems.

The curriculum 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. And, because of the topics it addresses and their implications for self-discovery, the curriculum also enables students to explore interests and aptitudes that may lead them to careers in the STEM fields.

Because of its breadth and unique approach to learning, there is no one textbook available to serve as support for the Pre-College Science curriculum. As a result, through collaboration with the BCPS' Office of Library Information Services, teachers and curriculum writers developed a course-specific electronic textbook (e-Textbook) to address the unique topics and information required for the course. The Pre-College Science e-Textbook is housed in the Creation Station area of Safari Montage at <http://10.4.1.240/?p=eebfe2b4-4f3c-11e0-8279-002219bf32de>. The e-Text was created from rich, authoritative, timely, digital content from encyclopedias, journals, magazines, and a variety of other resources to which Baltimore County already subscribes. It has all of the components of a typical printed text, including numbered pages, table of contents, pictures, graphics, captions, special features or articles, etc. It is also searchable. The e-Text is interactive with numerous animations, simulations, and audio and video links and has the potential for embedded discussions. The teacher and students can annotate the text, add comments, ask questions, and reflect on the meaning of new learning. The e-Text can be downloaded to a desktop computer, laptop, PDA, cell phone, or any other personal computing device; or, if students wish to have a printed copy, they need only to click on the print button to print it and read it like any other standard textbook.

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The Pre-College Science curriculum and e-textbook were piloted during the 2010-2011 school year. Based on the feedback we received from the first pilot, the curriculum was again revised during the summer of 2011. The course and e-textbook were then piloted again during the 2011-2012 school year in three high schools – Patapsco, Catonsville, and Chesapeake High Schools

Successful completion of this course with a final grade of B, a score of 70% or higher on the final exam, and a score of 80% or higher on a CCBC-prescribed Chemistry Placement Exam permits students to skip an introductory chemistry course (CHEM 107/108) at CCBC and enroll directly in Chemistry 121/122.

Research Questions:

1. What are/were the expectations for implementation of the pilot curriculum?
2. How does/did the pilot curriculum impact the approach to content instruction?
3. What is/was the impact of the pilot curriculum on student achievement?

Research Question 1: What are/were the expectations for implementation of the pilot curriculum?

Outcome	Criteria	Measures Used
Pilot schools will implement the curriculum as prescribed and in the topical sequence indicated by the guide.	Pilot teachers will attend pilot meetings to provide feedback on their implementation of the curriculum in their classrooms.	Teacher reporting Office of Science observations

Findings:

- The pilot curriculum was provided to three pilot teachers for implementation during the 2010-2011 and 2011-2012 academic years.
- One of the teachers started the 2011-2012 school year on paternity leave, so a substitute teacher implemented the curriculum until his return.
- Two of the schools in the pilot operated on a 4-period semester schedule. In these schools, the curriculum was implemented during the spring semester of the 2010-2011 school year. The Pre-College Science course was offered during both the fall and spring semesters during the 2011-2012 school year.
- One of the schools implemented the pilot curriculum for the entire school year in an A/B 4-period format.
- All pilot teachers attended meetings during the school year. All pilot teachers reported using the pilot curriculum with some modification and differentiation as appropriate for students and teaching styles.
 - Observations at the pilot schools by the Office of Science staff confirmed the implementation of pilot curriculum materials as designed.
 - The pilot teachers reported that they enjoyed piloting the new curriculum. A first-year teacher who taught the course reported having difficulty with the content which she attributed to a lack of experience.

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Research Question 2: How does/did the pilot curriculum impact the approach to content instruction?

Outcome	Criteria	Measures Used
Teachers will report that the pilot curriculum and e-textbook were beneficial to student engagement, teaching, and learning.	Teachers will report use of the e-textbook by students in the course.	Teacher feedback Office of Science observations
Teachers will report that the pilot curriculum incorporated appropriate instructional resources and was beneficial to preparing students for college-level science courses.	Teachers will report that lessons in the guide are appropriate in preparing the students for college-level science courses.	

Findings:

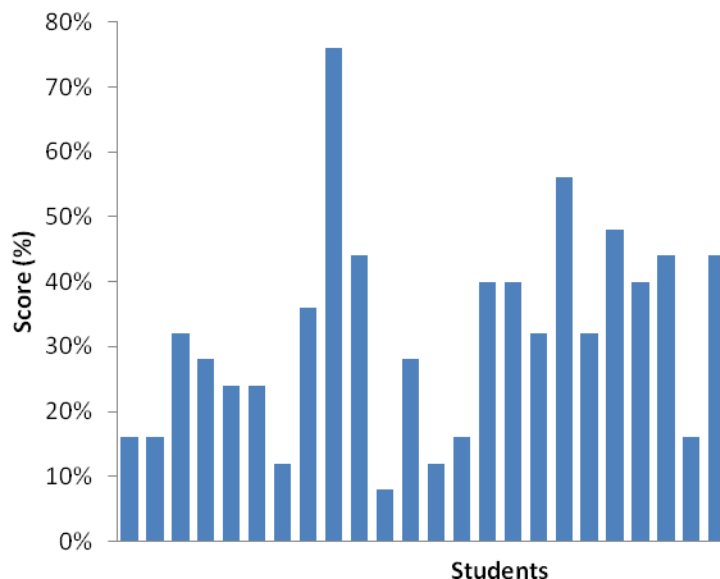
- All three pilot teachers submitted the Curriculum Evaluation Form at the end of the pilot.
- All pilot teachers used the e-textbook.
- All the pilot teachers reported that the content was both rigorous and appropriate, and was relevant to success in college-level science courses.
 - Some pilot teachers reported a need for alternative formats for the e-textbook so that the students could interact with it more successfully on the electronic devices that were available at the schools.
- Most of the pilot teachers reported that instructional materials actively engaged the students and provided sufficient experiences and opportunities for students to develop a deep understanding of the content.
 - Some specifically mentioned connections between labs, level of student engagement, and college-level success.

Notable quotes from pilot teacher feedback:

- “Student feedback regarding the course has been positive.”
- “[The course is] helpful to those students going on to CCBC.”
- “I felt that this curriculum provided students with an understanding of how science has progressed over time and given them an appreciation for the challenges faced by early scientists.”

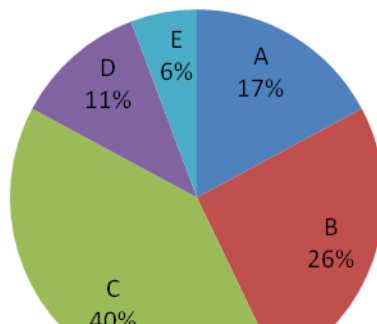
Research Question 3: What is/was the impact of the pilot curriculum on student achievement?

Outcome	Criteria	Measures Used
Student scores on the Chemistry Placement test and final exam and final grades in the course will demonstrate a readiness for college-level science work.	Student scores on the Chemistry Placement Test will exceed 80%.	CCBC-approved Chemistry Placement Test BCPS Final Exam for Pre-College Science Final grade in the Pre-College Science Course

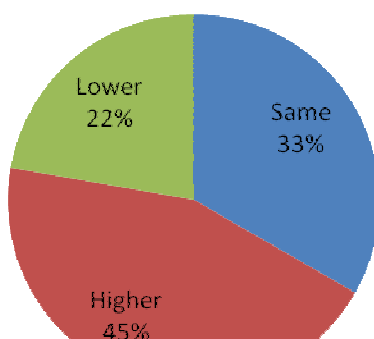
Findings:**Chemistry Placement Scores**

The Chemistry Placement Exam consists of 25 questions. It is very rigorous and assesses a broad range of complex chemistry concepts and facts and requires students to solve problems identified specifically by the chemistry faculty at CCBC as essential in order for students to bypass Chemistry 107/108 and go directly into Chemistry 121/122. Thirty students in the 2011-2012 pilot of the course took the Chemistry Placement Exam. None of the students participating in the pilot scored at or above 80% on this placement exam (*i.e.*, answered at least 20 out of 25 items correctly); however, one student did answer 19 out of 25 items correctly.

Final Grade In the Pre-College Science Course

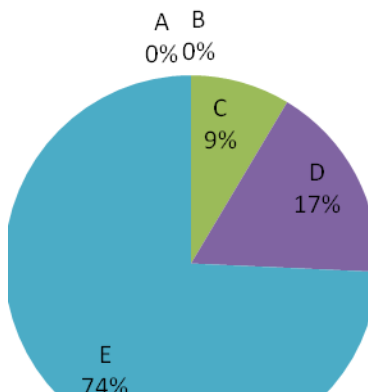


Pre-College Science Final Grade vs. 11th Grade Science Final Grade



The students performed well in the Pre-College Science course as indicated by their final grades (83% of students finished with a grade of C or better). A comparison from COGNOS of final grade in Pre-College Science to final grade in a Grade 11 science course, for the same students shows that 45% of the students actually improved from the previous year -- in fact, 78% performed better than or demonstrated equal performance to the previous year. Since the students in the Pre-College Science course are not typical of those generally enrolled in a college-preparatory track, it is significant that such a large percentage of students finished with a final grade of C or higher and/or improved their final science grade from Grades 11 and 12. This improvement may be indicative of engagement by the students in the rigorous content as well as adjusting or augmenting their work habits to be better aligned with college-level expectations.

Final Exam Results



The pie graph above shows that the pilot students did not perform well on the final exam. The exam is rigorous and comprehensive, covering concepts from biology, chemistry, and physics. Students are also asked to perform calculations and solve problems as well as remember a lot of information. Seniors at the end of the school year tend to downplay the importance of the final exam in the midst of the other graduation activities taking place. It is important to note that all pilot students earning an A in the course also passed the final exam. Revisions to the final exam will be made based on item-level analysis of student responses.

Next Steps:

- Adjustments to the curriculum and sequence of topics have been made based on teacher feedback from the 2011-2012 pilot. It is anticipated that these revisions will increase student success in the course.
- An adjustment to the timing of the Chemistry Placement Exam has also been suggested, moving it from an end-of-course assessment to an end-of-chemistry assessment. In this regard, the Chemistry Placement Exam will be administered at the end of the first semester after instruction on the chemistry concepts of the course has been completed. This will enable students to take the exam when the information is fresh in their minds.
- Adjustments to the final exam have also been made based on feedback from the pilot teachers and analysis of the assessment items. It is anticipated that these revisions will increase student performance on the final exam.
- Professional development opportunities for Pre-College Science teachers will be provided throughout the 2012-2013 school year.
- An attempt will be made to track students at CCBC who took the Pre-College Science course and follow up with CCBC science faculty to assess the impact of this course on student performance in college-level science course work.
- The Office of Science is seeking final approval of the Pre-College Science Curriculum in anticipation of countywide implementation in 2012-2013.

Curriculum Pilot Evaluation

Pilot Name: Project Innovation

Executive Summary

Project Innovation was originally written in summer 2009 for implementation at Chesapeake High School. The Project Innovation Curriculum was developed in order to provide students with the ultimate STEM experience by combining concepts in biology, chemistry, physics, technology, math, and engineering into truly interdisciplinary course. In October 2011, the Board of Education approved the change from a science elective (delivered in two 0.5-credit parts) to an advanced technology education elective. Through curriculum revision and refinement based on teacher, student, and administrator feedback, the curriculum now presents a stronger emphasis on engineering and marketing than on science, making it more appropriate as an advanced technology education elective than as a science elective.

The draft curriculum guide was piloted at Chesapeake High School with anticipation for systemwide implementation in 2013-2014.

Proposed Pilot Schools

Chesapeake High School

Pilot Timeline

- July, 2011 – Initial Professional Development for Pilot Teachers (ISO 5.12)
- August, 2011-June, 2012 - Pilot includes two co-teachers delivering curriculum to six students enrolled in course. Student-produced artifacts were compiled (ISO 5.12)
- December, 2011-June, 2012 – Analysis of results of pilot to determine modifications needed or readiness for system-wide implementation (ISO 5.13)

Research Questions:

1. What are/were the expectations for implementation of the pilot curriculum?
2. How does/did the pilot curriculum impact the approach to content instruction?
3. What is/was the impact of the pilot curriculum on student achievement?

Outcome	Criteria	Measures Used
Pilot schools will implement instruction as prescribed in the pilot curriculum.	Amount of time devoted to instruction is consistent with implementation schedule: A/B schedule 90 minutes per class period.	Teacher reporting Principal/administrator reporting Classroom observations Student-produced artifacts

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		Monitoring class wiki activity
Teachers, students, and administrators will report that the pilot curriculum was beneficial to student engagement, teaching, and learning.	<p>Teachers, administrators, and students will report an increase in engagement.</p> <p>Teachers and administrators will report an increase in effective instruction in the content area.</p> <p>Student scores on Pre and Post Assessment show improvement.</p>	<p>Pre and Post Assessments</p> <p>Classroom observations</p> <p>Student feedback</p> <p>Teacher feedback</p> <p>Principal/administrator feedback</p>
<p>Students will develop 21st century skills.</p> <p>Students will apply the steps of the Engineering Design Loop process.</p> <p>Students will report an increased understanding of the importance of STEM in the invention/innovation process.</p>	<p>Student scores on Pre and Post Assessment show improvement.</p> <p>Students will participate in the year-end symposium highlighting their personal invention/innovation and illustrating the Engineering Design Loop Process.</p>	<p>Pre and Post Assessments</p> <p>Student-produced artifacts</p>

Summary of Results of Evaluation:

Project Innovation Quarterly and Final Grades 2011-12 School Year

Six students were enrolled and all reached various stages in their project design and implementation. One student's work and motivation dropped off drastically as the year progressed while the others completed what they set out to do.

The students found the APP design work to be very engaging and useful for teaching the design process. Reflecting on the 2011-12 school year, one of the two teachers stated, "I really enjoyed teaching this and learned as much as the students."

Final Course Grades:

Student One: D

Student Two: B

Student Three: C

Student Four: C

Student Five: B

Student Six: C

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Projections for 2012-13

Lessons learned from pilot in 2011-12 should help in 2012-13. Current enrollment for the 2012-13 school year has fifteen (15) students are enrolled in the Project Innovation course at Chesapeake High School.

Curriculum Pilot Evaluation

Pilot Name: Magnet Computer Science 1 and Magnet Computer Science 2

Executive Summary

The Magnet Computer Science 1 and 2 courses were developed so that the non-CTE computer science magnet program at Parkville High School could deliver computer programming coursework without scheduling students for the existing CTE computer courses—doing so would affect the CTE data reported to the Maryland State Department of Education (MSDE). These courses combined existing curriculum from the CTE computer courses as well as minor revisions as necessary.

The goal of the Magnet Computer Science 1 course is to bring every student up to speed with computer basics in a way that will challenge even the most proficient student. Upon this basic foundation the course builds more advanced concepts that cover a wide range of computer topics. By the end of the course, students will be skilled in a number of computer topics and be prepared for many different computer courses.

The Magnet Computer Science 2 course is designed to engage all students by connecting to a variety of student interests. Students will learn through active projects, working cooperatively with others, and conducting self and peer assessments. Clear expectation and feedback will be provided and students will be held accountable and rewarded for their effort and the products they produce. A variety of assessments will be used to accurately reflect student learning.

The draft curriculum guides will be piloted in Parkville High School. There is no anticipation for systemwide implementation as these courses are unique to this particular school. All other sites are encouraged to offer the CTE program of study.

Proposed Pilot School

Parkville High School (this is the only school that offers this magnet program)

Pilot Timeline

- August, 2011 – Initial Professional Development for Pilot Teacher (ISO 5.12)
- August, 2011-June, 2012 - Pilot includes trainings, ongoing professional development, and regular curriculum feedback meetings (ISO 5.12)
- December, 2011-July, 2012 – Analysis of results of pilot to determine modifications needed or readiness for system-wide implementation (ISO 5.13)

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Research Questions:

1. What are/were the expectations for implementation of the pilot curriculum?
2. How does/did the pilot curriculum impact the approach to content instruction?
3. What is/was the impact of the pilot curriculum on student achievement?

Outcome	Criteria	Measures Used
Pilot teacher will implement the draft written curriculum in daily instruction. {RQ1}	<p>Pilot teacher will self-report on their use of written curriculum</p> <p>When observed in their classrooms, pilot teacher will include use of instructional strategies from the written curriculum</p>	<p>Surveys of teachers: Curriculum Evaluation, Unit Feedback,</p> <p>Classroom observations</p>
Effective professional development on the written curriculum and on new instructional strategies will be provided for pilot teacher. {RQ1}	Pilot teacher will indicate that the professional development assisted them in implementing the curriculum and new instructional strategies	Surveys of teachers: Professional Development
Curriculum materials will provide pilot teacher with support necessary to implement the written curriculum. {RQ1}	Pilot teacher will indicate that the curriculum materials assisted them in implementing the written curriculum	Surveys of teachers: Curriculum Evaluation
Curriculum materials and professional development will be revised as needed. {RQ1}	Pilot teacher will report all issues/concerns throughout the pilot process	Surveys of teachers: Curriculum Evaluation, Unit Feedback, Professional Development
The pilot curriculum is beneficial to student engagement, teaching and learning. {RQ2}	Pilot teacher indicates that the draft curriculum actively engaged students and provided opportunities for deeper understanding of content.	<p>Surveys of teachers: Curriculum Evaluation</p> <p>Action Research Project</p>
Student achievement will improve as a result of the implementation of the written curriculum. {RQ3}	Student achievement and engagement will improve from previous year.	<p>Unit test assessments</p> <p>Computer generated projects</p> <p>Student artifacts</p>

Summary of Results of Evaluation:

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2011 – 2012 School Year

Magnet Computer Science 1:

- Enrollment—51 Students
- Grades:
 - A = 26
 - B = 15
 - C = 8
 - D = 0
 - E = 2

Magnet Computer Science 2:

- Enrollment—35 Students
- Grades:
 - A = 5
 - B = 8
 - C = 12
 - D = 8
 - E = 2

Future Enrollment--366 students applied through the Magnet Office process. 283 students sat for the entrance assessment, 107 students qualified for entry into the program for the 2012-2013 school year.

Teacher feedback throughout the pilot was constructive and complimentary about the curriculum.

Anticipate better student results in Computer Science 2 in 2012-13, now that the teacher has been through the course one time.

Curriculum Pilot Evaluation

Pilot Name: Administration of Justice 1 (Homeland Security and Emergency Preparedness Program)

Executive Summary

The Homeland Security and Emergency Preparedness program of study was opened at Dundalk High School, the only school designated for this program, during the 2009-2010 school year. The program has three pathways: (1) the Criminal Justice/Law Enforcement Pathway, (2) the Homeland Security Sciences Pathway, and (3) the Information/Communications Technology Pathway. The Administration of Justice 1 curriculum guide was developed in July 2010 for implementation of the Criminal Justice/Law Enforcement Pathway in school year 2010-2011. There are two curriculum guides to support the Criminal Justice/Law Enforcement pathway, Administration of Justice 1 and Administration of Justice 2. Both courses are taught by one teacher.

The Administration of Justice 1 guide was piloted in the Homeland Security and Emergency Preparedness program during the 2010-2011 school year. Revisions were made by the teacher during the school year and in June 2011. There are no current plans to expand this program to other schools.

Program enrollment has grown from 14 students in the first course, Foundations of Homeland Security, in 2009-2010 to 69 students in the homeland security program for 2011-12. In 2011-2012, 14 of these students were seniors taking the capstone experience course. The projected total program enrollment for 2012-13 is 124 students, based on current students and level of interest indicated by course registrations for the 2012-13 school year.

Proposed Pilot Schools

Dundalk High School is the only school authorized to offer the Homeland Security and Emergency Preparedness pathway.

Pilot Timeline

- August 2010 – Initial Professional Development for Pilot Teacher (ISO 5.12)
- August, 2010-June, 2011 – Administration of Justice 1. The pilot included trainings, ongoing professional development, and regular curriculum feedback meetings (ISO 5.12)
- December, 2010-July, 2011 – Analysis of results of pilot to determine modifications needed or readiness for system-wide implementation (ISO 5.13)

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Research Questions:

1. What are/were the expectations for implementation of the pilot curriculum?
2. How does/did the pilot curriculum impact the approach to content instruction?
3. What is/was the impact of the pilot curriculum on student achievement?

Outcome	Criteria	Measures Used
Pilot teacher will implement the draft written curriculum in daily classes for the Administration of Justice 1 course. {RQ1}	<p>Pilot teacher will self-report on her use of written curriculum</p> <p>When observed in her classroom, pilot teacher will include use of instructional strategies from the written curriculum</p>	<p>Surveys of teachers: Curriculum Evaluation, Unit Feedback</p> <p>Classroom observations</p>
Effective professional development on the written curriculum and on new instructional strategies will be provided for pilot teacher. {RQ1}	Pilot teacher will indicate that the professional development assisted her in implementing the curriculum and new instructional strategies.	Surveys of teacher: Professional Development
Curriculum materials will provide the pilot teacher with support necessary to implement the written curriculum. {RQ1}	The pilot teacher will indicate that the curriculum materials assisted her in implementing the written curriculum.	Surveys of teacher: Curriculum Evaluation
Curriculum materials and professional development will be revised as needed. {RQ1}	Pilot teacher will report all issues/concerns throughout the pilot process.	Surveys of teacher: Curriculum Evaluation, Unit Feedback, Professional Development
The pilot curriculum is beneficial to student engagement, teaching and learning. {RQ2}	Pilot teacher indicates that the draft curriculum actively engaged students and provided opportunities for deeper understanding of content.	Surveys of teacher: Curriculum Evaluation
Student achievement will demonstrate that homeland security students have mastered the content of the course as a result of the implementation of the written curriculum. {RQ3}	Student achievement on assessments and other course measures.	<p>Final Exam Assessments: Administration of Justice 1</p> <p>Student artifacts</p>

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Summary of Results of Evaluation:

Homeland Security and Emergency Preparedness

- Total program enrollment in 2010-2011: 91 students (70 male, 21 female)
- This includes 37 students in the Foundations of Homeland Security and Emergency Preparedness class, and 14 students in the Internship/Capstone Experience

Administration of Justice 1 (1 credit)

- Enrollment – 14 students
- Grades:
 - A = 3
 - B = 5
 - C = 3
 - D = 3
 - E = 0

Implication of the pilot:

The program is growing, which tends to indicate that students are being attracted to the program. While the female enrollment increased from 11 in 2010 to 21 in 2011, there are many more males than females enrolled in the program. There is a need to develop recruitment and instructional strategies to encourage more females to enroll. Baltimore County is one of a 6-member school system in the Central Maryland Homeland Security Educational Alliance (CMHSEA). This consortium has found the male/female enrollment to be similar across the school systems. The consortium is developing a plan of action to address this concern.

Curriculum Pilot Evaluation

Pilot Name: Administration of Justice 2 (Homeland Security and Emergency Preparedness Program)

Executive Summary

The Homeland Security and Emergency Preparedness program of study was opened at Dundalk High School, the only school designated for this program, during the 2009-2010 school year. The program has three pathways: (1) the Criminal Justice/Law Enforcement Pathway, (2) the Homeland Security Sciences Pathway, and (3) the Information/Communications Technology Pathway. The Administration of Justice 2 curriculum guide was developed in July 2010 for implementation of the Criminal Justice/Law Enforcement Pathway in school year 2010-2011. There are two curriculum guides to support the Criminal Justice/Law Enforcement pathway, Administration of Justice 1 and Administration of Justice 2. Both courses are taught by one teacher.

The Administration of Justice 2 guide was piloted in the Homeland Security and Emergency Preparedness program during the 2010-2011 school year. Revisions were made by the teacher during the school year and in June 2011. There are no current plans to expand this program to other schools.

Program enrollment has grown from 14 students in the first course, Foundations of Homeland Security, in 2009-2010 to 69 students in the homeland security program for 2011-12. In 2011-2012, 14 of these students were seniors taking the capstone experience course. The projected total program enrollment for 2012-13 is 124 students, based on current students and level of interest indicated by course registrations for the 2012-13 school year.

Proposed Pilot Schools

Dundalk High School is the only school authorized to offer the Homeland Security and Emergency Preparedness pathway.

Pilot Timeline

- August 2010 – Initial Professional Development for Pilot Teacher (ISO 5.12)
- August, 2010-June, 2011 – Administration of Justice 2. The pilot included trainings, ongoing professional development, and regular curriculum feedback meetings (ISO 5.12)
- December, 2010-July, 2011 – Analysis of results of pilot to determine modifications needed or readiness for system-wide implementation (ISO 5.13)

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Research Questions:

1. What are/were the expectations for implementation of the pilot curriculum?
2. How does/did the pilot curriculum impact the approach to content instruction?
3. What is/was the impact of the pilot curriculum on student achievement?

Outcome	Criteria	Measures Used
Pilot teacher will implement the draft written curriculum in daily classes for the Administration of Justice 2 course. {RQ1}	<p>Pilot teacher will self-report on her use of written curriculum</p> <p>When observed in her classroom, pilot teacher will include use of instructional strategies from the written curriculum</p>	<p>Surveys of teachers: Curriculum Evaluation, Unit Feedback</p> <p>Classroom observations</p>
Effective professional development on the written curriculum and on new instructional strategies will be provided for pilot teacher. {RQ1}	Pilot teacher will indicate that the professional development assisted her in implementing the curriculum and new instructional strategies.	Surveys of teacher: Professional Development
Curriculum materials will provide the pilot teacher with support necessary to implement the written curriculum. {RQ1}	The pilot teacher will indicate that the curriculum materials assisted her in implementing the written curriculum.	Surveys of teacher: Curriculum Evaluation
Curriculum materials and professional development will be revised as needed. {RQ1}	Pilot teacher will report all issues/concerns throughout the pilot process.	Surveys of teacher: Curriculum Evaluation, Unit Feedback, Professional Development
The pilot curriculum is beneficial to student engagement, teaching and learning. {RQ2}	Pilot teacher indicates that the draft curriculum actively engaged students and provided opportunities for deeper understanding of content.	Surveys of teacher: Curriculum Evaluation
Student achievement will demonstrate that homeland security students have mastered the content of the course as a result of the implementation of the written curriculum. {RQ3}	Student achievement on assessments and other course measures.	<p>Final Exam Assessments: Administration of Justice 2</p> <p>Student artifacts</p>

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Summary of Results of Evaluation:

Homeland Security and Emergency Preparedness

- Total program enrollment in 2010-2011: 91 students (70 male, 21 female)
- This includes 37 students in the Foundations of Homeland Security and Emergency Preparedness class, and 14 students in the Internship/Capstone Experience

Administration of Justice 2 (1 credit)

- Enrollment – 12
 - A = 2
 - B = 3
 - C = 4
 - D = 1
 - E = 2

Implication of the pilot:

The program is growing, which tends to indicate that students are being attracted to the program. While the female enrollment increased from 11 in 2010 to 21 in 2011, there are many more males than females enrolled in the program. There is a need to develop recruitment and instructional strategies to encourage more females to enroll. Baltimore County is one of a 6-member school system in the Central Maryland Homeland Security Educational Alliance (CMHSEA). This consortium has found the male/female enrollment to be similar across the school systems. The consortium is developing a plan of action to address this concern.

Curriculum Pilot Evaluation

Pilot Name: Homeland Security Science (Homeland Security and Emergency Preparedness Program)

Executive Summary

The Homeland Security and Emergency Preparedness program of study was opened at Dundalk High School, the only school designated for this program, during the 2009-2010 school year. The program has three pathways: (1) the Criminal Justice/Law Enforcement Pathway, (2) the Homeland Security Sciences Pathway, and (3) the Information/Communications Technology Pathway. The Homeland Security Science curriculum guide was developed in July 2010 for implementation of the Homeland Security Sciences Pathway in school year 2010-2011. There are two curriculum guides to support this pathway, Homeland Security Science and Homeland Security Science Research Methods and Applications. Both courses are taught by one teacher.

The Homeland Security Science guide was piloted in the Homeland Security and Emergency Preparedness program during the 2010-2011 school year. Revisions were made by the teacher during the school year and in June 2011. There are no current plans to expand this program to other schools.

Program enrollment has grown from 14 students in the first course, Foundations of Homeland Security, in 2009-2010 to 69 students in the homeland security program for 2011-12. In 2011-2012, 14 of these students were seniors taking the capstone experience course. The projected total program enrollment for 2012-13 is 124 students, based on current students and level of interest indicated by course registrations for the 2012-13 school year.

Proposed Pilot Schools

Dundalk High School is the only school authorized to offer the Homeland Security and Emergency Preparedness program.

Pilot Timeline

- August 2010 – Initial Professional Development for Pilot Teacher (ISO 5.12)
- August, 2010-June, 2011 – Homeland Security Science. The pilot included trainings, ongoing professional development, and regular curriculum feedback meetings (ISO 5.12)
- December, 2010-July, 2011 – Analysis of results of pilot to determine modifications needed or readiness for system-wide implementation (ISO 5.13)

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Research Questions:

1. What are/were the expectations for implementation of the pilot curriculum?
2. How does/did the pilot curriculum impact the approach to content instruction?
3. What is/was the impact of the pilot curriculum on student achievement?

Outcome	Criteria	Measures Used
Pilot teacher will implement the draft written curriculum in daily classes for the Homeland Security Science course. {RQ1}	<p>Pilot teacher will self-report on her use of written curriculum.</p> <p>When observed in her classroom, pilot teacher will include use of instructional strategies from the written curriculum.</p>	<p>Surveys of teachers: Curriculum Evaluation, Unit Feedback</p> <p>Classroom observations</p>
Effective professional development on the written curriculum and on new instructional strategies will be provided for pilot teacher. {RQ1}	Pilot teacher will indicate that the professional development assisted her in implementing the curriculum and new instructional strategies.	Surveys of teacher: Professional Development
Curriculum materials will provide the pilot teacher with support necessary to implement the written curriculum. {RQ1}	The pilot teacher will indicate that the curriculum materials assisted her in implementing the written curriculum.	Surveys of teacher: Curriculum Evaluation
Curriculum materials and professional development will be revised as needed. {RQ1}	Pilot teacher will report all issues/concerns throughout the pilot process.	Surveys of teacher: Curriculum Evaluation, Unit Feedback, Professional Development
The pilot curriculum is beneficial to student engagement, teaching and learning. {RQ2}	Pilot teacher indicates that the draft curriculum actively engaged students and provided opportunities for deeper understanding of content.	Surveys of teacher: Curriculum Evaluation
Student achievement will demonstrate that homeland security students have mastered the content of the course as a result of the implementation of the written curriculum. {RQ3}	Student achievement on assessments and other course measures.	<p>Final Exam Assessments: Homeland Security Science</p> <p>Student artifacts</p>

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Summary of Results of Evaluation:

Homeland Security and Emergency Preparedness

- Total program enrollment in 2010-2011: 91 students (70 male, 21 female)
- This includes 37 students in the Foundations of Homeland Security and Emergency Preparedness class, and 14 students in the Internship/Capstone Experience

Homeland Security Science I (1 credit)

- Enrollment 7
 - A = 2
 - B = 4
 - C = 1
 - D = 0
 - E = 0

Implication of the pilot:

The program is growing, which tends to indicate that students are being attracted to the program. While the female enrollment increased from 11 in 2010 to 21 in 2011, there are many more males than females enrolled in the program. There is a need to develop recruitment and instructional strategies to encourage more females to enroll. Baltimore County is one of a 6-member school system in the Central Maryland Homeland Security Educational Alliance (CMHSEA). This consortium has found the male/female enrollment to be similar across the school systems. The consortium is developing a plan of action to address this concern.

Curriculum Pilot Evaluation

Pilot Name: Homeland Security Science Research Methods & Applications (Homeland Security and Emergency Preparedness Program)

Executive Summary

The Homeland Security and Emergency Preparedness program of study was opened at Dundalk High School, the only school designated for this program, during the 2009-2010 school year. The program has three pathways: (1) the Criminal Justice/Law Enforcement Pathway, (2) the Homeland Security Sciences Pathway, and (3) the Information/Communications Technology Pathway. The Homeland Security Science Research Methods & Applications curriculum guide was developed in July 2010 for implementation of the Homeland Security Sciences Pathway in school year 2010-2011. There are two curriculum guides to support this pathway, Homeland Security Science and Homeland Security Science Research Methods and Applications. Both courses are taught by one teacher.

The Homeland Security Science Research Methods & Applications guide was piloted in the Homeland Security and Emergency Preparedness program during the 2010-2011 school year. Revisions were made by the teacher during the school year and in June 2011. There are no current plans to expand this program to other schools.

Program enrollment has grown from 14 students in the first course, Foundations of Homeland Security, in 2009-2010 to 69 students in the homeland security program for 2011-12. In 2011-2012, 14 of these students were seniors taking the capstone experience course. The projected total program enrollment for 2012-13 is 124 students, based on current students and level of interest indicated by course registrations for the 2012-13 school year.

Proposed Pilot Schools

Dundalk High School is the only school authorized to offer the Homeland Security and Emergency Preparedness program.

Pilot Timeline

- August 2010 – Initial Professional Development for Pilot Teacher (ISO 5.12)
- August, 2010-June, 2011 – Homeland Security Science Research Methods & Applications. The pilot included trainings, ongoing professional development, and regular curriculum feedback meetings (ISO 5.12)
- December, 2010-July, 2011 – Analysis of results of pilot to determine modifications needed or readiness for system-wide implementation (ISO 5.13). The guide was modified based on the pilot results.

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Research Questions:

1. What are/were the expectations for implementation of the pilot curriculum?
2. How does/did the pilot curriculum impact the approach to content instruction?
3. What is/was the impact of the pilot curriculum on student achievement?

Outcome	Criteria	Measures Used
Pilot teacher will implement the draft written curriculum in daily classes for the Homeland Security Science Research Methods & Applications course. {RQ1}	<p>Pilot teacher will self-report on her use of written curriculum</p> <p>When observed in her classroom, pilot teacher will include use of instructional strategies from the written curriculum</p>	<p>Surveys of teachers: Curriculum Evaluation, Unit Feedback</p> <p>Classroom observations</p>
Effective professional development on the written curriculum and on new instructional strategies will be provided for pilot teacher. {RQ1}	Pilot teacher will indicate that the professional development assisted her in implementing the curriculum and new instructional strategies.	Surveys of teacher: Professional Development
Curriculum materials will provide the pilot teacher with support necessary to implement the written curriculum. {RQ1}	The pilot teacher will indicate that the curriculum materials assisted her in implementing the written curriculum.	Surveys of teacher: Curriculum Evaluation
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Student achievement will demonstrate that homeland security students have mastered the content of the course as a result of the implementation of the written curriculum. {RQ3}	Student achievement on assessments and other course measures.	<p>Final Exam Assessments: Homeland Security Science Research Methods & Applications</p> <p>Student artifacts</p>

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Summary of Results of Evaluation:

Program Title: Homeland Security and Emergency Preparedness

- Total program enrollment in 2010-2011: 91 students (70 male, 21 female)
- This includes 37 students in the Foundations of Homeland Security and Emergency Preparedness class, and 14 students in the Internship/Capstone Experience

Homeland Security Science Research Methods and Applications (1 credit)

- Enrollment 7
 - A = 5
 - B = 0
 - C = 2
 - D = 0
 - D = 0

Implication of the pilot:

The program is growing, which tends to indicate that students are being attracted to the program. While the female enrollment increased from 11 in 2010 to 21 in 2011, there are many more males than females enrolled in the program. There is a need to develop recruitment and instructional strategies to encourage more females to enroll. Baltimore County is one of a 6-member school system in the Central Maryland Homeland Security Educational Alliance (CMHSEA). This consortium has found the male/female enrollment to be similar across the school systems. The consortium is developing a plan of action to address this concern.